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GENERAL CONFERENCE INFORMATION

SCOPE OF THE CONFERENCE

The 21st International Conference on Magnetism (ICM2018) is sponsored jointly by the International Union of Pure and Applied Physics (IUPAP), AIP Publishing, and the IEEE Magnetics Society in cooperation with the American Physical Society. ICM2018 will be run concurrently with the International Conference on Strongly Correlated Electron Systems (SCES2018). ICM2018 is a major international conference series, held every three years, most recently in Barcelona, Busan, Karlsruhe, and Kyoto, and covers both fundamental and applied research related to magnetism. The technical program will include plenary lectures, invited and contributed oral presentations, and poster sessions, with about 1800 presentations overall. This Conference provides an outstanding opportunity for worldwide participants to share their research with the largest and broadest collection of magnetism researchers assembled in one place, and to learn about the latest results.

SAN FRANCISCO, CALIFORNIA

Welcome to San Francisco, the City by the Bay! This cool northern California city truly has it all. Nightlife, arts and culture, world-class dining and shopping, historic cable cars to take you around the city, unique neighborhoods to explore, including the Mission District, Chinatown, the Presidio, Haight-Ashbury, North Beach, Nob Hill and Union Square, and a seemingly endless list of attractions to visit in and around the Bay Area. Find out more at www.sftravel.com.

All sessions will be held at the Moscone Center South, located in the urban heart of San Francisco’s downtown district and just a quick walk from the San Francisco Marriott Marquis, the Conference Hotel. A block of discounted hotel rooms has been reserved at the Marriott for $224/night, with a limited number of student rate rooms available as well. Please support our efforts to keep registration fees low by booking your room here. Discounted rates are available until June 15, 2018 at www.icm2018sf.org under “Travel Guide/Hotel Information”.

SPECIAL CONFERENCE SESSIONS

Pre-Conference Tutorials

Pre-registration is NOT required for these events.

Computational Micromagnetics with JOOMMF

Sunday, July 15 1:30 pm - 5:00 pm
Room 307/308, Level Three

Speakers: Marijan Beg, European XFEL GmbH

This workshop will provide a brief introduction to computational micromagnetics. We will introduce and teach the use of a Python interface to drive the OOMMF simulation package. At the beginning, we will provide a lecture style introduction, which is followed by practical exercises where attendees will have an opportunity to carry out small micromagnetic calculations, modify given examples and ask more specific questions.

Entrepreneurship Tutorial—From Concepts to Products: Pathways to Success

Sunday, July 15 1:30 pm - 3:00 pm
Room 104, Lobby Level

Supported in part by:

Moderator: Tom Coughlin, Coughlin Associates

Speakers: Han Jin, Lucid VR
Andrew Kent, Spin Transfer Technologies

Here in Silicon Valley, starting new companies is a way of life. Many software projects require minimal capital investments, but that is often not the case with hardware. So, how do you get started if you have an idea for a hardware product and how do you fund your venture and find customers? Learn from our panelists how they tackled the challenges of taking hardware products to market and what they learned along the way.

Resume Writing Tutorial—Presenting Your Best Self to Hiring Managers in Industry, Government and Academia

Sunday, July 15 3:30 pm - 5:00 pm
Room 104, Lobby Level

Speakers: Liesl Folks, University of Buffalo
Tom Thomson, University of Manchester

If you'd like a job at some point, it is almost a certainty that you will need to write a resume or curriculum vitae that will make a compelling case for you to be interviewed. Learn from our panelists what works and what mistakes they regularly see on resumes.

Opening Session

Monday, July 16 8:00 am - 8:30 am
Esplanade Ballroom, Upper Mezzanine Level

Chair: Kai Liu, University of California, Davis and Georgetown University

Welcome: Allan MacDonald, General Chair, ICM2018 University of Texas at Austin

Presentation of the 2018 IUPAP Magnetism Award and Néel Medal:

Presented by: Burkard Hillebrands, Chair, IUPAP C9 Commission, Technische Universität Kaiserslautern

Dr. Samuel D. Bader, Argonne National Laboratory
Prof. Ramamoorthy Ramesh, University of California, Berkeley
Prof. Kang L. Wang, University of California, Los Angeles

Presentation of the 2018 IUPAP Young Scientist Prize in Magnetism:

2016: Wei Han, Peking University
2017: Luqiao Liu, Massachusetts Institute of Technology
2018: Shinichiro Seki, RIKEN
Prize Talks

Monday, July 16 8:30 am - 10:00 am
Esplanade Ballroom, Upper Mezzanine Level

Chair: Burkard Hillebrands, Chair, IUPAP C9 Commission, Technische Universität Kaiserslautern

Dr. Samuel D. Bader, Argonne National Laboratory
“For outstanding and sustained experimental contributions to the field of magnetic surfaces, films, and nanostructures”.

AA-01 The Marriage of Ferromagnetism and Superconductivity: A New Twist.

Prof. Ramamoorthy Ramesh, University of California, Berkeley
“For groundbreaking discoveries in novel multiferroic and magnetoelectric materials and their applications in future technologies”.

AA-02 Electric Field Control of Magnetism

Prof. Kang L. Wang, University of California, Los Angeles
“For the discovery of chiral Majorana fermions and outstanding contributions to topological spintronics”.

AA-03 Topology in Spintronics: Majorana, etc.

Symposia

1:30 pm - 3:00 pm
Esplanade 157, Upper Mezzanine Level

Monday D1 Spin Currents and Magnonic Condensates in Magnetic Insulator
Chair: Oksana Chubykalo-Fesenko, Instituto de Ciencia de Materiales de Madrid

Tuesday J1 Computing with Spintronic Devices
Chair: Chih-Huang Lai, National Tsing Hua University

Thursday S1 New Routes and Materials Toward Quantum Criticality
Chair: Stephen Julian, University of Toronto

Friday Y1 Emerging Phenomena in Van der Waals Magnets
Chair: Steven May, Drexel University

Plenary Sessions

11:30 am - 12:30 pm
Esplanade Ballroom, Upper Mezzanine Level

Tuesday I1-01 Spin-Orbit Torques: Discoveries, Advances and Possibilities
Chair: Allan MacDonald, University of Texas at Austin
Speaker: Robert Buhrman, Cornell University

Wednesday O1-01 Antiferromagnetic Spintronics
Chair: Laura Heyderman, Paul Scherrer Institute
Speaker: Tomas Jungwirth, Academy of Sciences of the Czech Republic

Thursday R1-01 Topological Weyl Magnets: From Multipole to Room Temperature Functions
Chair: Leon Balents, University of California at Santa Barbara
Speaker: Satoru Nakatsuji, The University of Tokyo

Friday X1-01 Hidden Magnetic Order in Multiferroics and Superconductors
Chair: Mark Stiles, National Institute of Standards and Technology
Speaker: Nicola Spaldin, ETH Zurich

Lunch with the Experts

Tuesday, July 17 and Thursday, July 19
12:30 pm - 1:30 pm
Rotunda, Upper Mezzanine Level

Students and post-doctoral researchers who have registered in advance for this event will enjoy an intimate lunch and discussion with their selected expert. This event will be held on Tuesday and Thursday in the Rotunda on the Mezzanine Level of the Moscone Center. Lunch will be served. **You must register in advance to attend this event as space is extremely limited.**

Experts: Tuesday
James Analytis, University of California at Berkeley
Wei Han, Peking University
Jean Anne Incorvia, University of Texas at Austin
Natalia Perkins, University of Minnesota

Thursday
Paulo Freitas, International Iberian Nanotechnology Laboratory
Christian Ruegg, Paul Scherrer Institut and the University of Geneva
Suchitra Sebastian, Cambridge University
Yayoi Takamura, University of California at Davis
Roser Valenti, University of Frankfurt
Stephen Wilson, University of California at Santa Barbara
Student Presentation Award Session and Networking Reception

Thursday, July 19
6:30 pm - 8:30 pm
Esplanade 160 and Rotunda, Upper Mezzanine Level

Supported by:

Attendees are invited to attend a special session featuring the finalists for the Best Student Presentation Award, sponsored by Evico Magnetics. This competition recognizes and encourages excellence in graduate studies in the field of magnetism. There will be a US $1000 one-year fellowship for the winner and US $250 one-year fellowships for the remaining finalists. Each finalist will give a 10-minute talk, which will be evaluated by a panel of judges.

Immediately following this session, there will be a networking reception with light refreshments, and the winner of the Best Student Presentation Award will be announced at 8:00 pm. Don’t forget to come support the students!

Co-Chair: Alexander Grutter, National Institute of Standards and Technology
Co-Chair: Julia Mundy, Harvard University

Finalists:

Jiarui Li, Massachusetts Institute of Technology
Y8-04 Imaging Scale-invariant Magnetic Textures in a Strongly Correlated Oxide

Alejandro Ruiz, University of California at Berkeley
B14-06 Hidden Ferromagnetism in the Kitaev Honeycomb Iridates

Lourdes Marcano Prieto, Universidad del País Vasco
L1-11 On the Magnetic Anisotropy of Co-doped Magnetosome Chains

Michael Harder, University of Manitoba, Winnipeg
Q2-08 Level Attraction and Synchronization in Hybridized Magnon-Photon Systems

Libor Šmejkal, Johannes Gutenberg University
G6-01 Classification of Topological Antiferromagnets for Spintronics

Closing Session

Friday, July 20
5:00 pm - 5:30 pm
Esplanade 152, Upper Mezzanine Level

Chair: Allan MacDonald, General Chair, ICM2018
University of Texas at Austin

SPECIAL CONFERENCE EVENTS

Welcome Reception—Neighborhoods of San Francisco

Sunday, July 15
5:00 pm - 6:30 pm
Moscone Center South Lobby

Conference attendees are invited to attend a Welcome Reception, sponsored by the IEEE Magnetics Society. This reception will be held immediately following the Tutorial Sessions at the Moscone Center in beautiful downtown San Francisco. The Moscone Center is located just a five-minute walk from the San Francisco Marriott through the blooming Yerba Buena Gardens. You will enjoy an authentic taste of the city of San Francisco, with samplings from its most famous neighborhoods such as North Beach, Chinatown and Ghirardelli Square. And of course, there will be a fantastic selection of California wines and local beers on tap. Don’t miss this kickoff event—it’s a great way to start your week at ICM2018.

Women in Magnetism Networking Event

Monday, July 16
6:30 pm - 8:00 pm
Rotunda, Upper Mezzanine Level

Expand your professional network! Don’t miss the Women in Magnetism Networking Event, sponsored by the IEEE Magnetics Society. This is an opportunity to become acquainted with women in the profession and to discuss a range of topics including leadership, work-life balance, and professional development. All graduate students, researchers and retirees are encouraged to attend.

Banquet at the Exploratorium

Tuesday, July 17
7:00 pm - 10:00 pm
Exploratorium at Pier 15
www.exploratorium.edu

ICM2018 attendees and their guests are invited to attend a banquet event at the famed Exploratorium at Pier 15. This is an event not to be missed! You will have private access to all of the amazing hands-on exhibits in the Bechtel Central Gallery of the museum, heralded as an ongoing exploration of science, art and human perception. Entertainment will be provided by the daring aerialists from Earth Circus Productions. Don’t miss this exciting night on Pier 15!

TICKET REQUIRED. This event is NOT included in your Conference registration or Companion Ticket. You must purchase a ticket to attend. Tickets are $100 each, and $60 for students.

Magnetism as Art Showcase

ICM2018 will host a Magnetism as Art Showcase to highlight the beauty of magnetism and magnetic materials. Selected submissions will be displayed at the Conference, and all submissions will be posted to the Conference Facebook Page. Prizes will be awarded by a panel of judges as well as by popular vote. The winners will be recognized at the Student Presentation Award Session on Thursday evening. Don’t forget to take a look at the selected submissions on display and vote for your favorite! Submit your ballot by 12:30 pm on Thursday, July 19 for the Peoples’ Choice Award.
Bierstuben

Join us Monday, Tuesday, and Thursday evenings from 5:00 pm - 6:30 pm in the Exhibit Hall for a taste of the best local beers as you network among the poster sessions and exhibits.

Coffee and Tea

Complimentary coffee and tea service will be available daily in the Moscone South Lobby and also in the Exhibit Hall.

REGISTRATION

The Registration Desk, located in the Moscone South Lobby, will be open during the following hours:

- Sunday ............................................. 12:00 pm - 6:30 pm
- Monday ............................................. 7:00 am - 6:30 pm
- Tuesday ............................................ 7:00 am - 6:30 pm
- Wednesday ...................................... 8:00 am - 12:30 pm
- Thursday ........................................ 8:00 am - 6:30 pm
- Friday .............................................. 8:00 am - 3:30 pm

Onsite Registration Rates:

- Full ..................................................... $830 USD
- Student ............................................... $395 USD
- Companion Ticket* ............................... $225 USD

*Companion Tickets include access to the Welcome Reception, daily coffee, breaks, and Bierstuben at the Moscone Center. Companion Tickets DO NOT include access to the Banquet at the Exploratorium. Those tickets must be purchased separately. Banquet Tickets are $100 each, and $60 for students.

CAMERA, CELL PHONE AND VIDEO RECORDING POLICIES

By you: Recording (audio, video, still photography, etc.) of sessions is strictly prohibited whether intended for distribution, publication, copyright, or personal use. Attendees violating this policy may be asked to leave the session.

Of you: By registering for this meeting, all attendees acknowledge that they may be photographed by the ICM2018 personnel while at events, and that those photos may be used for promotional purposes, in ICM2018 publications and websites, and on social media sites.

SESSION CHAIRS

Poster and Oral Session Chairs should attend the Session Chair Breakfast at 7:15 am on the day of their session in Esplanade 151 on the Upper Mezzanine Level. Timer slides will be pre-loaded onto the session laptops in each oral session room, however, Session Chairs should bring their laptop as well to be used as a backup for presentations if needed.

SPEAKER REHEARSAL ROOM

Presenters may use the Speaker Rehearsal Room in Room 312 on Level 3 to practice their presentations with the provided audiovisual equipment (LCD projector and screen). This room is available Sunday at 1:00 pm until Friday at 1:00 pm.

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ORAL SESSIONS

Ten simultaneous oral sessions will be held Monday through Friday.

Speakers must bring their presentation on their own laptop computer. If you cannot bring your laptop with you for any reason, you should alert your Session Chair and arrange to share your presentation by email.

In each session room there will be a multi-port switchbox so that speakers can connect their laptop during the question period of the previous speaker. Each speaker will be responsible for promptly connecting to the projector and switching to the correct input port. The presentation timer will begin immediately after the introduction by the Session Chair. No extra time will be given in the event of technical difficulties as session timing must be strictly maintained. Speakers are strongly encouraged to test their laptop connections and screen resolution settings in the Speaker Rehearsal Room prior to the start of the session.

If audiovisual assistance is needed during an oral session, Session Chairs should contact the audiovisual technician located in the hallway outside their session rooms. Contact information for technicians will also be available on the Session Chair’s table at the front of the room.

POSTER SESSIONS

Poster sessions will be held Monday through Friday in the San Francisco Ballroom.

Poster presenters should set up their materials at least 30 minutes before their session starts and must be present at their poster for the duration of the session. Presenters must remove all of their materials promptly at the end of their session. Any poster materials not removed will be discarded.

BEST POSTER PRESENTATION AWARD

All posters that meet the requirements and guidelines described on the Conference website are eligible for this award. It is required that the presenting author be registered for the Conference and be present for the duration of the poster session to present details and answer questions. Nominations will be made by the Poster Session Chairs. Selections will be based on the level of the research, quality of the poster, and clarity of the presentation. The award will be given at the end of each poster session. The winning presenters will be given a commemorative prize and certificate. A ribbon will also be attached to the winning posters which will be prominently displayed for the remainder of the Conference.

PUBLICATIONS

The Conference papers will be published as special issues of AIP Advances in late 2018 and IEEE Transactions on Magnetics (TMAG) in February 2019. Entire sessions will be assigned to one of these journals by the Publication co-chairs. Invited papers will be published in the Journal to which their session is assigned by the publication co-chairs.
AIP Advances is a peer-reviewed, fully open access, multidisciplinary journal covering all areas of the physical sciences (experimental, theoretical, and applied). AIP Advances’ inclusive scope and publication standards make it an excellent outlet for scientists across the physical sciences. To learn more about the journal, visit aipadvances.aip.org. All AIP Advances papers will be open access at no additional cost to the authors.

IEEE Transactions on Magnetics publishes research in science and technology related to the basic physics and engineering of magnetism, magnetic materials, applied magnetics, magnetic devices, and magnetic data storage. Conference related papers are reviewed to the same high standards as regular submissions to the journal. Details of the journal can be found by visiting http://ieeexplore.ieee.org/xpl/aboutJournal.jsp?punumber=20.

To check the status of their papers, authors should refer to the PXP submission site at http://mmmm.peerx-press.org. For all other publications questions, visit the Conference Office in Room 310.

STUDENT TRAVEL SUPPORT

Travel grants are offered to a limited number of students who are presenting at the Conference. Students must apply online and the grants are used to offset travel expenses. This program is for students who have not previously received a Conference or IEEE Magnetics Society travel grant. Only one application per research group is accepted. Postdoctoral fellows and non-students are not eligible. The recipients for this Conference have already been informed about their selection.

CHILD CARE SUPPORT

Child care grants are offered to a limited number of attendees who are bringing young children to the Conference or who incur extra expenses in leaving their children at home. The recipients for this Conference have already been informed about their selection and are required to submit receipts for their reimbursable expenses.

CONFERENCE ORGANIZATION

PLANNING COMMITTEE

General Chair .....................................Allan MacDonald
Secretary General .............................Liesl Folks
Co-Treasurers .................................Petru Andrei
Julie Borchers
Program Chair ..................................Mark Stiles
Associate Program Chairs ..................Leon Balents,
Laura Heyderman, Hideo Ohno

Program Committee Members:

Topic 1: Strongly Correlated Electrons Systems (SCES) •
Stephen Julian, Dai Aoki, Federico Becca, Silke Buehler-Paschen,
Premi Chandra, Piers Coleman, Hae-Young Kee, Mireille Lavagna,
Alessandra Lanzara, Yuji Matsuda, Catherine Pépin, Srinivas Raghu,
Qimiao Si, Kai Sun, Joe Thompson, Ashvin Vishwanath, Fa Wang,
Steffen Wirth, Huiqiu Yuan

Topic 2: Spin-Systems and Magnetic Structures •
Steven May, Christian Batista, Collin Broholm, Gang Chen, Rebecca Flint,
Tatiana Guidi, Kristjan Haule, Bella Lake, Philippe Mendels, Hatsumi
Mori, Masaki Oshikawa, William Ratcliff, Kate Ross, Matthew
Stone, Hirokazu Tsunetsugu, Roser Valenti, Andrew Wills, Stephen
Wilson, Xiaoshan Xu, Igor Zaliznyak


Topic 4: Nanomagnetism • Peter Fischer, Jayasimha Atulasimha, Andris Bakuzis, Jeyadevan Balachandran, Kristen Buchanan, Everett Carpenter, Jose de la Venta, Haifeng Ding, Cindi Dennis, Hans Fangohr, Amalia Fernandez Pacheco, Ioana Giouroudi, Gerardo Goya, Misuterui Inoue, David Lederman, Vitaliy Lomakin, Ferran Macià, Chris Marrows, Stéphane Mangin, Martina Müller, Volker Neu, Vivian Ng, Charudatta Phatak, Francesco Pineider, Dirk Sandorfer, Ivan Schuller, Walther Schwarzacher, Ralph Skomski, Robert Stamps, Tom Thomson, Dan Wei, Jürgen Weizeneccker, Yizheng Wu

Topic 5: Magnetic Materials and Technologies • Chih-Huang Lai, Elke Arenholz, Eric Fullerton, Donald Gardner, Oliver Gutfleisch, Ravi Hadimani, Atsufumi Hirohata, Kyung-Jin Lee, Yoshihiko Iino, Valerie Pierre, Stefania Pizzini, Philip Pong, Bethanie Stadler, Thomas Schrefl, Nian X. Sun, Rie Y. Uematsu, Zhidong Zhang

Publication Co-Chairs .........................Hari Srikant and Thomas Thomson
Publications Editors ...........................Eun Ah Kim, Chris Binek, Alina Deac, Nicola Morley, Mike Ososky, Davide Peddis, Monserrat Rivas, Ken-ichi Uchida, Thomas Woodcock

Industry Liaison ...............................Tiffany Santos
Publicity Chair ..................................Philip Pong
Best Student Presentation
Awards Co-Chairs ..............................Alexander Guenter and Julia Mundy

Best Poster Presentation
Awards Chair .................................Barry Zink
Student Travel/Child Care
Grant Awards Chair .......................Barry Zink
Magnetism as Art Showcase Chair ...Yayoi Takamura
Conference Manager .......................Molly Bartkowski
Abstracts/Publications Manager ......Regina Mohr
Exhibits Manager .............................Jennifer Fiske

SPONSORING SOCIETY REPRESENTATIVES

AIP Publishing ................................Bill Burke
IEEE Magnetics Society .....................Rudolf Schäfer
IUPAP ............................................Burkard Hillebrands

#ICM2018

Be sociable—share! #ICM2018

Follow us on Twitter @ICMConf
Like our Facebook page www.facebook.com/ICMConf

ADDITIONAL INFORMATION

To join our mailing list, visit www.icm2018sf.org or contact info@icm2018sf.org.
EXHIBITORS (As of June 1, 2018)

An exhibition of magnetism-related services, equipment, materials, and software will be held at the Moscone Center:

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Booth 19

The American Physical Society (APS) is a nonprofit membership organization that publishes the Physical Review journals, the world’s most widely read physics research and review journals. Throughout 2018, APS is celebrating the 125th anniversary of the Physical Review journals. Please stop by our booth in the exhibit hall to learn more about the prestigious collection of journals.

Contact: Kenneth Newberry
Email: Newberry@aps.org
Website: www.aps.org

Booth 1

attocube is the technology leader for cryogenic measurement instrumentation, including low vibration closed-cycle cryostats, cryo-optical table and various low temperature & high magnetic field compatible measurement inserts, allowing for research techniques such as AFM, MFM, SHPM, confocal & RAMAN microscopy. In cooperation with SPECS Zurich, attocube now offers a powerful all-in-one solution for transport measurements. The software integration of the dry cryostat attoDRY2100, a 3D sample rotator and a powerful measurement electronic (Nanonis Tramea™) combines generic, yet automatable measurement routines with unprecedented speed and signal quality. Nano-precise piezo positioning stages and laser displacement sensors with picometer resolution complete attocube’s portfolio.

Contact: Johanna Kelkile
Email: info@attocube.com
Website: www.attocube.com

Booth 11

Cambridge University Press’s publishing in books and journals combines state-of-the-art content with the highest standards of scholarship, writing and production. Visit our stand to browse new titles, available at a 20% discount, and to pick up sample copies of our journals.

Contact: Kamini Ramphal
Email: kramphal@cambridge.org
Website: www.cambridge.org/academic

Booth 20

Elsevier is a world-leading provider of information solutions designed to enhance the performance of science and technology professionals. Amongst the almost 2,960 journals (most of which offer open access options) and 48,300 book titles we publish, no fewer than 100 journals are in Physics or a related field. Visit us at the Elsevier booth and meet our publisher to ask any questions you may have about submitting research to our journals. In addition, learn more about our author services, open access options and content innovation.

Contact: Kinga Rietveld
Email: k.rietveld@elsevier.com
Website: www.elsevier.com/physics

Booth 3

Hinds Instruments’ products for Magneto Optic Kerr Effect (MOKE) experiments are the Hysteresis Looper and MOKE kits. The Hysteresis Looper allows the user to plot hysteresis loops and determine coercivity values within the magnetic field range of 0 to 2400 Gauss. The MOKE kit options include photo detectors, lock-in amplifiers, and photoelastic modulators (PEMS) that allow experimenters to build their own MOKE system. A Polar orientation module is available for those working with ultra low-temperature environments. With all options the robustness and convenience of Hinds PEM technology allows sensitive detection of magneto-optic signals produced by thin magnetic films.

Contact: Connie Wimmer
Email: sales@hindsinstruments.com
Website: www.hindsinstruments.com
IOP Publishing is a society-owned scientific publisher, providing impact, recognition and value for the scientific community. Wholly owned by the UK Institute of Physics, we work closely with researchers, academics, and partners worldwide to produce academic journals, ebooks, conference series, and digital products, covering the latest and best research in the physical sciences and beyond.

Contact: Lisa Searle
Email: lisa.searle@iop.org
Website: www.iop.org

A leading innovator in solutions for measuring materials under controlled magnetic field and temperature conditions, Lake Shore offers electromagnet-based VSMs for characterizing magnetic properties over a 4.2 K to 1273 K temperature range and fields to 3.42 T. Among these: the award-winning 8600 Series VSM, which combines high sensitivity (15 nemu), measurement speed (10 ms/pt), and simple operation in a system capable of characterizing a broad range of materials with unprecedented ease. Also available: magnetic test and measurement instruments, including teslameters/gaussmeters, and cryogenic probe stations with integrated vertical and horizontal field magnets for on-wafer magneto-transport, DC, RF, or microwave measurements.

Contact: Brad Dodrill
Email: sales@lakeshore.com
Website: www.lakeshore.com

A fully integrated manufacturer of thin film deposition systems, vacuum components and materials. Our new High-Power IMPULSE™ Magnetron (HiPIM’s) power supply and TORUS® Mag Keeper magnetron combination delivers films with better adhesion, improved grain structure and fewer defects than conventional sputtering. This advanced cathode is also available in an ultra-high vacuum version. Lesker’s thin film deposition systems include the improved Pro-Line PVD 75, enhanced for flexibility of layout, deposition, operation and expansion. Our eKlipse™ control software makes recipe development and execution easy. Materials for research include: Co, Fe, Ir, Ni, Pt, and alloys and oxides such as Permalloy, BiFeO₃, YIG, FeCoMn, MoS₂, Fe₃O₄, and LaSrMnO.

Contact: Bill Zinn
Email: bill@lesker.com
Website: www.lesker.com

MicroSense is a leading manufacturer of magnetic measurement systems for both research and production quality control. MicroSense VSM have the highest Signal to Noise Ratio (SNR) and the highest magnetic field in the smallest footprint of any horizontal field VSM and the largest number of available options including MOKE, FMR, MR, Torque etc. MicroSense also offers a range of non-contact, in-line (full wafer or disk) research and production magnetic metrology systems for in-plane and perpendicular MRAM, hard disk and recording head process control. MicroSense was the first to introduce a 300 mm ready non-contact magnetic property measurement tool for MRAM.

Contact: Erik Samwel
Email: esamwel@microsense.net
Website: www.microsense.net

MTI Corporation has been providing a total solution for materials research labs since 1995. MTI supplies ceramic, crystal, metallic substrates from A-Z and Nano-powder. MTI also provides laboratory R&D equipment including alloy melting, casting, annealing, sectioning, polishing, mixing machines, high temperature muffle and tube furnaces, pressing machines, film coaters, high vacuum systems, high pressure furnaces, RTP furnaces, hydrogen furnaces, as well as compact XRD/XRF for Metallographic analysis and the Amorphous Metallic Material Research Equipment.

Contact: Andy Huang
Email: andy@mtixtl.com
Website: www.mtixtl.com

NanoScan is a member of the IonTof group of companies. We are specialized in high-vacuum Scanning Probe Microscopes and our flagship microscope, the VLS-80, offers a high-end standalone solution for high-vacuum SPM. It runs all SPM modes of imaging and is equipped with two phase-locked loops to enable dual frequency modes. Magnetic imaging is a key strength of the VLS-80, with 550 mT out-of-plane, 200 mT in-plane magnetic field options and 10-nm lateral resolution guaranteed; an industry best. The large stage offers excellent positioning repeatability over the complete range of 100mm x 100mm.

Contact: Marco Corbetta
Email: m.corbetta@nanoscan.ch
Website: www.nanoscan.ch
Oxford Instruments NanoScience designs, supplies and supports market-leading research tools that enable quantum technologies, new materials and device development in the physical sciences. Our tools support research down to the atomic scale through creation of high performance, cryogen free low temperature and magnetic environments, based upon our core technologies in low and ultra-low temperatures, high magnetic fields and system integration, with ever-increasing levels of experimental and measurement readiness. Oxford Instruments NanoScience is a part of the Oxford Instruments plc group.

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Contact: Xavier McCutcheon
Email: gab.exhibitions.us@oup.com
Website: www.oup.com

Quantum Design manufactures automated material characterization systems providing temperatures from 0.05 to 1000 K, magnetic fields up to 16 tesla, and a wide range of measurements, including: magnetometry, electrical transport, heat capacity, thermal transport, Raman spectroscopy, FMR and SPM. Instruments include the Physical Property Measurement System (PPMS®), SQUID-based Magnetic Property Measurement System (MPMS®), VersaLab, and PPMS DynaCool. In addition, Quantum Design manufactures helium liquifiers (ATL80, ATL160) recovery systems, and recently introduced an innovative 7 tesla magneto-optical cryostat (OptiCool™). They also distribute direct write and nano-lithography systems, NanoMOKE, FMR spectrometers, and single crystal furnaces.

Contact: Melissa Figueroa
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Website: www.qdusa.com

Western Digital is the leader in high capacity hard disk drives for data centers and the inventor of helium sealed HDD technology with more than 27 million units shipped. Western Digital creates environments for data to thrive. The company is driving the innovation needed to help customers capture, preserve, access and transform an ever-increasing diversity of data. Everywhere data lives, from advanced data centers to mobile sensors to personal devices, our industry-leading solutions deliver the possibilities of data. Western Digital® data-centric solutions are marketed under the G-Technology®, HGST, SanDisk®, Tegle®, Upthere™, and WD® brands.

Contact: Lenny Sharp
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Website: www.wdc.com

The evico magnetics GmBH was founded in 2006 as a spin-off of the Leibniz Institut for Solid State and Materials Research (IFW) Dresden. The main products are: (i) Advanced magneto-optical wide-field Kerr microscope systems for the visualization of magnetic domains and magnetization processes in all kinds of magnetic materials. The Kerr microscopes also serve as magneto-optical magnetometers for the sensitive and local measurement of hysteresis loops by MOKE magnetometry. (ii) High Pressure Milling Vials with a gas temperature monitoring system for the synthesis of magnetic powders and hydrogen storage materials.

Contact: Rudolf Schaefer
Email: r.schaefer@evico-magnetics.de
Website: www.evico-magnetics.de

The American Physical Society (APS) Topical Group on Magnetism and its Applications, or GMAG, represents one of the fastest-growing scientific sectors of the APS. Membership in GMAG—an annual investment of only $10 for APS members—not only helps you keep up with the fast-paced field of Magnetism but also provides the following features: A convenient way to connect with other members of the magnetism community; the GMAG Newsletter, distributed biannually; and the opportunity to shape the GMAG-sponsored sessions and symposia at the March Meeting, 80 sessions in all for 2016. The Magnetism sorting category received 921 abstracts, which is ~10% of all the abstracts submitted.

Contact: Chris Leighton
Email: leighton@umn.edu
Website: www.aps.org/units/gmag
The School of Engineering and Applied Sciences at the University at Buffalo tackles fundamental research and pioneers new technologies that address tough challenges faced by society. Ranked among the top engineering schools in the nation by U.S. News & World Report, we provide an inclusive environment that supports big thinking, creative freedom, and vast possibilities for impact for our faculty, students and alumni.

Website: engineering.buffalo.edu

Basic Energy Sciences (BES) supports fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels in order to provide the foundations for new energy technologies and to support DOE missions in energy, environment, and national security. The BES program also plans, constructs, and operates major scientific user facilities to serve researchers from universities, national laboratories, and private institutions. The BES program funds work at more than 160 research institutions through the following three Divisions:

- Materials Sciences and Engineering Division
- Chemical Sciences, Geosciences, and Biosciences Division
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The research disciplines that the BES program supports—condensed matter and materials physics, chemistry, geosciences, and aspects of physical biosciences—are those that discover new materials and design new chemical processes. These disciplines touch virtually every aspect of energy resources, production, conversion, transmission, storage, efficiency, and waste mitigation. BES research provides a knowledge base to help understand, predict, and ultimately control the natural world and serves as an agent of change in achieving the vision of a secure and sustainable energy future.

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The IEEE Magnetics Society is the leading international professional organization for magnetism and related professionals throughout the world. The IEEE Magnetics Society promotes the advancement of science, technology, applications and training in magnetism. It fosters presentation and exchange of information among its members and within the global technical community, including education and training of young engineers and scientists. It seeks to nurture positive interactions between all national and regional societies acting in the field of magnetism.

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The International Union of Pure and Applied Physics (IUPAP) was founded in 1922 with the mission to assist in the worldwide development of physics, foster international cooperation in physics, and help in the application of physics toward solving problems of concern to humanity. The Commission on Magnetism (C9) was established by IUPAP in 1957 to promote the exchange of information and views among the members of the international scientific community in the general field of Magnetism. The Commission facilitates the organization of the International Conference on Magnetism (ICM), organizes awards to recognize outstanding scientists, and promotes free circulation of scientists, among other activities.
### SUNDAY, JULY 15, 2018

**1:30 pm - 5:00 pm**

**WS** Workshop: Computational Micromagnetics with JOOMMF  
Room 307/308

**1:30 pm - 3:00 pm**

**T1** Entrepreneurship Tutorial  
Room 104

**3:30 pm - 5:00 pm**

**T2** Resume Writing Tutorial  
Room 104

### MONDAY, JULY 16, 2018

**8:00 am - 10:00 am**

**AA** Néel Medal Award, IUPAP Young Scientists Awards, & Prize Talks  
Esplanade Ballroom

**10:00 am - 11:30 am** Poster Sessions  
San Francisco Ballroom

**1:30 pm - 3:00 pm** Oral Sessions

**D1** Spin Currents and Magnonic Condensates in Magnetic Insulators  
Explanade 157

**D2** Magnetic Skyrmions and Spin Textures  
Explanade 158

**D3** Magnetic Molecules and Organics for Bio-applications of Magnetism  
Explanade 159

**D4** Spin Ices and Magnetic Nanoparticles I  
Explanade 160

**D5** Rare Earth Free Permanent Magnets II  
Explanade 152

**D6** Magnetic Semiconductors I  
Room 105

**D7** Tunnel Junctions and Spin-Torque Nano-Oscillators  
Room 104

**D8** Unconventional Superconductivity of Sr$_2$RuO$_4$  
Room 306

**D9** Electronic Structure of Heavy Fermion Systems; Properties of URu$_2$Si$_2$  
Room 307/308

**D10** Anisotropic Spin-1/2 Chains  
Room 313/314

**3:30 pm - 5:00 pm** Oral Sessions

**E1** Spin-charge Conversion and Spin-orbit Torque I  
Explanade 157

**E2** Heterostructures and Spin-based Devices  
Explanade 158

**E3** Imaging Magnetic Textures I  
Explanade 159

**E4** Magnon Waveguides and Devices II  
Explanade 160

**E5** Magnetocaloric Materials I  
Explanade 152

**E6** Therapeutic Biomedical Applications of MNPs  
Room 105

**E7** Magnetophotonics and Magnetoplasmonics II  
Room 104

**E8** Theory of Strongly Correlated Electron Systems II  
Room 306

**E9** Quantum Critical Phenomena  
Room 307/308

**E10** B-spinels, Kagome and Triangular Related Lattices  
Room 313/314

**5:00 pm - 6:30 pm** Poster Sessions  
San Francisco Ballroom

**F1** Antiferromagnetic Spintronics II  
**F2** Biomedical and Non-Biomedical Applications II  
**F3** Heavy Fermions I: Heavy Fermions and Other Novel Phases  
**F4** Magnetic Imaging and Associated Techniques  
**F5** Magnetic Semiconductors II  
**F6** Magnetic Tunnel Junctions I  
**F7** Magnetocaloric and Frustrated Systems  
**F8** Magnetocaloric Materials II  
**F9** Quasi 1D Magnetism  
**F10** Soft Magnetic Materials and Magnetic Shielding I  
**F11** Spin Ices and Magnetic Nanoparticles II  
**F12** Spin Structures and Transport Properties I  
**F13** Spin-charge Conversion and Spin-orbit Torque II  
**F14** Superconducting SCES I: Topological Superconductors  
**F15** Topological SCES II: Theory
TUESDAY, JULY 17, 2018

8:30 am - 10:00 am • Oral Sessions

G1 Magnon Transduction
G2 Multiferroic Magneto-optics
G3 Soft Magnetic Materials and Magnetic Shielding II
G4 Advances with Nanoparticles I
G5 Magnetoalaric Materials III
G6 Antiferromagnetic Spintronics: Theory
G7 Electric Field Control of Magnetic Systems
G8 Quantum Spin Liquids III
G9 Superconductivity in Ferromagnetic Heavy Fermion Systems
G10 Spin-1 Chains and Frustrated Spin-1/2 Chains

10:00 am - 11:30 am • Poster Sessions

San Francisco Ballroom

H1 Advances with Nanoparticles II
H2 Anisotropy in Magnetic Thin Films
H3 Frustrated 1D Magnets, Spin-ladders and S=1 Chains
H4 Hard Magnetic Films
H5 Heavy Fermions II: Ferromagnetic and Metamagnetic Systems
H6 Magnetocaloric Materials IV
H7 Ordered Phases in SCES II: Magnetism and Other
H8 Quantum Spin Liquids IV
H9 Soft Magnetic Materials and Magnetic Shielding III
H10 Spin Magnetoresistance I
H11 Spin-charge Conversion and Spin-orbit Torque III
H12 Spin-orbit, Kondo & Heavy Fermion Magnetism
H13 Superconducting SCES II: Heavy Fermion Superconductors
H14 Superconducting SCES III: Novel Materials
H15 Theory and Simulation of Magnetic Systems I
H16 Ultrafast Magnetism and THz Spintronics I

11:30 am - 12:30 pm

I1 Plenary I: Spin-Orbit Torques: Discoveries, Advances and Possibilities

3:30 pm - 5:00 pm • Oral Sessions

K1 Spin Pumping
K2 Thin Films, Surfaces and Heterostructures
K3 Imaging Magnetic Textures II
K4 Magnetoresistance and Hall Effects
K5 Materials for Energy Applications II
K6 Spin Ices and Magnetic Nanoparticles III
K7 Theory and Modelling of Nanomagnets I
K8 Topological Semimetals in Kondo Systems
K9 Superconductivity in 115’s and Other Heavy Fermion Systems
K10 Dimers in Frustrated Magnets: Shastry-Sutherland Lattices and Beyond

5:00 pm - 6:30 pm • Poster Sessions

San Francisco Ballroom

L1 Advances with Nanoparticles IV
L2 Anisotropy Engineering of Magnetic Thin Films and Multilayers I
L3 Bulk Device Measurements and Designs
L4 Chirality, Criticality and Other Features
L5 Heavy Fermions IV: Novel Materials
L6 Magnetic Semiconductors III
L7 Magnetocaloric Materials VI
L8 Magnon Spintronics and Condensates
L9 Spin-Torque Nano-Oscillators
L10 Quantum Spin Liquids VII
L11 Skyrmions I
L12 Spin Structures and Transport Properties II
L13 New Magnetic Materials I
L14 Superconducting SCES IV: Novel Materials
L15 Topological SCES III: TM Pnictides and Chalcogenides
L16 Two Dimensional Frustrated Lattices

WEDNESDAY, JULY 18, 2018

8:30 am - 10:00 am • Oral Sessions

M1 Spin Diffusion and Relaxation
M2 Functional Multiferroics I
M3 New Sensors and New Probes
M4 Magnetic Configuration and Application of Nanowires and Nanotubes
M5 Rare Earth Transition Metal Permanent Magnets I
M6 Domain Wall Dynamics II
M7 Spin Caloritronics II
M8 Mott Insulator-to-metal Transition
M9 Unconventional Superconductors
M10 Pyrochlores and Magnetic Fragmentation

1:30 pm - 3:00 pm • Oral Sessions

J1 Computing with Spintronic Devices
J2 Molecular Magnetism III
J3 Quantum Spin Liquids VI: Kagome and Triangular Systems
J4 Advances with Nanoparticles III
J5 Magnetocaloric Materials V
J6 Vortex and Skyrmion Dynamics I
J7 Semiconductor and Organic Spintronics I
J8 Heavy Fermions III: Novel Results from High Field Measurement
J9 Superconductivity and Quantum Criticality
J10 Quantum Spin Liquids V: Kitaev Spin Liquids
WEDNESDAY, JULY 18, 2018

10:00 am - 11:30 am • Poster Sessions
San Francisco Ballroom

N1 Cylindrical Nanostructures: Properties and Applications
N2 Electric Field Effects and Magnetic Switching I
N3 Kondo Insulators, Kondo Semimetals, Doped Graphene
N4 Magnon Bandstructure Engineering
N5 New Magnetic Materials II
N6 Quantum and Low-Dimensional Magnetism I
N7 Quantum Critical SCES I: Oxides, Thin Films, Mott Transition
N8 Rare Earth Transition Metal Permanent Magnets II
N9 Soft Magnetic Materials and Magnetic Shielding IV
N10 Spin Magnetostriction II
N11 Superconducting SCES V: Heavy Fermion Superconductors II
N12 Theory and Modelling of Nanostructures II
N13 Theory and Simulation of Magnetic Systems II
N14 Thin Film and Hybrid Nanostructures I
N15 Three Dimensional Frustrated Lattices
N16 Topological SCES IV: TM Pnictides, Chalcogenides and Related
N17 Ultrafast Magnetism and THz Spintronics II

11:30 am - 12:30 pm

O1 Plenary II: Antiferromagnetic Spintronics
Esplanade Ballroom

THURSDAY, JULY 19, 2018

8:30 am - 10:00 am • Oral Sessions
Esplanade 157

P1 Skyrmions II: Thin Films
P2 Functional Multiferroics II
P3 Soft Magnetic Materials and Magnetic Shielding V
P4 Spin-charge Conversion and Spin-orbit Torque IV
P5 Rare Earth Transition Metal Permanent Magnets III
P6 Exchange Bias and Exchange Springs I
P7 Surface and Interface Effects I
P8 Frustration and Quantum Phase Transitions in Heavy Fermions and Beyond
P9 Topological Insulators in Strongly Correlated Matter
P10 Frustrated Magnetism

10:00 am - 11:30 am • Poster Sessions
San Francisco Ballroom

Q1 Domain Wall Dynamics III
Q2 Ferromagnetic Resonance and Magnon Hybridization
Q3 Itinerant Magnetism I
Q4 Magnetoelastic and Magnetomechanical I
Q5 Multiferroics I
Q6 New Developments in SCES: Materials
Q7 New Magnetic Materials III
Q8 Novel Applications of Magnetic Thin Films and Multilayers I
Q9 Permanent Magnets in the ThMn12 Structure
Q10 Quantum Critical SCES II: Other Systems
Q11 Soft Magnetic Materials and Magnetic Shielding VI
Q12 Spin Structures and Transport Properties III
Q13 Spin-charge Conversion and Spin-orbit Torque V
Q14 Surface and Interface Effects II
Q15 Theory and Modelling of Nanostructures III
Q16 Topological SCES V: Topological Kondo Systems

11:30 am - 12:30 pm

R1 Plenary III: Topological Weyl Magnets: From Multipole to Room Temperature Functions
Esplanade Ballroom

1:30 pm - 3:00 pm • Oral Sessions
Esplanade 157

S1 New Routes and Materials Toward Quantum Criticality
S2 Multiferroic and Functional Materials I
S3 New Magnetic Materials IV
S4 Anisotropy Engineering of Magnetic Thin Films and Multilayers II
S5 Magnetoelastic and Magnetomechanical II
S6 Domain Wall Dynamics IV
S7 Ultrafast Magnetism and THz Spintronics III
S8 Non-centro-symmetric Superconductors
S9 Topological States in Transition Metal and Organic Systems
S10 Theory and Simulation of Magnetic Systems III

3:30 pm - 5:00 pm • Oral Sessions
Esplanade 157

T1 Magnon Waveguides and Devices III
T2 Anomalous Hall Effect and Itinerant Magnets
T3 New Instruments and New Techniques
T4 Topological Insulators and Spin-magnetoresistance
T5 New Magnetic Materials V
T6 Novel Applications of Magnetic Thin Films and Multilayers II
T7 Surface and Interface Effects III
T8 Iron Superconductors: Nematicity and Superconductivity
T9 Heavy Fermions V: Experiment and Theory
T10 Magnetism of 4d/5d and Spin-Orbital Systems

5:00 pm - 6:30 pm • Poster Sessions
San Francisco Ballroom

U1 Domain Wall Dynamics V
U2 Electric Field Effects and Magnetic Switching II
U3 Exchange Bias and Exchange Springs II
U4 Surface and Interface Effects IV
U5 Magnetic Tunnel Junctions II
U6 Magnetoelastic and Magnetomechanical III
U7 Multiferroic and Functional Materials II
### THURSDAY, JULY 19, 2018 (Continued)

#### 5:00 pm - 6:30 pm • Poster Sessions

- **U8** Multiferroics II
- **U9** Novel Applications of Magnetic Thin Films and Multilayers III
- **U10** New Magnetic Measurement Methods
- **U11** Multipolar SCES 1: 1-2-20 Materials
- **U12** Quantum Critical SCES III: Heavy fermion and TM compounds
- **U13** Superconducting SCES VI: FeSe and Other Iron-based Superconductors
- **U14** Heavy Fermions VI: Theory and Experiment
- **U15** Thin Films, Nano- & Heterostructures
- **U16** Vortex and Skyrmion Dynamics II

### FRIDAY, JULY 20, 2018

#### 8:30 am - 10:00 am • Oral Sessions

- **V1** CPP-GMR and Magnetic Tunnel Junctions II
- **V2** Novel Multiferroics
- **V3** MRAM
- **V4** Thin Film and Hybrid Nanostructures II
- **V5** New Magnetic Materials VI
- **V6** Magnetic Semiconductors IV
- **V7** Ultrafast Magnetism and THz Spintronics IV
- **V8** Non-equilibrium Phenomena in Strongly Correlated Systems
- **V9** Stripes, Magnetism, and High Temperature Superconductivity
- **V10** Quantum and Low-Dimensional Magnetism II

#### 10:00 am - 11:30 am • Poster Sessions

- **W1** 3D Printing and Applications of Permanent Magnets
- **W2** Advanced Synthesis of Magnetic Thin Films and Multilayers II
- **W3** Exchange Bias and Exchange Springs III
- **W4** Magnetic Structures and Magnetic Phase Diagrams
- **W5** Multiferroics III
- **W6** Multipolar SCES 2: Other Materials, Mostly Heavy Fermion
- **W7** Non-equilibrium Strongly Correlated Electron Systems
- **W8** Semiconductor and Organic Spintronics II
- **W9** Skyrmions III
- **W10** Soft Magnetic Materials and Magnetic Shielding VII
- **W11** Spin Structures and Transport Properties IV
- **W12** Spin Transport, Relaxation and Diffusion
- **W13** Superconducting SCES VII: Cuprates
- **W14** Superconducting SCES VIII: 122 Iron-based Superconductors
- **W15** Surface and Interface Effects V

#### 11:30 am - 12:30 pm

- **X1** Plenary IV: Hidden Magnetic Order in Multiferroics and Superconductors

#### 1:30 pm - 3:00 pm • Oral Sessions

- **Y1** Emerging Phenomena in Van der Waals Magnets
- **Y2** Theory and Simulation of Magnetic Systems IV
- **Y4** Thin Film and Hybrid Nanostructures III
- **Y5** First Principle Simulation of Hard Magnetic Properties
- **Y6** Antiferromagnetic Spintronics: Experiment
- **Y7** Voltage Controlled Magnetic Dynamics
- **Y8** New Developments in Strongly Correlated Electron Systems II
- **Y9** Heavy Fermions VII: Multipolar Materials
- **Y10** Magnetism and Topological Phases

#### 3:30 pm - 5:00 pm • Oral Sessions

- **Z1** Skyrmions IV: Bulk Materials
- **Z2** Novel Magnetic Structures and Materials
- **Z4** Spin-charge Conversion and Spin-orbit Torque VI
- **Z5** New Magnetic Materials VII
- **Z6** Exchange Bias and Exchange Springs IV
- **Z7** Surface and Interface Effects VI
- **Z8** Strange Metal, Underdoped Cuprates, Superconducting Interfaces
- **Z9** Heavy Fermions VIII: Novel Experiments
- **Z10** Itinerant Magnetism II

#### 5:00 pm - 5:30 pm

- **ZZ** Closing
Session AA

2018 IUPAP MAGNETISM AWARD AND NÉEL MEDAL AWARD CEREMONY & PRIZE TALKS

Burkard Hillebrands, Co-Chair
TU Kaiserslautern, Kaiserslautern, Germany

Kai Liu, Co-Chair
University of California, Davis, Davis, CA, United States

Allan MacDonald, Co-Chair
University of Texas at Austin, Austin, TX, United States

8:00

Welcome

Presentation of 2018 IUPAP Magnetism Award and Néel Medal

Presentation of 2016, 2017, and 2018 IUPAP Young Scientist Prizes in the field of Magnetism

AA-01. The Marriage of Ferromagnetism and Superconductivity: A New Twist. (Invited) S.D. Bader
1. Argonne National Laboratory, Bridgman, MI, United States

AA-02. Electric Field Control of Magnetism. (Invited) R. Ramesh
1. Physics / MSE, UC Berkeley, Berkeley, CA, United States

AA-03. Topology in Spintronics: Majorana, etc. (Invited) K. Wang
1. Departments of Electrical and Computer Engineering, Materials Science and Engineering, Physics and Astronomy, UCLA, Los Angeles, CA, United States

Session B1

ANTIFERROMAGNETIC SPINTRONICS I
(Poster Session)

Vincent Baltz, Chair
SPINTEC, Grenoble, France

B1-01. Withdrawn
B1-02. Gilbert damping constant in exchange biased ferromagnetic/antiferromagnetic bilayers. T. Ikeuchi1, T. Moriyama1, H. Mizuno1, K. Oda2 and T. Ono1. 1. Institute for Chemical Research, Kyoto University, Uji, Japan

B1-03. Manipulation of spin current in antiferromagnetic insulator. D. Hou1. AIMR, Tohoku University, Sendai, Japan

B1-04. Finite Size Effects in Antiferromagnetic Materials. S. Jenkins1, R. Chantrell1 and R.F. Evans1. 1. Department of Physics, University of York, York, United Kingdom

B1-05. Field-driven antiferromagnetic domain switching in single crystalline CoO(001) film. J. Xu1, M. Jia2, G. Chen1, Q. Li3, A.T. N’Diaye1, E. Arenholz2 and Y. Wu1. 1. Department of Physics, Fudan University, Shanghai, China; 2. Fudan University, Shanghai, China; 3. Lawrence Berkeley National Laboratory, Davis, CA, United States; 4. Physics, University of California, Berkeley, CA, United States; 5. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 6. LBNL, Berkeley, CA, United States; 7. Physics Department, Fudan University, Shanghai, China

B1-06. X-Ray Linear Dichroism for Probing Magnetic Dynamics in the Low-Damping Ferrimagnetic Insulator Yttrium Iron Garnet. J. Bailey1,2, J. Förster1, S. Finizio1, M. Weigand1, J. Gräfe1, C. Dubbs1, J. Raabe2, G. Aeppli2, G.A. Schütze3 and S. Wintz1. 1. Institut de Physique, EPF Lausanne, Lausanne, Switzerland; 2. Paul Scherrer Institut, Villigen PSI, Switzerland; 3. Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 4. INNOVENT e.V, Jena, Germany

B1-07. Spin-orbit torque of PtMn/CoFeB evaluated by extended harmonic Hall measurement. R. Itoh1, Y. Takeuchi1, S. Duttagupta1, S. Fukami1,2 and H. Ohno1,3. 1. Lab. for Nanoelectronics and Spintronics, RIEC, Sendai, Japan; 2. Center for Spintronics Research Network, Tohoku University, Sendai, Japan; 3. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan

B1-08. Probing the Energy Barrier for Resistive Switching in Antiferromagnetic SrIr2O6. M.C. Williamson1,2, S. Shen1,2, G. Cao1, J. Zhou1, J. Goodenough1 and M. Tsoi2,3. 1. Physics, University of Texas at Austin, Austin, TX, United States; 2. Texas Materials Institute, Austin, TX, United States; 3. Physics, University of Colorado, Boulder, CO, United States

B1-09. Heat Assisted Switching of AFM CuMnAs Memory Cell. Z. Kašpar1,2, K. Olejník1, V. Novák1 and T. Jungwirth1,3. 1. Academy of Sciences of the Czech Republic, Prague, Czechia; 2. Charles University in Prague, Prague, Czechia; 3. School of Physics and Astronomy, Nottingham, United Kingdom


MONDAY MORNING

Session B2
BIOMEDICAL AND NON-BIOMEDICAL APPLICATIONS I (Poster Session)
Ahmed El-Gendy, Chair
University of Texas at El Paso, El Paso, TX, United States


B2-02. Optimization of a Biosensor based on Superparamagnetic Particles-labelling by Electromagnetic Simulation. A. García-Arribas1,2, M. Quintana1,2, E. Fernández1, J. Feuchtwanger1, M. Fernández-Gubieda1,2, J.C. Martínez-García1 and M. Rivas1. 1. Departamento de Electricidad y Electrónica, Universidad del País Vasco, UPV/EHU, Leioa, Spain; 2. BCMaterials, Basque Center for Materials, Applications and Nanostructures, Leioa, Spain; 3. Departmento de Física, Universidad de Oviedo, Gijón, Spain

B2-03. T1, T2 and T2* relaxations in MRI based on Gd5Si4 nanoparticles of varying sizes. S. Hanagund1, J. Rosenberg2, S.M. Harstad1, S. Gupta1, V. Pecharsky4,5, A.A. El-Gendy6 and R.L. Hadimani6. 1. Materials Science and Engineering, Ames, IA, United States; 2. Department of Energy, Ames, IA, United States; 3. Dept. of Material Science and Engineering, Iowa State University, Ames, IA, United States; 4. Department of Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States; 5. Dept. of Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States; 6. Physics, University of Texas at El Paso, El Paso, TX, United States

1. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland; 2. Institute of Physics, University of Brasilia, Brasilia, Brazil

1. Lafayette College, Easton, PA, United States; 2. Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States; 3. Physics, University of Texas at El Paso, El Paso, TX, United States

B2-07. Magnetic ZnO@Fe₃O₄ Core-Shell Nanostructure for Magnetic Hyperthermia and Bio-imaging applications.
J. Gupta, K. Barick, P. Hassan and D. Bahadur
1. Chemistry Division, Bhabha Atomic Research Centre Trombay, Mumbai, India; 2. Department of Metallurgical Engineering & Materials Science, Indian Institute of Technology Bombay, Mumbai, India

1. King Abdullah University of Science and Technology, division of Biological and Environmental Sciences and Engineering, Thuwal, Kingdom of Saudi Arabia, Thuwal, Saudi Arabia; 2. King Abdullah University of Science and Technology, division of Computer, Electrical and Mathematical Sciences and Engineering, Thuwal, Kingdom of Saudi Arabia, Thuwal, Saudi Arabia

M.U. Witt, S. Hinrichs, M. Hermes, B. Fischer, A. Schmidt and R. von Klitzing
1. Solid State Physics, Technical University Darmstadt, Darmstadt, Germany; 2. Physical Chemistry, University of Hamburg, Hamburg, Germany; 3. Physical Chemistry, University of Cologne, Köln, Germany

1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, China

B3-01. Quantization Effects in Novel Magnetic Nanobridge Based STT-MRAM Cell Driven by Gate-All-Around Vertical Select Nanowire Transistor. G.D. Demin, A.F. Popkov and A.V. Popov
1. Laboratory of Physics of Magnetic Heterostructures and spintronics for energy-efficiency information technologies, Moscow Institute of Physics and Technology (State University), Dolgoprudny, Russian Federation; 2. Laboratory of Research of nano- and microsystem devices, National Research University of Electronic Technology (MIET), Moscow, Russian Federation

B3-02. Reducing the switching current with a Dzyaloshinskii-Moriya interaction in nanomagnet with perpendicular anisotropy. S. Takamatsu, K. Yamada and Y. Nakatani
1. University of Electro-communications, Tokyo, Japan; 2. Gifu University, Gifu, Japan

B3-03. Perpendicular magnetic tunnel junctions using the ultrathin electrode of D₀₂₂ or L₁₀ MnGa and the effect of the Mn modifications. K. Suzuki, Y. Miura, R. Ranjbar, L. Bainsla, A. Ono, Y. Sasaki and S. Mizukami
1. WPI-AIMR, Tohoku University, Sendai, Japan; 2. Electrical Engineering and Electronics, Kyoto Institute of Technology, Kyoto, Japan; 3. Department of Materials Research, Tohoku University, Sendai, Japan

B3-04. Optimization of half-Heusler PtMnSb alloy films for spintronic device applications. Z. Wen, T. Kubota and K. Takanashi
1. Center for Spintronics Research Network (CSRN), Tohoku University, Sendai, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan

B3-05. Bias Dependence of Magnetoresistance in MTJ Containing Ferromagnetic Insulator. K. Sate, S. Honda, Y. Kayama, Y. Sonobe and H. Itoh
1. Department of Pure and Applied Physics, Kansai University, Suita, Japan; 2. Center for Spintronics Research Network, Osaka University, Toyonaka, Japan; 3. Samsung R&D Institute Japan, Yokohama, Japan

B3-07. Withdrawn

B2-04. Optimization of half-Heusler PtMnSb alloy films for spintronic device applications. Z. Wen, T. Kubota and K. Takanashi
1. Center for Spintronics Research Network (CSRN), Tohoku University, Sendai, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan

B3-08. Targeting and killing of Acute Myeloid Leukemia Cells by Functionalized Nanowires and Magnetic field. N. Alsharif, J.E. Perez, Y. Ghosheh, F. Aleisa, A.I. Martinez-Banderas, J. Merzaban, T. Ravasi and J. Kosel
1. King Abdullah University of Science and Technology, division of Biological and Environmental Sciences and Engineering, Thuwal, Kingdom of Saudi Arabia, Thuwal, Saudi Arabia; 2. King Abdullah University of Science and Technology, division of Computer, Electrical and Mathematical Sciences and Engineering, Thuwal, Kingdom of Saudi Arabia, Thuwal, Saudi Arabia

M.U. Witt, S. Hinrichs, M. Hermes, B. Fischer, A. Schmidt and R. von Klitzing
1. Solid State Physics, Technical University Darmstadt, Darmstadt, Germany; 2. Physical Chemistry, University of Hamburg, Hamburg, Germany; 3. Physical Chemistry, University of Cologne, Köln, Germany

B3-10. Fe₃O₄@Astragalus Polysaccharides Core-Shell Nanoparticles for Treating Iron Deficiency Anemia and Magnetic Resonance Imaging. K. Wang, X. Xu and Y. Jiang
1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, China
Session B4
SPIN CALORITRONICS I
(Poster Session)
Toeno Van der Sar, Chair
Delft University of Technology, Delft, Netherlands

B4-01. Thermal contribution to the Spin-Torque-Diode Sensitivity Induced by the Tunnel Magneto-Seebeck Effect in Magnetic Tunnel Junctions. G.D. Demin1,2 1. Laboratory of Physics of Magnetic Heterostructures and spintronics for energy-efficiency information technologies, Moscow Institute of Physics and Technology (State University), Moscow, Zelenograd, Russian Federation; 2. Laboratory of Research of nano- and microsystem devices, National Research University of Electronic Technology (MIET), Moscow, Russian Federation

B4-02. Dephasing assisted spin transport. S. Borlenghi1, S. Iubini2 and A. Delin1 1. Department of materials and nano-physics, KTH Royal Institute of Technology, Stockholm, Sweden; 2. Dipartimento di Fisica e Astronomia, Università di Firenze, Florence, Italy

B4-03. Bose-Einstein Condensation of Magnons by Instant Cooling. M. Schneider1, T. Brächer1, V. Lauer1, P. Pirro1, A.A. Serga1, B. Heinz1, Q. Wang1, D.A. Bozhko1, H. Musienko-Shmarova1, T. Meyer1, F. Heussner1, S. Keller1, B. Lägel1, T. Löber1, V. Tyberkevych1, A.N. Slavin1, C. Dubs1, B. Hillebrands1 and A. Chumak1 1. Fachbereich Physik, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. Department of Physics, Oakland University, Rochester, MI, United States; 3. Innovent e.V., Technologieentwicklung, Jena, Germany

B4-04. Observation of Longitudinal Spin Seebeck Voltage in Chemically Synthesized YFeO3 Films. K. Yamada1, Y. Kurokawa2, K. Kogiso1, H. Yuasa2 and M. Shima1 1. Department of Chemistry and Biomolecular Science, Faculty of Engineering, Gifu University, Gifu City, Japan; 2. Graduate School and Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan

B4-05. Withdrawn

B4-06. Withdrawn

B4-07. Scaling Of The Spin Seebeck Effect In Bulk And Thin Films. K. Morrison1, C. Cox1 and A. Caruana2 1. Physics, Loughborough University, Loughborough, United Kingdom; 2. ISIS Neutron Source, STFC Rutherford Appleton Laboratory, Didcot, United Kingdom

B4-08. Withdrawn

B4-09. Spin Seebeck Effect and Anisotropy in Magnetic Oxides. V. Kalappattil1, R. Das1, M. Phan1 and H. Srikanth1 1. Department of Physics, University of South Florida, Tampa, FL, United States

Session B5
LOW TEMPERATURE MEASUREMENTS AND MODELLING
(Poster Session)
Takahide Kubota, Chair
Tohoku University, Sendai, Japan

B5-01. Improvement of reproducibility of magnetic moment detected by a SQUID magnetometer and radial offset measurement using a YIG sphere. N. Matsumoto1, C. Dennis2 and R.D. Shull1 1. National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. Materials Science and Engineering Division, Material Measurement Laboratory, National Institute of Standards and Technology (NIST), Gaithersburg, MD, United States

B5-02. Withdrawn

B5-03. Using the Standard Linear Ramps of the CMS Superconducting Magnet for Measuring the Magnetic Flux Density in the Steel Flux Return Yoke. V. Klyukhin1,2, B. Curé3, N. Amapan4, A. Ball5, A. Gaddi5, H. Gerwig3, A. Hervé3, R. Loveless1 and M. Mulders2 1. Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University, Moscow, Russian Federation; 2. CERN, Geneva 23, Switzerland; 3. INFN Turin and University of Turin, Turin, Italy; 4. University of Wisconsin, Madison, WI, United States

B5-04. Experimental study of the double perovskite Sr2LaFeMoO6 compound. B. Aguilar Reyes1, T. Soto Guzmán1,5, O. Navarro Chavez1 and J. de la Torre Medina1 1. Unidad Morelia Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, Morelia, Mexico; 5. Facultad de Ciencias Físico Matemáticas, Universidad Michoacana de San Nicolás de Hidalgo, Morelia, Mexico

B5-05. Microstructures of MnBi obtained by quenching in magnetic fields up to 19 T. R. Kobayashi1, M. Yamashita1, D. Miyazaki1, Y. Mitsui1, K. Takahashi2, S. Uda2 and K. Koyama1 1. Kagoshima University, Kagoshima, Japan; 2. Tohoku University, Sendai, Japan

B5-06. Magnetic Property Modeling of Nanocrystalline Under DC-Biased Condition. Y. Li1, H. Sun1, C. Zhang1 and S. Yue1 1. Hebei University of Technology, Tianjin, 300130, China


B5-08. The Permeability of Vacuum and the Revised International System of Units. R. Goldfarb1 1. NIST, Boulder, CO, United States
Session B6
MAGNETIC DEVICE FOR INFORMATION STORAGE AND PROCESSING
(Poster Session)
Se Kwon Kim, Chair
University of California, Los Angeles, Los Angeles, CA, United States

B6-01. Unconventional Order-Disorder Phase Transition in Improper Ferroelectric Hexagonal Manganites.
S.H. Skjaervø1, Q.N. Meier1, E.S. Bozin2, S.J. Billinge3,4, M. Feygenson5,6, N.A. Spaldin1 and S.M. Selbach2

B6-02. Designing a majority gate using chiral magnetic solitons.
D. Yudin1, M. Pereiro2, K. Kompouras3, O. Eriksson4, A. Bergman5 and C. Adelmann6
1. Physics, Osmania University, Hyderabad, India; 2. UGC DAE Consortium for Scientific Research, Indore, India; 3. ECHR, The George Washington University, Washington, DC, United States; 4. Imperial College London, London, United Kingdom; 5. School of Mechatronics Engineering and Automation, Shanghai University, Shanghai, China; 6. UPM, University of the Basque Country, Bilbao, Spain

B6-03. Magnetic Flux Leakage Testing of Wire Rope Defects with Instantaneous Phase Solution and Wavelet Analysis.
E. Zhang1, D. Zhang1 and S. Pan1
1. Harbin Institute of Technology, Shenzhen, Shenzhen, China

B6-04. Thermal stability and topological protection of skyrmions in nanotracks.
D.I. Cortés-Ortuño1, W. Wang2, M. Beg3, R.A. Pepper2, M. Bisotti1, R. Carey1, M. Vousden1, T. Kluiver1, O. Hovorka1 and H. Fangohr2
1. Faculty of Engineering and Physical Sciences, Imperial College London, London, United Kingdom; 2. Department of physics, Ningbo university, Ningbo, China; 3. European XFEL GmbH, Schenefeld, Germany

B6-05. On Hysteresis Based Random Number Generation.
I. Mayergoyz2 and C.E. Korman1
1. Electrical and Computer Engineering, The George Washington University, Washington, DC, United States; 2. ECE Department, University of Maryland, College Park, MD, United States

B6-06. Low Voltage Tunable Ferrite Phase Shifter. H. Izadkhah1, F. Lombardi2 and C. Vittoria1
1. Electrical Engineering, Northeastern University, Boston, MA, United States

1. School of Mechatronics Engineering and Automation, Shanghai University, Shanghai, China; 2. Mechanical Engineering, Pusan National University, Busan, The Republic of Korea

1. Physics, Osmania University, Hyderabad, India; 2. UGC DAE Consortium for Scientific Research, Indore, India

1. School of Mechatronics Engineering and Automation, Shanghai University, Shanghai, China; 2. Mechanical Engineering, Pusan National University, Busan, The Republic of Korea

B6-10. Demonstration of spin-wave-based reservoir computing for next-generation machine-learning devices. R. Nakane1,2, G. Tanaka2 and A. Hirose1
1. IIIEE, The University of Tokyo, Tokyo, Japan; 2. EEIS, The University of Tokyo, Tokyo, Japan

B6-11. Simulation and experimental tests of topological magnetic monopole in electrical circuit network. Y. Wang1, K. Luo2, Y. Ji1, J. Lu1, R. Yu2 and H. Weng1
1. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. School of Physics and Technology, Wuhan University, Wuhan, China

Session B7
MAGNETOPHOTONICS AND MAGNETOPLASMONICS I
(Poster Session)
Taichi Goto, Chair
Toyohashi University of Technology, Toyohashi, Japan

B7-01. Magneto-Controlled Diffraction Applied to Observe Dynamical Systems. A.P. Tufaile1, M. Snyder2, T. Vanderelli3 and A. Tufaile1
1. Soft Matter Lab, EACH, Universidade de Sao Paulo, Sao Paulo, Brazil; 2. Technical Space Science Center, Morehead State University, Morehead, KY, United States; 3. Ferrocell USA, Ligonier, PA, United States
B7-02. Optical-magnetic characteristics for dual optical window: a case of NaGdF₄:RE³⁺ and Fe₃O₅/SiO₂/NaGdF₄:RE³⁺ nanoparticles. N. Shrivastava¹, G. Zoppellaro², C. Jacinto³, D. Muraca¹, C. Ospina¹, J. García¹, A. Louie¹ and S.K. Sharma¹
1. Physics, Universidade Federal do Maranhão, São Luís, Brazil; 2. Regional Centre for Advanced Technologies and Materials, Palacky University, Olomouc, Czechia; 3. Federal University of Alagoas, Institute of Physics, Maceió, Brazil; 4. State University of Campinas, Institute of Physics, Campinas, Brazil; 5. Brazilian Nanotechnology National Laboratory (LNNano), Brazilian Center for Research in Energy and Materials (CNPEM), Campinas, Brazil; 6. Department of Biomedical Engineering, University of California-Davis, Davis, CA, United States

B7-03. Plasmon-enhanced magneto-optics on single-molecule magnets. F. Pineider¹, A. Mekonnen¹, M. Serri², E. Pedrueza de Villalmanzo³, V. Bonanni⁴, E. Smetanina⁵, G. Campo⁶, M. Mannini¹, C. de Julián Fernández², C. Sangregorio⁶, M. Gurioli¹, A. Dmitriev⁷ and R. Sessoli²
1. Chemistry and Industrial Chemistry, University of Pisa, Pisa, Italy; 2. Department of Chemistry “Ugo Schiff”, University of Florence, Sesto Fiorentino (FI), Italy; 3. Department of Physics, Bahir Dar University, Bahir Dar, Ethiopia; 4. Department of Physics, University of Gothenburg, Gothenburg, Sweden; 5. IMEM-CNR, Parma, Italy; 6. ICCOM-CNR, Sesto Fiorentino (FI), Italy; 7. Department of Physics and Astronomy, University of Florence, Sesto Fiorentino (FI), Italy

B7-04. Withdrawn

B7-05. Withdrawn

B7-06. Colloidal Synthesis of Hybrid Magneto-Plasmonic Nanocrystals: an Improved Route for the Preparation of High-Performance Magneto-Optical Enhanced Materials. A. López-Ortega¹, M. Takahashi², S. Maenosono² and P. Vavassori³
1. nanomagnetism, CIC nanoGUNE, Donostia – San Sebastian, Spain; 2. School of Materials Science, Japan Advanced Institute of Science and Technology, Nomi, Japan; 3. CIC nanoGUNE Consolider, San Sebastian, Spain

MONDAY MORNING 10:00

MONDAY 11 Monday

Session B8
MAGNON WAVEGUIDES AND DEVICES I (Poster Session)
Thomas Brächer, Chair
TU Kaiserslautern, Kaiserslautern, Germany

B8-01. Successive Trimming of a Permalloy Stripe to Enhance the Localized Edge Mode Spectrum Probed by Ferromagnetic Resonance. K. Lenz¹, T. Schneider¹,2, G. Hlawacek¹, R. Narkowicz¹, S. Stienen¹ and J. Lindner¹
1. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Department of Physics, Technische Universität Chemnitz, Chemnitz, Germany

B8-02. Magnetic behaviour investigation in micro-sized objects using simulations, conventional and spatially resolved FMR techniques. S. Pile¹, T. Feggeler², T. Schaffers¹, R. Meckenstock², D. Spoddig², K.J. Ollefs², H. Ohldag³, M. Farle², H. Wende² and A. Ney¹
1. Institute of Semiconductor and Solid State Physics, Johannes Kepler University Linz, Linz, Austria; 2. Faculty of Physics and Center for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, Duisburg, Germany; 3. Stanford Synchrotron Radiation Laboratory, SLAC National Accelerator Laboratory, Menlo Park, CA, United States

B8-03. Amplification of spin waves in ultra-thin Yttrium Iron Garnet microwaveguides by the spin-orbit torque. M. Evelt¹, V.E. Demidov¹, V. Bessonov², S. Demokritov¹, J.L. Prieto³, M. Muñoz⁵, J.B. Youssef⁸, V. Naletov⁹, G. de Loubens², O. Klein³, M. Collet⁴, K. Garcia-Hernandez⁴, P. Bortolotti⁴, V. Cros⁴ and A. Anane⁴
1. Institute for Applied Physics, University of Muenster, Muenster, Germany; 2. Service de Physique de l’Etat Condensé, CEA Saclay, Gif-sur-Yvette, France; 3. INAC-SPINTEC, CEA/CNRS and Univ. Grenoble Alpes, DRF4, Grenoble, France; 4. Unité Mixte de Physique CNRS, Thales TRT, Palaiseau, France; 5. IM-MIstituto de Microelectrónica de Madrid (CNM-CSIC), Madrid, Spain; 6. M.N. Miheev Institute of Metal Physics of Ural Branch of Russian Academy of Sciences, Yekaterinburg, Russian Federation; 7. Instituto de Sistemas Optoelectronicos y Microtecnologia (UPM), Ciudad Universitaria, Madrid, Spain; 8. Laboratoire de Magnétisme de Bretagne CNRS, Université de Bretagne Occidentale, Brest, France; 9. Institute of Physics, Kazan Federal University, Kazan, Russian Federation

B8-04. Spin Doppler effect induced by interfacial Dzyaloshinskii-Moriya interaction. H. Xia¹,2, C.Y. Won¹, M. Yan¹, Y.S. Huang¹, C. Zhou¹, H. Zhao² and Y. Wu¹
1. Physics Department, Fudan University, Shanghai, China; 2. Department of Optical Science and Engineering, Fudan University, Shanghai, China; 3. Department of Physics, College of Sciences, Kyung Hee University, Seoul, The Republic of Korea; 4. Physics, Shanghai University, Shanghai, China
Reciprocity and dispersion relation of the pulse laser-induced magnetostatic surface waves in metals. A. Kamimaki1,2, S. Iihama3, Y. Sasaki1,2, Y. Ando1 and S. Mizukami1,2 1. WPI-AMR, Tohoku University, Sendai, Japan; 2. Graduate School of Engineering, Tohoku University, Sendai, Japan; 3. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 4. Center for Spintronics Research Network, Tohoku University, Sendai, Japan

Magnonic waveguides with spatial variation of saturation magnetization and magnetic anisotropy. L. Flajsman1, O. Wojewoda2, J. Gloss3, V. Krizaková1, M. Vanatka1, P. Varga1,3 and M. Urbanek1,2 1. CEITEC BUT, Brno, Czechia; 2. IPE, BUT, Brno, Czechia; 3. IAP, TU Wien, Vienna, Austria

Transmission matrix and spinwave eigenmodes of patterned magnetic system. I. Purnama1 and C. You1. J. DGIST, Daegu, The Republic of Korea

Fabrication and Characterization of individual sub-100 nm YIG Waveguides using Brillouin Light Scattering Microscopy. B. Heinßer1, T. Brächer1, M. Schneider1, P. Pirro1, Q. Wang1, B. Lägel1, C. Dubs1, O. Surzhenko2 and A. Chumak1 1. Fachbereich Physik, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. INNOVENT e.V. Technologieentwicklung, Jena, Germany

A Luneburg Lens for Spin Waves. N.J. Whitehead1, F. Mushenok2, S.A. Horsley1, T.G. Philbin1 and V. Kruglyak1 1. Physics And Astronomy, University of Exeter, Exeter, United Kingdom

Fano-resonance based nanoscale spin-wave transducer, valve and phase shifter in Damon-Eshbach geometry. K.G. Fripp1, V.D. Poimanov2, F. Mushenok1, F.Y. Ogrin1 and V. Kruglyak1 1. Physics And Astronomy, University of Exeter, Exeter, United Kingdom; 2. Department of Physics and Technology, Donetsk National University, Donetsk, Ukraine

First Time-resolved X-ray Microscopy Imaging of Spin Waves in an Yttrium Iron Garnet Film. J. Förster1, S. Wintz2, J. Bailey1, H. Stoll1, J. Gräfe1, C. Dubs1, D. Meertens1, E. Josten5, M. Weigand1 and G.A. Schütz1 1. Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 2. Paul Scherrer Institut, Villigen PSI, Switzerland; 3. Institut de Physique, EPF Lausanne, Villigen PSI, Switzerland; 4. INNOVENT e.V. Technologieentwicklung Jena, Jena, Germany; 5. Ernst Ruska-Centrum für Mikroskopie und Spektroskopie mit Elektronen, Forschungszentrum Jülich GmbH, Jülich, Germany

Integrated magnonic half-adder. Q. Wang1, T. Brächer2, P. Pirro1 and A. Chumak1 1. TU Kaiserslautern, Kaiserslautern, Germany; 2. Physics, TU Kaiserslautern, Kaiserslautern, Germany

Spin Waves Propagation in Patterned Yttrium Iron Garnet Nanostructures. Z. Zhang1,4, J. Ding1, M. Jungfleisch1, Y. Li1, J.E. Pearson1, R. Divan1, A. Hoffmann1, Y. Nie1 and V. Novosad1 1. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE, United States; 3. Center for Nanostructures, Argonne National Laboratory, LEMONT, IL, United States; 4. School of Optical and Electronic Information, Huazhong University of Science & Technology, Wuhan, China

Recrystallization, texture evolution, and magnetostriiction behavior of rolled (Co40Fe60)75NbC40 sheets during low-to-high temperature heat treatments. Y. Zhao1, X. Gao1, X. Bao1, J. Li1 and X. Mu1 1. School of Electrical Engineering, Southeast University, Nanjing, China; 2. Department of Electronic and Electrical Engineering, The University of Sheffield, Sheffield, United Kingdom

Changes in Microstructures and Magnetic properties of Fe-B-Cu-C Ribbons by Annealing Conditions. K. Lee1, M. Kim1, M. Choi1 and J. Kim1 1. Materials Science and Chemical Engineering, Hanyang University, Ansan, The Republic of Korea

Defective Onion-Like Carbon-Coated FeSn2 Nanocapsules: One-Pot Synthesis and Application as Anode Material for Lithium-Ion Batteries. S. Or1 and D. Han1 1. Electrical Engineering, Hong Kong Polytechnic University, Hong Kong, Hong Kong

Magnetic and thermolectric properties of Fe-Ti-Sn alloys. T. Saito1 and S. Kamishima1 1. Chiba Institute of Technology, Chiba, Japan

Influence of Design Parameters on On-Load Demagnetization Characteristics of Switched Flux Memory Machine. H. Yang1, H. Lin1, Z. Zhu1 and S. Lyu1 1. School of Electrical Engineering, Southeast University, Nanjing, China; 2. Department of Electronic and Electrical Engineering, The University of Sheffield, Sheffield, United Kingdom

Materials for Energy Applications I

Fullvalene Magnetic Metal Halides. H. Gokturk1 1. Ecoken, San Francisco, CA, United States

Magnetic and thermoelectric properties of Fe-Ti-Sn alloys.

Materials Science and Chemical Engineering, Hanyang University, Ansan, The Republic of Korea

Fulvalene Magnetic Metal Halides. H. Gokturk1 1. Ecoken, San Francisco, CA, United States

Fulvalene Magnetic Metal Halides. H. Gokturk1 1. Ecoken, San Francisco, CA, United States

Fulvalene Magnetic Metal Halides. H. Gokturk1 1. Ecoken, San Francisco, CA, United States

Fulvalene Magnetic Metal Halides. H. Gokturk1 1. Ecoken, San Francisco, CA, United States
MONDAY MORNING 10:00
SAN FRANCISCO BALLROOM

Session B10
MOLECULAR MAGNETISM I
(Poster Session)
Tatiana Guidi, Chair
STFC, Didcot, United Kingdom

B10-01. Magnetism of a monolayer of Cr10 molecular wheels deposited on Au(111). E. Bartolome1,2, E. Bartolome3, L. Hernández-López1,2, J. Lobo-Checa1,2, F. Sedona1, M. Piantek1, J. Herrero-Albillos2, L. Garcia1,2, M. Panighel3, A. Mugarza4, J. Herrero-Martin5, D. Serrate5, J. Bartolomé6, L. Doerrer7, J. van Slageren8, K. Lefmann9, and J. Bendix3.
1. Escola Universitaria Salesiana de Sarrià, Barcelona, Spain; 2. Departamento de Física de la Materia Condensada, Universidad de Zaragoza, Zaragoza, Spain; 3. Escuela Universitaria Salesiana de Sarrià, Barcelona, Spain; 4. Dipartimento di Scienze Chimiche, Università di Padova, Padova, Italy; 5. INA - LMA, Universidad de Zaragoza, Zaragoza, Spain; 6. Centro Universitario de la Defensa, Zaragoza, Spain; 7. Catalan Institute of Nanoscience and Nanotechnology, CSIC and The Barcelona Institute of Science and Technology, Barcelona, Spain; 8. CNR-IOM, CNR - Università di Trieste, Trieste, Italy; 9. ICREA, Barcelona, Spain; 10. Divisio Experiments - CELLS, ALBA Synchrotron Light Source, Barcelona, Spain


B10-03. Chemical tunnel-splitting-engineering in a dysprosium-based molecular nanomagnet. M. Sørensen1,4, U.B. Hansen2,3, M. Perfetti4, K. Pedersen5, E. Bartolome6, G. Simeoni7, H. Mutka8, S. Rols9, M. Jeong10, I. Zivkovic11, M. Retuertero1, A.B. Arauzo1, J. Bartolomé1,9, S. Piligkos3, L. Doerrer11, J. van Slageren1, H.M. Ronnow8, K. Lefmann9, and J. Bendix3. 1. Niels Bohr Inst., Univ. Copenhagen, Copenhagen, Denmark; 2. The Institute Lavo Langevin, Grenoble, France; 3. Chemistry, University of Copenhagen, Copenhagen, Denmark; 4. Physical Chemistry, University of Stuttgart, Stuttgart, Germany; 5. Escola Universitaria Salesiana de Sarrià, Barcelona, Spain; 6. FRM-II, Technical University of Munich, Munich, Germany; 7. School of Physics and Astronomy, University of Birmingham, Birmingham, United Kingdom; 8. Institute of Physics, EPFL, Lausanne, Switzerland; 9. Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain; 10. Instituto de Ciencia de Materiales de Aragón, Consejo Superior de Investigaciones Científicas, Zaragoza, Spain; 11. Chemistry, Boston University, Boston, MA, United States

B10-04. Structural Phases and Fe Magnetic Moment upon Oxidation of Fe-Phtalocyanine monolayers on Ag(110). F. Bartolome1, E. Bartolome2, E. Bartolome3, L. Hernandez-Lopez1,2, J. Lobo-Checa1,2, F. Sedona1, M. Piantek1, J. Herrero-Albillos2, L. Garcia1,2, M. Panighel3, A. Mugarza4, J. Herrero-Martin5, D. Serrate5, J. Bartolomé6, and M.S. Sambi4. 1. ICMA, CSIC - Universidad de Zaragoza, Zaragoza, Spain; 2. Departamento de Fisica de la Materia Condensada, Universidad de Zaragoza, Zaragoza, Spain; 3. Escuela Universitaria Salesiana de Sarrià, Barcelona, Spain; 4. Dipartimento di Scienze Chimiche, Università di Padova, Padova, Italy; 5. INA - LMA, Universidad de Zaragoza, Zaragoza, Spain; 6. Centro Universitario de la Defensa, Zaragoza, Spain; 7. Catalan Institute of Nanoscience and Nanotechnology, CSIC and The Barcelona Institute of Science and Technology, Barcelona, Spain; 8. CNR-IOM, CNR - Università di Trieste, Trieste, Italy; 9. ICREA, Barcelona, Spain; 10. Divisio Experiments - CELLS, ALBA Synchrotron Light Source, Barcelona, Spain

B10-05. Transition Metal Cluster Single-Molecule Magnets from Coupling of Low-Coordinate Metal Centers. K. Chakarawal1, P.C. Bunting1, and J. Long1. 1. University of California, Berkeley, Berkeley, CA, United States

B10-06. Magnetic Properties of 2D Conductive MOFs, M-CAT-1. Y. Misumi1, Y. Zhang2, and K. Awaga3. 1. Nagoya University, Nagoya, Japan

B10-07. Quantum Spin Liquid State in an Organic Hyperkagome Lattice of Mott Dimers. A. Mizuno1, Y. Shuku1, and K. Awaga3. 1. Nagoya University, Nagoya, Japan
B10-08. Verdazyl-Pincer Ligands: Building Blocks for Molecules with Unusual Magnetic Properties. D.J. Brook1, C. Fleming1, D. Chung1 and R. Heindl2 1. Chemical, San Jose State University, San Jose, CA, United States; 2. Physics, San Jose State University, San Jose, CA, United States

B10-09. Experimental Evidence for Enhancement of Quantum Coherence Near an Atomic-clock Transition in the Cr,Mn Molecular Nanomagnet. J.R. Friedman1, C. Collett1, K. Ellers1, N. Russo2, K. Kittilstved2, G. Timco3 and R. Winpenny3 1. Department of Physics and Astronomy, Amherst College, Amherst, MA, United States; 2. Department of Chemistry, University of Massachusetts, Amherst, MA, United States; 3. Chemistry, University of Manchester, Manchester, United Kingdom

B10-10. Photoinduced Decrease in Magnetization in Core@Shell Nanoparticles of RbCoFe@KNiCr PBA. J.M. Cain1, A.C. Felts1, D.R. Talham1 and M.W. Meisel2 1. University of Florida, Gainesville, FL, United States; 2. Department of Physics, University of Florida, Gainesville, FL, United States


B10-12. Anomalous antiferromagnetic state observed in the π-d molecular conductor λ-(BETS)2FeCl4. Y. Oshima1, T. Lee2,1, H. Cui3 and R. Kato1 1. Condensed Molecular Materials Laboratory, RIKEN, Wako-shi, Japan; 2. Hokkaido University, Sapporo, Japan

B10-13. Withdrawn

MONDAY MORNING

SAN FRANCISCO BALLROOM

Session B11
THEORY OF STRONGLY CORRELATED ELECTRON SYSTEMS I
(Poster Session)
Bryan Clark, Chair
University of Illinois at Urbana-Champaign, Urbana, IL, United States

B11-01. Withdrawn

B11-02. Decoding quantum criticalities from fermionic/parafermionic topological states. G. Zhang1 1. Physics, Tsinghua University, Beijing, China

B11-03. Influence of La doping in the electronic and magnetic properties for the Sr2FeMoO6 compound. F. Estrada Chávez1,2, B. Aguilar Reyes1, O. Navarro Chavez1 and M. Avignon1 1. Facultad de Biologia, Universidad Michoacana de San Nicolás de Hidalgo, Morelia, Mexico; 2. Escuela Nacional de Estudios Superiores, Unidad Morelia, Universidad Nacional Autónoma de México, Morelia, Mexico; 3. Unidad Morelia Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, Morelia, Mexico; 4. CNRS, Université Grenoble Alpes, Grenoble, France

B11-04. Asymmetry of the density of states and magnetic exchange interactions in Hund’s metals. A. Katanin1, A. Belozerov1,2 and V. Anisimov1,2 1. M.N. Miheev Institute of Metal Physics UB of RAS, Ekaterinburg, Russian Federation; 2. Ural Federal University, Ekaterinburg, Russian Federation

B11-05. Phenomenological Mean-Field Analysis of Metamagnetism in Heavy Fermion Compounds. K. Matsumoto1 and S. Murayama2 1. Graduate School of Engineering, Muroran Institute of Technology, Muroran, Japan; 2. Graduate School of Engineering, Muroran Institute of Technology, Muroran, Japan

B11-06. Energy of a Finite Three-Dimensional Electron Gas System. O. Ciftja1 1. Department of Physics, Prairie View A&M University, Prairie View, TX, United States

B11-07. A novel solution of the 2D Hubbard model within a four-pole approximation. A. Di Ciolo1 and A. Avella1,2 1. Dipartimento di Fisica “E.R. Caianiello”, Università degli Studi di Salerno, Fisciano, Italy; 2. UoS di Salerno, CNR-SPIN, Fisciano, Italy

B11-08. Dislocation-mediated quantum melting. A. Beekman1 1. Department of Physics, Keio University, Yokohama, Japan

B11-09. Theory of Temperature-dependent Collective Excitations in Excitonic Insulators. F. Xue1 and A.H. MacDonald1 1. Physics, University of Texas at Austin, Austin, TX, United States

MONDAY MORNING

SAN FRANCISCO BALLROOM

Session B12
QUANTUM SPIN LIQUIDS I
(Poster Session)
Arnab Banerjee, Chair
Oak Ridge National Laboratory, Knoxville, TN, United States

B12-01. Existence of spin-liquid states in the Kitaev-Heisenberg ladder. C. Agrapidis1, J. van den Brink2,3 and S. Nishimoto1,2 1. Institute for Theoretical Solid State Physics, Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany; 2. Department of Physics, Technical University Dresden, Dresden, Germany

MONDAY
B12-02. Quantum-Disordered Ground State with Singlet Gap of the Spin-1/2 Square-Lattice Random $J_{ij}$ Heisenberg Antiferromagnet Sr$_2$CuTe$_x$W$_{1-x}$O$_6$. M. Watanabe$^{1}$, N. Kurita$^{1}$ and H. Tanaka$^{1}$. 1. Tokyo Institute of Technology, Meguro-ku, Japan

B12-03. Dirac and chiral quantum spin liquids on the honeycomb lattice in a magnetic field. Z. Liu$^{1}$. 1. Department of Physics, Renmin University of China, Beijing, China

B12-04. Non-Abelian S = 1 chiral spin liquid on the kagome lattice. Z. Liu$^{1}$. 1. Department of physics, Renmin University of China, Beijing, China

B12-05. Spin liquid on the stuffed honeycomb lattice. J. Sahoo$^{1}$, D. Kochkov$^{2}$, B. Clark$^{2}$ and R. Flint$^{1}$. 1. Physics and Astronomy, Iowa State University, Ames, IA, United States; 2. Physics, University of Illinois at Urbana-Champaign, Champaign, IL, United States

B12-06. NMR Study of Spin-1/2 Square-Lattice Random $J_{ij}$ Heisenberg Antiferromagnet Sr$_2$CuTe$_x$W$_{1-x}$O$_6$. W. Ueno$^{1}$, K. Matsui$^{1}$, T. Goto$^{1}$, M. Watanabe$^{1}$ and H. Tanaka$^{1}$. 1. Physics Division, Sophia University, Chiyodaku, Japan; 2. Tokyo Institute of Technology, Meguro-ku, Japan

B12-07. A Phase Diagram for Hole-Doped Lithium Iridates. M. Vranas$^{1}$, A. Ruiz$^{1}$, G. Lopez$^{1}$ and J. Analytis$^{1}$. 1. Physics, University of California, Berkeley, Berkeley, CA, United States

B12-08. Absence of long-range order in K$_2$Ni(SO$_4$)$_2$ with a novel modified hyper-kagome lattice. I. Živkovic$^{1,2}$, R.S. Freitas$^{2}$, V.Y. Favre$^{3}$, C. Mingee$^{1}$, P. Baker$^{1}$, C. Baines$^{3}$, H. Luetkens$^{5}$, A. Magrez$^{1}$ and H.M. Ronnow$^{1}$. 1. Institute of Physics, EPFL, Lausanne, Switzerland; 2. Departamento de Física dos Materiais e Mecânica, Instituto de Física, Universidade de São Paulo, São Paulo, Brazil; 3. Department of Physics, Amity University, Gurgaon, India

B12-09. Quantum spin ice under an electric field. S. Onoda$^{1,2}$. 1. Condensed Matter Theory Laboratory, RIKEN, Wako, Japan; 2. Quantum Matter Theory Research Team, RIKEN CEMS, Wako, Japan

B12-10. Withdrawn

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Session B13

RARE EARTH FREE PERMANENT MAGNETS I

(Poster Session)

Parmanand Sharma, Co-Chair
Tohoku University, Sendai, Japan
Cajetan Niebedim, Co-Chair
Ames Laboratory, US Department of Energy, Ames, IA, United States

B13-01. Improved structural, magnetic and spectroscopic properties of M-type strontium hexaferrite synthesised by citrate precursor method. K. Rana$^{1}$, P. Thakur$^{a}$ and A. Thakur$^{1}$. 1. Department of Physics, IEC University, Baddi, India; 2. Department of Physics, Amity University, Gurgaon, India

B13-02. Hard-magnetic properties of (Co, Mn) co-doped BaFe$_{12}$O$_{19}$ hexaferrites. N. Tran$^{1}$, H. Kim$^{1}$, T. Phan$^{1}$ and B. Lee$^{1}$. 1. Department of Physics and Oxide Research Center, Hankuk University of Foreign Studies, Yongin-si, The Republic of Korea

B13-03. Experimental and theoretical investigation of SrFe$_{12}$O$_{19}$ nanopowder for permanent magnet application. B. Abraine$^{1,2}$, M. Ait Tamerd$^{2}$, A. Mahmoud$^{3}$, F. Boschini$^{3}$, A. Benyousef$^{1,2}$, M. Hamedou$^{1}$, Y. Xiao$^{2}$, A. El Kenz$^{2}$ and O. Mounkachi$^{1}$. 1. Nanotechnology, MAScIR Foundation, Rabat, Morocco; 2. Physics department, Faculty of science, Mohamed 5 university, Rabat, Morocco; 3. GREENMAT, Institute of Chemistry B6, University of Liege, LIEGE, Belgium; 4. Jülich Centre for Neutron Science JCNS and Peter Grünberg Institut PGI JCNS-2, Jülich, Germany

B13-04. Enhanced Properties of MnBi synthesized via Novel Fabrication Method. J. Kim$^{1}$, Y. Shin$^{1}$, C. Ahn$^{1}$, J. Choi$^{1}$, G. Hwang$^{1}$, Y. Yang$^{1}$, J. Park$^{1}$, K. Chung$^{1}$ and C. Choi$^{1}$ 1. Powder and Ceramics Division, Korea Institute of Materials Science, Changwon, The Republic of Korea

B13-05. Magnetovolume Effect Induced Zero Thermal Expansion in Er$_2$Fe$_{16.5}$Cr$_{0.5}$O$_{19}$. S. Dan$^{1}$, S. Mukherjee$^{1}$, C. Mazumdar$^{2}$ and R. Ranganathan$^{1}$. 1. Department of Physics, The University of Burdwan, Bankura, India; 2. Condensed Matter Physics Division, Saha Institute of Nuclear Physics, Kolkata, India

B13-06. Intrinsic Hard Magnetic Properties of Mn-Ga Micro-Nano Particles. O. Akdogan$^{1,2}$ and N. Gunduz Akdogan$^{1,2}$. 1. Engineering and Natural Sciences-Mechatronics Engineering, Bahcesehir University, Istanbul, Turkey; 2. Piri Reis University, Istanbul, Turkey; 3. Nanotechnology Research and Application Center, Sabanci University, Istanbul, Turkey

B13-07. Severe Variation of Permanent Magnet Properties in Gas-Atomized MnAl Particles by Controlled Nanostructuration and Phase Transformation. J. Rial$^{1}$, E.M. Palmero$^{1}$, J. Camarero$^{1}$, P. Švec$^{2}$, P. Švec$^{2}$ and A. Bollero$^{1}$. 1. Division of Permanent Magnets and Applications, IMDEA Nanoscience, Madrid, Spain; 2. Institute of Physics, Slovak Academy of Sciences, Bratislava, Slovakia
B13-08. In-field Annealing Effects on L1_2-(Mn,Zn)-Al and Mn-Al-C.
Y. Mitsui¹, R. Kobayashi¹, A. Takaki¹, Y. Takanaga¹,
R.Y. Umetsu², M. Mizuguchi³, K. Takahashi³ and K. Koyama¹
1. Kagoshima University, Kagoshima, Japan; 2. Tohoku
University, Sendai, Japan; 3. Tohoku University, Sendai, Japan

B13-09. Withdrawn

B13-10. Withdrawn

B13-11. Magnetic Hardening and Microstructure in deformed
L1_2-MnGa Magnet.
Q. Lu¹, D. Wang¹, H. Zhang² and Y. Ming¹
1. College of Materials Science and Engineering, Beijing
University of Technology, Beijing, China; 2. College of
Materials Science and Engineering, Beijing University of
Technology, Beijing, China

B14-01. Withdrawn

B14-02. Phase diagram of the J_1-J_2-J_3 transverse Ising
antiferromagnet on the honeycomb lattice with frustration:
An effective-field study.
A. Bobák¹, E. Jurčišinová²,
M. Jurčišin³, M. Zúkoš⁴ and T. Balcerzak⁵
1. Institute of Physics, P. J. Šafárik University, Košice, Slovakia;
2. Institute of Experimental Physics, Slovak Academy of Sciences,
Košice, Slovakia; 3. Department of Solid State Physics, University of
Lodz, Lodz, Poland

B14-03. Rotating magnetocaloric effect in strongly anisotropic
geometrically frustrated TmB²⁶.
M. Orendac¹, S. Gabani¹,
G. Pristas¹, E. Gazo¹, N. Shitsevalova², K. Siemensmeyer³ and
K. Flachbart³
1. Institute of Experimental Physics, Slovak Academy of Sciences,
Košice, Slovakia; 2. Institute for Problems of Materials Science, NASU,
Kiev, Ukraine; 3. Helmholtz Zentrum Berlin, Berlin, Germany

B14-04. A New Constructive Method of the Quantum Dimer Model
in Spin-1/2 Heisenberg Antiferromagnets with Frustration
on a Diamond-Like-Decorated Square Lattice.
Y. Hirose¹, A. Oguchi¹, M. Tamura¹ and Y. Fukumoto¹
1. Tokyo University of Science, Noda, Chiba, Japan

B14-05. Magnons in a Strongly Spin-Orbital Coupled Magnet.
P. Maksimov¹, S. Winter¹, K. Riedl², S. Chernyshev¹,
A. Honecker³ and R. Valenti¹
1. University of California, Irvine, Irvine, CA, United States;
2. Theoretical Physics, University of Frankfurt, Frankfurt, Germany;
3. Université de Cergy-Pontoise, Cergy-Pontoise Cedex, France

B14-06. Hidden Ferromagnetism in the Kitaev Honeycomb Iridates.
A. Ruiz¹, A. Frano², N. Breznay³, Z. Islam³ and J. Analytis¹
1. University of California, Berkeley, Berkeley, CA, United
States; 2. Physics, University of California, San Diego, San
Diego, CA, United States; 3. Argonne National Laboratory,
Lemont, IL, United States; 4. Physics, Harvey Mudd College,
Claremont, CA, United States

B14-07. Noncollinear magnetic ordering in a frustrated magnet:
Metallic regime and the role of frustration.
M. Shahzad¹
1. School of Physical & Mathematical Sciences, Nanyang
Technological University, Singapore, Singapore

B14-08. Effective model with strong Kitaev interaction for
α-RuCl₃.
S. Suga¹ and T. Suzuki²
1. University of Hyogo, Himeji, Japan;
2. University of Hyogo, Himeji, Japan

MONDAY SAN FRANCISCO BALLROOM
MORNING 10:00

Session B14
FRUSTRATED MAGNETISM, INCLUDING DIMERS,
KITAEV MODELS, AND SHASTRY-SUTHERLAND
AND HONEYCOMB LATTICES
(Poster Session)
Hitoshi Ohta, Chair
Kobe University, Kobe, Japan

B14-09. Noncollinear magnetic ordering in a frustrated magnet:
Metallic regime and the role of frustration.
M. Shahzad¹
1. School of Physical & Mathematical Sciences, Nanyang
Technological University, Singapore, Singapore

B14-10. Effective model with strong Kitaev interaction for
α-RuCl₃.
S. Suga¹ and T. Suzuki²
1. University of Hyogo, Himeji, Japan;
2. University of Hyogo, Himeji, Japan

MONDAY SAN FRANCISCO BALLROOM
MORNING 10:00

Session B15
ORDERED PHASES IN SCES 1: MOSTLY
MAGNETISM
(Poster Session)
Ladislav Havela, Chair
Charles University, Prague 2, Czechia

B15-01. Critical scaling analysis in an itinerant ferromagnet Ni₄Rh.
B. Spieβ¹,², T. Besara³, T. Siegrist³, E. Morosan¹ and
C. Huang¹
1. Physics and Astronomy, Rice University, Houston,
TX, United States; 2. Chemistry, Johannes Gutenberg-
University Mainz, Mainz, Germany; 3. National High Magnetic
Field Laboratory, Tallahassee, FL, United States

B15-02. Non-reciprocal magnon dispersion in chiral MnSi.
T. Weber¹, J. Waizner³, G.S. Tucker², R. Georgii⁷,
A. Bauer⁴, C. Pfleiderer⁴, M. Garst⁵ and P. Böni⁶
1. Spectroscopy Group, Institut Laue-Langevin (ILL), Grenoble, France;
2. Paul Scherrer Institut, 5232 Villigen PSI, Switzerland;
3. Institut für Theoretische Physik, Universität zu Köln, 50937 Cologne, Germany;
4. Physik-Department E21, Technical University of Munich,
85748 Garching, Germany; 5. TU Dresden, Dresden, Germany;
6. Physik-Department E21, Technical University of Munich,
85748 Garching, Germany; 7. Heinz-Maier-Leibnitz-Zentrum,
Technical University of Munich, 85747 Garching, Germany
B15-03. High temperature ferromagnetism in NbCo$_2$ nanoparticles – bulk magnetization and hyperfine field measurements.

S. Yamada$^1$, K. Ogawa$^2$, N. Abe$^3$, H. Sagayama$^4$ and T. Arima$^5$. 1. Department of Materials System Science, Yokohama City University, Yokohama, Japan; 2. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 3. Institute of Materials Structure Science, High Energy Accelerator Research Organization, Tsukuba, Japan; 4. Department of Materials Science, The Graduate University for Advanced Studies, Tsukuba, Japan

B15-05. Magnetic excitations and electronic interactions in Sr$_x$CuTeO$_y$. P. Babkevich$^1$, V.M. Katukuri$^2$, B. Fak$^3$, R. Singh$^4$ and H.M. Ronnow$^1$. 1. Laboratory for Quantum Magnetism, EPFL, Lausanne, Switzerland; 2. Department of Physics, EPFL, Lausanne, Switzerland; 3. Institut Laue-Langevin, Grenoble, France; 4. University of California, Davis, CA, United States

B15-06. Complex magnetic behavior in RE$_{x}$Pd$_{2-y}$Ga$_{y}$ (RE = Gd, Tb and Dy) compounds. M.B. Tchoula Tchokonte$^1$, J.J. Mboukam$^2$, A.K. Bashir$^3$, B.M. Sondezi$^4$, A. Fak$^5$, and S.K. Mohanta$^6$. 1. School of Basic Sciences, Indian institute of Technology Mandi Himachal Pradesh India, Mandi, India

B15-07. Giant magnetocaloric effect and universal scaling analysis of Er$_{x}$Pd$_{2-y}$superspin glass system. M.K. Sharma$^1$ and K. Mukherjee$^2$. 1. School of Basic Sciences, Indian institute of Technology Mandi Himachal Pradesh India, Mandi, India


B15-10. Withdrawn

MONDAY MORNING

MORNING

SAN FRANCISCO BALLROOM

Session B16

TOPOLOGICAL SCES I: MAGNETIC SYSTEMS (Poster Session)

Hsin-Hua Lai, Chair

Rice University, Houston, TX, United States

B16-01. Topological features of the thermal Hall conductivity in a chiral p-wave superconductor under strain. Y. Imai$^1$ and M. Sigrist$^2$. 1. Applied Physics, Okayama University of Science, Okayama, Japan; 2. ETH-Zurich, Zurich, Switzerland

B16-02. Symmetry breaking of spin and valley degree of freedom in a massless-Dirac electron system, $\alpha$-(BEDT-TTF)$_2$I$_3$ under magnetic fields. K. Miyagawa$^1$, M. Matsuno$^2$, T. Taniguchi$^3$, D. Liu$^4$, M. Hirata$^5$, T. Tamura$^6$ and K. Kano$^7$. 1. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Department of Physics, Tokyo University of Science, Chiba, Japan

B16-03. Distinctly Different Spin Disorder Topological Phases in J1-J2 Heisenberg Model in Honeycomb Lattice. J. Liu$^1$, Y. Quan$^2$, H. Lin$^3$ and L. Zou$^4$. 1. Research Laboratory of Computational Materials Sciences, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 2. Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 3. Beijing Computational Science Research Center, Beijing, China


B16-05. Temperature dependent Magneteto-transport properties of MnAl Binary Alloy Thin Films. V. Barwal$^1$, S. Husain$^2$, N. Gupta$^3$, A. Kumar$^4$, P. Svedlindh$^5$ and S. Chaudhary$^6$. 1. Physics, Indian Institute of Technology Delhi, New Delhi, India; 2. Department of Engineering Sciences, Uppsala University, Uppsala, Sweden
B16-06. Field-induced Weyl metal phases of non-collinear antiferromagnet: GdB$_x$Y$_{1-x}$, D. Ryu$^1$, K. Kim$^{1,2}$ and B. Min$^1$

B16-07. Effects of doping on the semiconductor OsGe$_x$, G. Lopez$^{1,2}$, A. Gong$^{1,2}$ and J. Analyti$^1$
1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Materials Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. University of California, Berkeley, CA, United States

B16-08. Formation of a topological spin liquid regime in Mn$_{1-x}$Fe$_x$Si, C. Franz$^{1,2}$, J. Kindervater$^1$, T. Adams$^1$, A. Bauer$^1$, F. Haslbeck$^1$, A. Chacon$^1$, S. Muehlbauer$^1$, F. Jonietz$^1$, A. Neubauer$^1$, U. Gasser$^4$, G. Nagy$^4$, N. Martin$^{1,2}$, W. Häußler$^{1,2}$, R. Georgii$^{1,2}$, M. Garst$^1$ and C. Pfleiderer$^1$
1. Physics Department, Technical University of Munich, Garching, Germany; 2. Heinz Maier-Leibnitz Zentrum, Technical University of Munich, Garching, Germany; 3. Heinz Maier-Leibnitz Zentrum (MLZ), Technical University of Munich, Garching, Germany; 4. Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut, Villigen, Switzerland; 5. TU Dresden, Dresden, Germany

B16-09. Withdrawn

B16-10. Withdrawn

B16-11. Withdrawn

MONDAY MORNING
ESPLANADE 157

Session C2
MOLECULAR MAGNETISM II
Stephen Hill, Chair
Florida State University and NHMFL, Tallahassee, FL, United States

11:30

C2-01. Development of Organic Quantum Magnets. (Invited)
Y. Hosokoshi$^1$
1. Department of Physical Science, Osaka Prefecture University, Sakai, Japan

12:00

C2-02. A Linear Cobalt(II) Dialkyl Complex with a non-Aufbau Ground State and Very Large Magnetic Anisotropy.
P. Bunting$^1$, M. Atanasov$^2$, E. Damgaard-Møller$^2$, M. Perfetti$^4$, I. Crassee$^5$, M. Orlita$^5$, J. Overgaard$^1$, I. van Slageren$^6$, F. Neese$^2$ and J. Long$^7$
1. Department of Chemistry, University of California, Berkeley, Berkeley, CA, United States; 2. Max-Planck-Institut fur Kohlenforschung, Mülheim, Germany; 3. Department of Chemistry & Centre for Materials Crystallography, Aarhus University, Aarhus, Denmark; 4. Department of Chemistry, University of Copenhagen, Copenhagen, Denmark; 5. Laboratoire national des champs magnétiques intenses, CNRS-UJF-UPS-INS, Grenoble, France; 6. Institut für Physikalische Chemie, Universität Stuttgart, Stuttgart, Germany; 7. University of California, Berkeley, Berkeley, CA, United States
C2-03. XMCD Studies of 5d Transition Metal Complexes - Building Blocks for Molecular Magnets. A. Rogalev1, K. Pedersen2, F. Wilhelm1 and R. Clerac3. 1. ESRF, Grenoble, France; 2. Department of Chemistry, Technical University of Denmark, Lyngby, Denmark; 3. CNRS-Univ. Bordeaux, CRPP, UMR 5031, Pessac, France

C3-01. Heat Assisted Magnetic Recording’s Potential for High Linear and Areal Density Recording. (Invited) J. Thiele1, Y. Kubota1, S. Zhu1, E.K. Chang1, Y. Ding1, L. Gao1, F. Zavaliche1, Y. Peng1, T.J. Klemmer1, A.Q. Qu1, H. Amini1, X. Zhu1, P. Huang1, P. Subedi1, C.J. Rea1, S. Grantz1, T. Rausch1, M.A. Seigler1 and G. Ju1. Recording Media Operations, Seagate Technology, Fremont, CA, United States; 2. Recording Heads Operations, Seagate Technology, Normandale, MN, United States; 3. Seagate Research Group, Seagate Technology, Shakopee, MN, United States

C3-02. Ultrafast Non-dissipative Photo-magnetic Recording. (Invited) A. Stupakiewicz1. 1. Faculty of Physics, University of Bialystok, Bialystok, Poland

C4-01. Dramatic Effect Of Curvature On Velocity Of Chiral Domain Walls. (Invited) C. Garg1,2, S. Yang1, T. Phung1, A. Pushp1 and S.S.P. Parkin1,2. 1. IBM Almaden Research Center, San Jose, CA, United States; 2. Max Planck Institute for Microstructure Physics, Halle (Saale), Germany

C4-02. Magnetization dynamics in Ni nanostripes induced by surface acoustic waves. D. Castilla1, J.L. Prieto1, M. Muñoz2,3, M. Sinusia1, G. Fuentes2, L. Lopez-Díaz4 and R. Yanes4. 1. Física Aplicada, Universidad Politécnica de Madrid, Madrid, Spain; 2. IMM-Instituto de Microelectrónica de Madrid (CNM-CSIC), Madrid, Spain; 3. Instituto de Sistemas Optoelectrónicos y Microtecnología (ISOM), Universidad Politécnica de Madrid, Madrid, Spain; 4. Applied Physics, University of Salamanca, Salamanca, Spain; 5. Física Aplicada, Universidad de Salamanca, Salamanca, Spain

C5-02. Inelastic Neutron Scattering Investigations in the Series Mn5-xFe3Si3. (Invited) K. Schmalzl1, N. Biniskos2,3, S. Raymond2 and T. Brückel3. 1. JCNS at Institut Laue-Langevin, Forschungszentrum Jülich, Grenoble, France; 2. CEA, INAC, MEM, Université Grenoble Alpes, Grenoble, France; 3. JCNS2 and PGI, JARA-FIT, Forschungszentrum Jülich GmbH, Jülich, Germany

C5-03. All-optical switching and brain-inspired concepts for low energy information processing. (Invited) A. Chakravarty2, J. Mentink1, C.S. Davies2, K. Yamada2, A. Kimel2 and T. Rasing3. 1. Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands; 2. Radboud University, Nijmegen, Netherlands; 3. Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands
Session C6
DIAGNOSTIC BIOMEDICAL APPLICATIONS OF MNPS
Hubert Brueckl, Co-Chair
Danube University Krems, Wiener Neustadt, Austria
Zbigniew Celinski, Co-Chair
UCCS, Colorado Springs, CO, United States

11:30
C6-01. Synthesis and Characterization of Multifunctional Fe₃O₄-ZnO Colloidal Nanocrystal Clusters for Ultra-sensitive in vitro Diagnosis. M. Ko¹, B. Park¹, L. Pan¹ and Y. Kim¹
1. Department of Materials Science & Engineering, Korea University, Seoul, The Republic of Korea

11:45
C6-02. Co-Zn Ferrite Nanoparticles for Magnetic Resonance Imaging Thermometry. Z. Celinski¹, J.H. Hankiewicz¹, K. Tvrdy¹, K. Stupic¹, S.E. Russek¹, R.E. Camley¹, J. Stroud¹ and J. Stool¹ 1. BioFrontiers, University of Colorado Colorado Springs, Colorado Springs, CO, United States; 2. Department of Chemistry & Biochemistry, UCCS, Colorado Springs, CO, United States; 3. National Institute of Standards and Technology, Boulder, CO, United States

12:00
C6-03. White Blood Cell Tracking with Magnetic Particle Imaging Towards Sensitive and Radiation-Free Diagnosis of Infection and Inflammation. X.Y. Zhou¹, P. Chandrasekharan², K. Jeffris², D. Mai², E.Y. Yu², B. Zheng² and S. Conolly² 1. Bioengineering, UC Berkeley - UCSF Graduate Program in Bioengineering, Berkeley, CA, United States; 2. Bioengineering, UC Berkeley, Berkeley, CA, United States; 3. Electrical Engineering and Computer Science, University of California, Berkeley, Berkeley, CA, United States

12:15
C6-04. Isolation of Bacteria from Water Samples Using Spin-Vortex Magnetic Microdiscs. K.Y. Castillo-Torres¹, E. McLamore¹ and D.P. Arnold¹ 1. Electrical and Computer Engineering, University of Florida, Gainesville, FL, United States; 2. Agricultural and Biological Engineering, University of Florida, Gainesville, FL, United States

Session C7
ADVANCED SYNTHESIS OF MAGNETIC THIN FILMS AND MULTILAYERS I
David Lederman, Chair
University of California, Santa Cruz, Santa Cruz, CA, United States

11:30
C7-01. Magnetic Properties of Fe₃O₄ Antidots Arrays Synthesized by Atomic Layer Deposition and Focused Ion Beam Lithography. (Invited) J.L. Palma¹, A. Pereira¹, R. Álvaro¹, J.M. García-Martín¹ and J. Escrig² 1. Departamento de Ciencias Básicas, Universidad Central de Chile, Santiago, Chile; 2. Center for the Development of Nanoscience and Nanotechnology CEDENNA, Santiago, Chile; 3. Instituto de Micro y Nanotecnologia IMN-CNMM, Madrid, Spain; 4. Departamento de Física, Universidad de Santiago Chile, Santiago, Chile

12:00
C7-03. Exploration of Fe₃O₄/Cu nanocomposite metaconductors formed by electro-infiltration. C.S. Smith¹, T. Clingenpeel¹, Y. Yoon¹ and D.P. Arnold¹ 1. Electrical and Computer Engineering, University of Florida, Gainesville, FL, United States

11:30
Session C8
ULTRAFAST SPECTROSCOPY OF STRONGLY CORRELATED SYSTEMS
Alix McCollam, Chair
Radboud University, Nijmegen, Netherlands

11:30
C8-01. Ultrafast Manipulation of Topological Properties using Shear Strain in a Weyl Semimetal. (Invited) E. Sie¹ 1. Stanford University, Stanford, CA, United States

12:00
C8-02. Ultrafast electronic dynamics in a strongly correlated insulator SmB₆. K. Xu¹, A. Gauthier¹, J. Sobotova¹, H. Pfau¹, J. Xia¹, P. Kirchmann¹ and Z. Shen¹ 1. Stanford University, Stanford, CA, United States; 2. SLAC National Accelerator Laboratory, Menlo Park, CA, United States; 3. University of California, Irvine, Irvine, CA, United States
Session C8-03.
**Topography and mimicry of spin liquids on a triangular lattice.** S. Chernyshev 1
1. University of California, Irvine, Irvine, CA, United States

Session C9
**NEW DEVELOPMENTS IN STRONGLY CORRELATED ELECTRON SYSTEMS I**
Mucio Continentino, Chair
Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil

11:30
**C9-01.** Learning Quantum Emergence with AI. *(Invited)* E. Kim 1
1. Physics, Cornell University, Ithaca, NY, United States

12:00
**C9-02.** Evolution of Electronic Non-Fermi Liquid Excitations in YbRh 2 Si 2. *(Invited)* L. Jiao 1, S. Seiro 1, S. Kirchner 1, S. Hartmann 1, S. Friedemann 1, C. Geibel 1, Q. Si 1, F. Steglich 1 and S. Wirth 1
1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Zhejiang University, Hangzhou, China; 3. Fraunhofer Institute for Photonic Microsystems, Dresden, Germany; 4. School of Physics, University of Bristol, Bristol, United Kingdom; 5. Rice University, Houston, TX, United States

Session C10
**QUANTUM SPIN LIQUIDS II: THEORY AND APPLICATIONS TO MATERIALS**
Oleg Tchernyshyov, Chair
Johns Hopkins University, Baltimore, MD, United States

11:30
**C10-01.** Universal thermal Hall conductivity of a kagomé antiferromagnet. M. Yamashita 1, H. Doki 1, M. Akazawa 1, H. Lee 1, J. Han 2, K. Sugii 1, M. Shimozawa 1, N. Kawashima 1, M. Oda 1 and H. Yoshida 1
1. The Institute for the Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. Department of Physics, Sungkyunkwan University, Suwon, The Republic of Korea; 3. Department of Physics, Faculty of Science, Hokkaido University, Sapporo, Japan

12:00
**C10-02.** Topography and mimicry of spin liquids on a triangular lattice. S. Chernyshev 1
1. University of California, Irvine, Irvine, CA, United States

**Session D1
**
**SPIN CURRENTS AND MAGNONIC CONDENSATES IN MAGNETIC INSULATORS**
Oksana Chubykalo-Fesenko, Chair
Instituto de Ciencia de Materiales de Madrid, Madrid, Spain

1:30
1. Physics and Astronomy, University of California Riverside, Riverside, CA, United States; 2. Max Planck Institute for the Solid State Physics, Stuttgart, Germany; 3. Tata Institute of Fundamental Research, Mumbai, India; 4. Department of Physics, Stanford University, Stanford, CA, United States; 5. Physics and Astronomy, UCLA, Los Angeles, CA, United States

2:00
**D1-02.** Supercurrent in a room-temperature Bose-Einstein magnon condensate. *(Invited)* B. Hillebrands 1
1. Physics, TU Kaiserslautern, Kaiserslautern, Germany
Session D3
MAGNETIC MOLECULES AND ORGANICS FOR BIO-APPLICATIONS OF MAGNETISM
Hariharan Srikanth, Chair
University of South Florida, Tampa, FL, United States

1:30

2:00

2:30

2:45
D3-04. Recent achievements for ultrasensitive gas sensing and bio-physic detection. F. Terki1 and Q. Tran1. Université de Montpellier, Montpellier, France

Session D4
SPIN ICES AND MAGNETIC NANOPARTICLES I
Will Branford, Chair
Imperial College London, London, United Kingdom

1:30
D4-01. Magnetic nanoparticle assembly in extreme force gradients. (Invited) T.M. Crawford1,2. 1. Smart State Center for Experimental Nanoscale Physics, University of South Carolina, Columbia, SC, United States; 2. Physics and Astronomy, University of South Carolina, Columbia, SC, United States
2:00


2:15


2:30

**D4-04.** Magnetization Reversal of Individual 3D Nanostructures. M.K. Al Mamoori, L. Keller, J. Pieper, S. Barth, R. Winkler, H. Plank, I. Stockem, C.H. Schroeder, M. Huth and J. Müller. 1. Institute of Physics, Goethe-University Frankfurt, Frankfurt am Main, Germany; 2. Institute of Materials Chemistry, Vienna University of Technology, Vienna, Austria; 3. Graz Centre for Electron Microscopy, Graz, Austria; 4. Institute of Electron Microscopy and Nanoanalysis, Graz University of Technology, Graz, Austria; 5. Bielefeld Institute for Applied Materials Research, Bielefeld University of Applied Sciences, Bielefeld, Germany

2:45

**D4-05.** Ferromagnetic resonance in three-fold nano-ellipse clusters. W. Bang, F. Montoncello, M. Jungfleisch, A. Hoffmann, L. Giovannini and J.B. Ketterson. 1. Physics and Astronomy, Northwestern University, Evanston, IL, United States; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 3. Physics, University of Ferrara, Ferrara, Italy; 4. Electrical and Computer Engineering, Northwestern University, Evanston, IL, United States

1:30

**Session D5**

**RARE EARTH FREE PERMANENT MAGNETS II**

Kanta Ono, Chair

KEK, Tsukuba, Japan

2:00

**D5-01.** Synthesis of single-phase L10-FeNi magnet powder by nitrogen insertion and topotactic extraction. (Invited) H. Kura, S. Goto, S. Watanabe, H. Yanagihara, Y. Shimada, M. Mizuguchi, K. Takanashi and E. Kita. 1. Advanced Research and Innovation Center, DENSO Corporation, Nisshin, Japan; 2. Institute of Applied Physics, University of Tsukuba, Tsukuba, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan; 4. National Institute of Technology, Ibaraki College, Hitachinaka, Japan

2:30

**D5-02.** Rare-earth-free permanent magnets based on transition-metal nanowires: how far can we go? (Invited) P. Liu. 1. University of Texas-Arlington, Arlington, TX, United States

2:45

**D5-03.** Development of hard magnetic L10 FeNi phase in amorphous FeNiZr thin films deposited on MgO. P. Sharma, K. Sato, M. Nishijima, S. Okamoto, H. Yasuda, O. Kitakami and A. Makino. 1. New Industry Creation Hatchery Center (NICHe), Tohoku University, Sendai, Japan; 2. Research Center for UHVEM, Osaka University, Ibaraki, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan; 4. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan

2:45

Session D6
MAGNETIC SEMICONDUCTORS I
Sanghoon Lee, Co-Chair
Korea University, Seoul, The Republic of Korea
Jianhua Zhao, Co-Chair
Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China

1:30
D6-01. Magnetization Dynamics Driven By Surface Acoustic Waves. (Invited) L. Thevenard1, I. Camara1, P. Kuszewski1, L. Becerra1, A. Lemaître2, J. Duquesne1 and C. Gourdon1
1. Institut des Nanosciences de Paris, Sorbonne Universités, CNRS, Paris, France; 2. Centre de Nanosciences et de Nanotechnologies, CNRS, Univ. Paris-Sud, Université Paris-Saclay, Marcoussis, France

2:00
Y. Gao1 and Q. Niu1 1. Physics, Carnegie Mellon Univ, Pittsburgh, PA, United States; 2. Physics, University of Texas at Austin, Austin, TX, United States

2:15
D6-03. Spin wave resonances in GaMnAsP films with perpendicular anisotropy.
X. Liu2, S. Bac1,2, S. Dong2, S. Lee2, M. Dobrowolska1 and J.K. Furdyna1 1. Physics, Korea University, Seoul, The Republic of Korea; 2. Department of Physics, University of Notre Dame, Notre Dame, IN, United States

2:30
D6-04. Investigation of a Possible Electronic Phase Separation in the Magnetic Semiconductors (Ga,Mn)As and (Ga,Mn)P by Means of Fluctuation Spectroscopy.
M. Lonsky1, J. Teschabai-Oglu1, K. Pier2, S. Sievers2, H. Schumacher2, Y. Yuan1, R. Böttger1, S. Zhou1 and J. Müller1 1. Institute of Physics, Goethe University Frankfurt, Frankfurt, Germany; 2. Physikalisches-Technische Bundesanstalt, Braunschweig, Germany; 3. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany

2:45
D6-05. Giant manipulation of magnetic properties in magnetic semiconductor (Ga,Mn)As.
H. Wang1 and J. Zhao1 1. State Key Laboratory of Superlattices andMicrostructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China
Session D8
UNCONVENTIONAL SUPERCONDUCTIVITY
OF $\text{Sr}_2\text{RuO}_4$
Philip Moll, Chair
MPI for Chemical Physics of Solids, Dresden, Germany

1:30
D8-01. $\text{Sr}_2\text{RuO}_4$: Challenges and Opportunities. (Invited) C. Kallin
1. Physics & Astronomy, McMaster University, Hamilton, ON, Canada

2:00
D8-02. Normal state properties of $\text{Sr}_2\text{RuO}_4$ under strained conditions examined by $^{17}\text{O}$ NMR. (Invited) Y. Luo
1. Physics and Astronomy, UCLA, Los Angeles, CA, United States; 2. Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

2:30
D8-03. Magnetic excitations and superconductivity in $\text{Sr}_2\text{RuO}_4$
P. Steffens1, M. Braden2, S. Kunkemöller2, Y. Sidis3 and I. Mazin1
1. Institut Laue Langevin, Grenoble, France; 2. Physics, Universität zu Köln, Cologne, Germany; 3. LLB Saclay, Orsay, France; 4. Naval Research Laboratory, Washington, DC, United States

2:45
1. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan; 4. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 5. Department of Physics, Ritsumeikan University, Kusatsu, Japan; 6. Department of Basic Science, The University of Tokyo, Meguro, Japan; 7. Condensed Matter Theory Laboratory, RIKEN, Wako, Japan; 8. Research Organization of Science and Technology, Ritsumeikan University, Kusatsu, Japan

Session D9
ELECTRONIC STRUCTURE OF HEAVY FERMION SYSTEMS; PROPERTIES OF $\text{URu}_2\text{Si}_2$
Frank Steglich, Chair
MPI for Chemical Physics of Solids, Dresden, Germany

1:30
1. Institut für Mathematische Physik, TU Braunschweig, Braunschweig, Germany

2:00
D9-02. Arrested Kondo hybridization and incommensurate wave vector locking at the hidden order transition in $\text{URu}_2\text{Si}_2$. (Invited) J. Denlinger
1. Advanced Light Source, Lawrence Berkeley National Laboratory, Kensington, CA, United States; 2. Physics, The Catholic University of Korea, Bucheon, The Republic of Korea; 3. U. of Michigan, Ann Arbor, CA, United States; 4. Physics, UC San Diego, San Diego, CA, United States

2:30
D9-03. Anisotropic Kondo pseudo-gap and Hidden Order in $\text{URu}_2\text{Si}_2$. J. Buhot
1,2, X. Montiel3,6, Y. Gallais2, M. Cazayous2, A. Sacuto2, G. Lapertot4, D. Aoki5,4, N. Hussey1, C. Pépin6, S. Burdin7 and M. Méasson8,2
1. High Field Magnet Laboratory (HFML-EMFL), Radboud University Nijmegen, Nijmegen, Netherlands; 2. Laboratoire Matériaux et Phénomènes Quantiques, Université Paris Diderot, Paris, France; 3. Department of Physics, Royal Holloway, University of London, Surrey, United Kingdom; 4. Univ. Grenoble Alpes and CEA, INAC, PHELIQS, Grenoble, France; 5. IMR, Tohoku University, Oarai, Japan; 6. Institut de Physique Théorique, CEA-Saclay, Gif-sur-Yvette, France; 7. Université Bordeaux, CNRS, LOMA, Talence, France; 8. Institut NEEL CNRS/UGA UPR2940, MCBT, Grenoble, France

2:45
D9-04. Emergence of Novel Electronic Phases due to Competing Interactions in the Correlated f-Electron Compound $\text{URu}_2\text{Si}_2$. M.B. Maple
1,2, S. Ran1,2, C.T. Wolowiec1,2, N. Pouse1,2, A.J. Breindel1,2, I. Jeon3,2, N. Kanchanavatee4, K. Huang5, A. Gallagher5, K. Chen5, D. Graf5, R.E. Baumbach5 and J. Singleton6,7
1. Department of Physics, University of California, San Diego, La Jolla, CA, United States; 2. Center for Advanced Nanoscience, University of California, San Diego, La Jolla, CA, United States; 3. Materials Science and Engineering Program, University of California, San Diego, La Jolla, CA, United States; 4. Department of Physics, Chulalongkorn University, Pathumwan, Thailand; 5. National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, United States; 6. National High Magnetic Field Laboratory, Los Alamos National Laboratory, Los Alamos, NM, United States; 7. Department of Physics, The Clarendon Laboratory, University of Oxford, Oxford, United Kingdom
Session D10
ANISOTROPIC SPIN-1/2 CHAINS
Beatrice Grenier, Chair
Inac, CEA, Universite Grenoble Alpes, Grenoble, France

1:30
D10-01. Topological quantum phase transition in the Ising-like antiferromagnetic spin chain BaCo2V2O8 (Invited)
Q. Faure1,2, S. Takayoshi3, T. Petit4, V. Simonet5, S. Raymond6, L. Regnault1, M. Boehm1, J. White1, M. Månsson5, C. Ruegg6, P. Lejay7, B. Canals2, T. Lorenz8, S. Furuya9, T. Giamarchi2 and B. Grenier1 1. Université Grenoble Alpes, CEA-INAC/MEM/MDN, Grenoble, France; 2. Institut Néel, CNRS-UGA, Grenoble, France; 3. DPMA-MaNEP, University of Geneva, Geneva, Switzerland; 4. Laboratoire Léon Brillouin, CEA-CNRS, Saclay, France; 5. Institut Laue Langevin, Grenoble, France; 6. Paul Scherrer Institut, Villigen, Switzerland; 7. KTH Royal Institute of Technology, Stockholm, Sweden; 8. II. Physikalisches Institut, Universität zu Köln, Köln, Germany; 9. RIKEN, Sattama, Japan

2:00
D10-02. Experimental observation of Bethe strings. Z. Wang1
1. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany

D10-03. Magnetic excitations in the One Dimensional Ising chain CoCl4*2D2O. U.B. Hansen1,2, J. Rodriguez-Rivera3, O.F. Syljuasen1, J. Jensen2 and K. Lefmann2 1. The Institute Laue Langevin, Grenoble, France; 2. The Niels Bohr Institute, The University of Copenhagen, Copenhagen, Denmark; 3. Department of Physics, University of Oslo, Oslo, Norway; 4. NIST Center for Neutron Research, Gaithersburg, MD, United States

2:30
D10-04. Orbital-Exchange And Fractional Quantum Excitations In An f-Electron Metal Yb,Pt,Pb. (Invited) L. Wu1, W. Gannon2, I. Zaliznyak3, A. Tsvelik4, M. Brockmann5, J. Caux1, M. Kim6, Y. Qiu1, J. Copley6, G. Ehlers1, A. Podlesnyak1 and M.C. Aronson1 1. Quantum Condensed Matter Devison, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Condensed Matter Physics & Materials Science, Brookhaven National Laboratory, Upton, NY, United States; 3. Texas A&M University, College Station, TX, United States; 4. Institute for Theoretical Physics, University of Amsterdam, Amsterdam, Netherlands; 5. Stony Brook University, Stony Brook, NY, United States; 6. National Institute of Standards and Technology, Gaithersburg, MD, United States
Session E2
HETEROSTRUCTURES AND SPIN-BASED DEVICES
Yukitoshi Motome, Chair
The University of Tokyo, Tokyo, Japan

3:30
E2-01. Revealing Magnetic Configurations With X-ray Magnetic Nanotomography. (Invited) V. Scagnoli1,2 1. Laboratory for Mesoscopic Systems, Department of Materials, ETH Zurich, Zurich, Switzerland; 2. Laboratory for Multiscale Materials Experiments, Paul Scherrer Institut, Villigen, Switzerland

4:00
E2-02. Modulated Valley and Spin Polarizations in BiFeO3/BiIrO3 Multiferroic Superlattices. L. Yin1 and W. Mi1 1. Department of Applied Physics, Tianjin University, Tianjin, China

E2-03. Van der Waals spin valves. C. Cardoso1, D. Soriano1, N. Garcia-Martinez1 and J. Fernandez-Rossier1,2 1. Quantum Materials, Science & Technology, International Iberian Nanotechnology Laboratory, Braga, Portugal; 2. Departamento de Física Aplicada, Universidad de Alicante, Alicante, Spain

4:15
E2-04. Magnetism and Magneto-Electric Transport in Amorphous Thin Films of Iron-Silicon and Iron-Germanium. D. Bouma1,2, J. Karel1, F. Bruni1, T. Chen1 and F. Hellman1,2 1. Department of Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Materials Science and Engineering, Monash University, Clayton, VIC, Australia; 4. Physics, Arizona State University, Tempe, AZ, United States

4:30
E2-05. Transport properties through multi-barrier magnetic system containing a non-coplanar defect. A.S. Sahakyan2, A.V. Pogosyan1, R.M. Movsesyan2 and A.N. Kocharian1 1. Physics and Astronomy, California State University, Los Angeles, Los Angeles, CA, United States; 2. Physics, National Polytechnic University of Armenia, Yerevan, Armenia

4:45
E2-06. Calibraion of MFMs probes using elecrostatic compensated μ-coils. C.W. Barton1, R. Puttock1, H. Corte-León1, M. Gerkens2, A. Manzini1, S. Sievers1, V. Neu1, H. Schumacher2 and O. Kazakova1 1. National Physical Laboratory, Teddington, United Kingdom; 2. Physics, Royal Holloway University of London, Egham, United Kingdom; 3. Český metrologický institute, Brno, Czechia; 4. IFW Dresden, Dresden, Germany; 5. Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy; 6. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany

Session E3
IMAGING MAGNETIC TEXTURES I
Rajesh Chopdekar, Chair
Lawrence Berkeley National Laboratory, Berkeley, CA, United States

3:30
E3-01. Imaging chiral spin textures with a scanning-NV magnetometer. (Invited) V. Jacques1 1. Laboratoire Charles Coulomb, CNRS, Montpellier, France

4:00
E3-02. Three-dimensional data from magnetic force microscopy. R. Puttock1,2, P. Klapetek1, V. Neu1, A. Manzin1, F. Garcia-Sanchez2, A. Fernandez-Scarioti3, H. Schumacher4 and O. Kazakova1 1. National Physical Laboratory, Teddington, United Kingdom; 2. Physics, Royal Holloway University of London, Egham, United Kingdom; 3. Český metrologický institute, Brno, Czechia; 4. IFW Dresden, Dresden, Germany

4:15
E3-03. 3D Magnetic Reconstruction from Soft X-ray Transmission Tomography. A. Hierro-Rodrigue3, D. Gürsoy2,3, C. Phatak4, C. Quiros5,6, A. Sorrentino7, L. Alvarez-Prado5,6, M. Velez5,6, J. Martin5,6, J. Alameda5,6, E. Pereiro7 and S. Ferrer7 1. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 2. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, United States; 3. Electrical Engineering and Computer Science, Northwestern University, Evanston, IL, United States; 4. Materials Science Division, Argonne National Laboratory, Lemont, IL, United States; 5. Física, Universidad de Oviedo, Oviedo, Spain; 6. Centro de Investigacion en Nanomateriales y Nanotecnologia (CIN2), CSIC - Universidad de Oviedo, El Entrego, Spain; 7. ALBA Synchrotron, Cerdanyola del Vallés, Spain

4:30
E3-04. In-situ imaging of magnetic tunnel junctions using a scanning electron microscope to improve their yield. E. Jackson1, J. Kim1, M. Samiepour1, M. Sun1, T. Kubota1, K. Takanashi1 and A. Hirohata1 1. University of York, York, United Kingdom; 2. Institute for Materials Research, Tohoku University, Sendai, Japan
Session E4
MAGNON WAVEGUIDES AND DEVICES II
Barry Zink, Chair
University of Denver, Denver, CO, United States

3:30

E4-01. Spin Wave Circuits Using Forward Volume Mode in Yttrium Iron Garnet. (Invited) T. Goto1,2, K. Sekiguchi3, A. Granovsky4, C. Ross1, Y. Nakamura1, H. Uehida1 and M. Inoue4. 1. Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology, Toyohashi, Japan; 2. JST-PRESTO, Kawaguchi, Japan; 3. Yokohama National University, Yokohama, Japan; 4. Moscow State University, Moscow, Russian Federation; 5. Dept. of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; 6. Toyohashi University of Technology, Toyohashi, Japan

3:45

E4-02. Protected Chiral Spin-Wave Modes for Backscattering-Immune Magnonic Transport. M. Mohseni1, Q. Wang1, T. Brächer3, D.A. Bozhko1, B. Hillebrands1 and P. Pirro1. 1. Physics, TU Kaiserslautern, Kaiserslautern, Germany

4:00

E4-03. Dynamic magnetic behaviour of single micro-sized object measured using a combination of scanning transmission X-ray microscopy and ferromagnetic resonance. T. Schaffers1, T. Feggeler2, R. Meckenstock2, S. Plie1, D. Spoddig2, K.J. Oloffs2, H. Ohldag1, M. Farle1, H. Wende1 and A. Ney1. 1. Institute of Semiconductor and Solid State Physics, Johannes Kepler University Linz, Linz, Austria; 2. Faculty of Physics and Center for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, 47057 Duisburg, Germany, Duisburg, Germany; 3. SSRL, SLAC National Accelerator Laboratory, Menlo Park, CA, United States

4:15

E4-04. Nano-magnonic Crystal Filter Based On Nanometers-thick YIG Films. H. Merbouche1, L. Soumah1, M. Collet1, G. de Loubens6, O. Klein1, J. Ben Youssef7, S. Xavier2, M. Evelt3, V.E. Demidov1, S. Demokritov3,4, P. Bortolotti1, V. Cros1 and A. Anane1. 1. Unité Mixte de Physique CNRS/Thales and Université Paris Sud, Palaiseau, France; 2. Thales Research & Technology, Palaiseau, France; 3. Institute for Applied Physics, University of Muenster, Muenster, Germany; 4. Institute of Metal Physics, Ural Division of RAS, Ekaterinburg, Russian Federation; 5. SPINTEC, CEA-Grenoble, CNRS, Université Grenoble Alpes, Grenoble, France; 6. Service de Physique de l’Etat Condensé, CEA Saclay, Gif-sur-Yvette, France; 7. LabSTICC, CNRS, Université de Bretagne Occidentale, Brest, France

4:30

MONDAY
AFTERNOON

E4-05. Dipole-exchange spin-wave spectrum in ferromagnetic films calculated using the method of geometrical optics. I. Lisenkov1, V. Tyberkevych2 and A.N. Slavin2. 1. School of Electrical Engineering and Computer Science, Oregon State University, Corvallis, OR, United States; 2. Department of Physics, Oakland University, Rochester, MI, United States

Session E5
MAGNETOCALORIC MATERIALS I
Theo Rasing, Chair
Radboud University, Nijmegen, Netherlands

3:30

E5-01. Quantitative analysis of hysteretic magnetocaloric materials. (Invited) V. Franco1, J. Law1 and A. Conde1. 1. Condensed Matter Physics Department, Sevilla University, Sevilla, Spain

4:00

E5-02. Magneto-caloric effect in NdCo2 and Nd0.4Gd0.6Co2. S. Pandya1,2, L. Sharath Chandra2,3 and V. Ganesan1. 1. UGC-DAE Consortium for Scientific Research, Indore, India; 2. Department of Physics, Sardar Patel University, Anand, India; 3. Magnetic and Superconducting Materials Section, Raja Ramanna Center for Advanced Technology, Indore, India

4:15

E5-03. Multicaloric effect in magnetoelectric composites. A. Amirov1,2 and A. Aliev3. 1. Laboratory of Novel Magnetic Materials, Immanuel Kant Baltic Federal University, Kaliningrad, Russian Federation; 2. Amirkhanov Institute of Physics Daghestan Scientific Center, Russian Academy of Sciences, Makhachkala, Russian Federation; 3. Laboratory of Low Temperature Physics and Magnetism, Amirkhanov Institute of Physics of Daghestan Scientific Center of Russian Academy of Sciences, Makhachkala, Russian Federation

4:30

E5-04. Rotating Magnetocaloric Effect in the Region of Spin-Reorientation Transition in the Fe7Se8 Single Crystal. I. Radelytskyi1,2, Y. Konopelnyk2 and A. Schneidewind1. 1. Jülich Centre for Neutron Science (JCNS) at MLZ, Garching, Germany; 2. Institute of Physics PAS, Warsaw, Poland

4:45

E5-05. On the optimization of Magneto-volume coupling for practical applied field magnetic refrigeration. A. Davarpanah1, J.H. da Silva1, V.S. Amaral1 and J.S. Amaral1. 1. CICECO & Physics dept., Universidade de Aveiro, Aveiro, Portugal
**Session E6**

**THERAPEUTIC BIOMEDICAL APPLICATIONS OF MNPS**

Jennifer Andrew, Chair
University of Florida, Gainesville, FL, United States

3:00

**E6-01. Magnetic Particle Imaging as a Deep-Penetrating, Quantitative, Positive-Contrast, & Noninvasive 3D Imaging Method with Micromolar Sensitivity. (Invited)**
S. Conolly1,4, P. Goodwill1,2, B. Zheng2, P. Chandrasekharan1, X.Y. Zhou1, Z. Tay1 and E.Y. Yu1,2
1. BioEngineering, University of California, Berkeley, CA, United States; 2. Bioengineering, UC Berkeley - UCSF Graduate Program in Bioengineering, Berkeley, CA, United States; 3. Magnetic Insight, Alameda, CA, United States; 4. EECS, UC Berkeley

4:00

**E6-02. Combined Chemical and Photothermal Induction of Cancer Cell Death by the Use of Functionalized Iron Nanowires.**
A.I. Martínez-Banderas1, A. Aires2, J.E. Perez2, M. Quintanilla2, T. Ravasi1, A.L. Cortajarena2,3 and J. Kose4
1. Division of Biological and Environmental Sciences and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal Jeddah, 23955-6900, Saudi Arabia; 2. CIC BiomaGUNE, Center for Cooperative Research in Biomaterials, Parque Tecnológico de San Sebastián, Paseo Miramón 182, Donostia-San Sebastián, 20009, Spain; 3. Ikerbasque, Basque Foundation for Science, Bilbao, Spain; 4. EECS, UC Berkeley

4:15

**E6-03. Nanofabrication process, magnetic response and cellular uptake of nanostructures for biomedical applications.**
P. Tiberto1, F. Celegato1, G. Barrera1, M. Coisson2, C. Divieto1 and M. Sassi3
1. INRIM, Torino, Italy; 2. Electromagnetics, INRIM, Torino, Italy

4:30

**E6-04. A Combined Magnetic-Acoustic Device For Simultaneous, Co-aligned Application Of Magnetic And Ultrasonic Fields.**
L. Barnsley3,4, M. Gray1, E. Béguin1, D. Carugo3,1 and E. Stride1
1. Institute of Biomedical Engineering, University of Oxford, Oxford, United Kingdom; 2. Jülich Centre for Neutron Science, Forschungszentrum Jülich, Garching, Germany; 3. Faculty of Engineering and the Environment, University of Southampton, Southampton, United Kingdom

4:45

**Session E7**

**MAGNETOPHOTONICS AND MAGNETOPLASMONICS II**

Masaaki Takezawa, Chair
Kyusyu Institute of Technology, Kitakyushu, Japan

3:00

**E7-01. Magneto-plasmonic nanostructures and crystals: principles and applications. (Invited)**
P. Vavassori1,2, M. Pancaldi1 and A. Lopez-Ortega1
1. CIC nanoGUNE Consolider, San Sebastian, Spain; 2. IKERBASQUE, Basque Foundation for Science, Bilbao, Spain

4:00

**E7-02. Resonant magneto-optically active structures: external control and enhancement. (Invited)**
A. García-Martín1
1. Instituto de Micro y Nanotecnologia - IMN (CNM-CSIC), Madrid, Spain

4:30

**E7-03. Enhanced magneto-optical response of 0-D magneto-plasmonic nanostructures.**
S.D. Pappas1, P. Lang1, M. Aeschlimann1 and E. Papaioannou1
1. Physics, TU Kaiserslautern, Kaiserslautern, Germany

4:45

**E7-04. Geometric frustration in a hexagonal array of plasmonic nanoelements.**
A. Conde-Rubio1,2, A. Fraile Rodriguez1,2, F. Perez-Murano1, X. Batlle1,2 and A. Labarta1,2
1. Departament de Física de la Matèria Condensada, University of Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia (IN2UB), University of Barcelona, Barcelona, Spain; 3. Institut de Microelectrònica de Barcelona (IMB-CNM, CSIC), Bellaterra, Spain
Session E9
QUANTUM CRITICAL PHENOMENA
Steffen Wirth, Chair
Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

3:30

Steffen Wirth Introduction

Session E10
B-SPINELS, KAGOME AND TRIANGULAR RELATED LATTICES
Roser Valenti, Chair
Goethe University Frankfurt, Frankfurt, Germany

3:30

E10-01. Magnetic properties of geometrically frustrated SrLnO4 compounds. S. Riberolles1,3, G. Balakrishnan1, M. Ciomaga Hatnean1, O. Petrenko1, P. Manuel2, C. Ritter3 and N. Qureshi3
1. Physics, The University of Warwick, Coventry, United Kingdom; 2. STFC, Didcot, United Kingdom; 3. Institut Laue-Langevin, Grenoble, France
E10-02. On the importance of electric quadrupole interactions in rare-earth based frustrated magnets. N. Gauthier1,2, A. Fennell1, B. Prévost1, K. Park1, B. Delley2, A. Désilets-Benoit1, H. Dabkowski3, J. Ollivier1, C. Niedermayer1, U. Stuhr1, A. Bianchi1 and M. Kenzelmann1. 1. Stanford Institute for Materials and Energy Sciences, Stanford University, Stanford, CA, United States; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Université de Montréal, Montréal, QC, Canada; 4. Seoul National University, Seoul, The Republic of Korea; 5. Brockhouse Institute for Materials Research, Hamilton, ON, Canada; 6. Institut Laue Langevin, Grenoble, France

E10-03. When Three is a Crowd: Entanglement of Quantum Spins on Tripartite Lattices. A. Thomasen1, J. Romhanyi1 and N. Shannon1. 1. Theory of Quantum Matter Unit, Okinawa Institute of Science and Technology, Onna-son, Japan


E10-05. The Numerical Study of Quantum Phase Transitions of the Heisenberg Antiferromagnet on a Frustrated Two-Dimensional Lattice. A. Shimada1, H. Nakano2, T. Sakai2,3 and K. Yoshimura1. 1. Graduate School of Science, Kyoto University, Kyoto, Japan; 2. Graduate School of Materials Science, University of Hyogo, Kamigori, Japan; 3. National institutes for Quantum and Radiological Science and Technology, Spring-8, Sayo, Japan

E10-06. Magnetic ground states of manganese vanadate systems with 2D striped triangular lattices. O. Garlea1, L.D. Sanjeewa2, D. Pajerowski1, M. McGuire1, F. Ye1 and J. Kolis1. 1. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Department of Chemistry, Clemson University, Clemson, SC, United States; 3. Oak Ridge National Laboratory, Oak Ridge, TN, United States

F1-01. Inverse spin Hall effect in Mn-Sn amorphous alloy thin film. D. Qu1, T. Higo3,2, T. Nishikawa1, K. Matsumoto1, K. Kondou1, D. Hamane1, R. Ishii1, P. Muduli1, Y. Otani3 and S. Nakatsuji1,2. 1. ISSP, The University of Tokyo, Kashiwa, Japan; 2. JST-CREST, Tokyo, Japan; 3. RIKEN-CEMS, Wako, Japan

F1-02. Symmetry analysis of electrical switching of antiferromagnet. H. Watanabe1 and Y. Yanase1. 1. Department of Physics, Kyoto University, Kyoto, Japan

F1-03. Generation of Néel field in anti-ferromagnetic nanowire by a sloped electric field. K. Kubota1, K. Yamada1 and Y. Nakatan1. 1. University of Electro-communications, Tokyo, Japan; 2. Gifu University, Gifu, Japan

F1-04. Large magneto-optical Kerr effect and imaging of magnetic octupole domains in the antiferromagnetic Weyl metal Mn5Sn. T. Higo1, H. Man1, D.B. Gopman1, L. Wu1, T. Koresunge3, O. van’t Erve1, Y.P. Kabano1, D. Rees1, Y. Li2, M. Suzuki2, S. Patankar1, M. Ikhlas1, C. Chien1, R. Arita2, R.D. Shaw1, J. Orenstein2 and S. Nakatsuji1,2. 1. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. JST-CREST, Kawasaki, Japan; 3. Materials Science & Engineering Division, NIST, Gaithersburg, MD, United States; 4. Department of Physics, University of California, Berkeley, Berkeley, CA, United States; 5. Department of Physics, Tohoku University, Sendai, Japan; 6. Naval Research Laboratory, Washington, DC, United States; 7. Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD, United States; 8. RIKEN-CEMS, Wako, Japan


F1-06. Study of ac spin current transmission through CoO antiferromagnetic layer using x-ray pump-probe measurement. Q. Li1, M. Yang1, C. Klewe2, P. Shafer3, A.T. N’Diaye1, Q. Dong1, N. Gao1, C. Hwang1, E. Arenalholz2, D. Hou1, E. Saitoh1, R.J. Hicken1, J. Li2 and Z. Qiu1. 1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Korea Research Institute of Standards and Science, Daejeon, The Republic of Korea; 4. AIMR, Tohoku University, Sendai, Japan; 5. Physics and Astronomy, University of Exeter, Exeter, United Kingdom; 6. School of Physics, International Center for Quantum Materials (ICQM), Beijing, China
F1-08. Probing Interface Magnetism in Ir_{50}Mn_{50}Pt Bilayers.
M. Ribeiro1, T. Pham1, J. Park2 and T. Kim3 1. Department of Physics, Ewha Womans University, Seoul, The Republic of Korea; 2. Center for Quantum Nanoscience, Institute for Basic Science (IBS), Ewha Womans University, Seoul, The Republic of Korea

F1-10. Magnetization Dynamics in an Antiferromagnet driven by Spin-Hall Effect: a Micromagnetic Study. V. Puliafito1, M. Carpentieri2, B. Azzerboni1, V. Tyberkevych3, A.N. Slavin1 and G. Finocchio4 1. Department of Engineering, University of Messina, Messina, Italy; 2. Department of Electrical and Information Engineering, Politecnico of Bari, Bari, Italy; 3. Department of Physics, Oakland University, Rochester, MI, United States; 4. Department of Mathematical and Computer Science, Physical Sciences and Earth Sciences, University of Messina, Messina, Italy

F1-11. Interfacial magnetic-phase transition mediated large perpendicular magnetic anisotropy in FeRh/MgO by a heavy transition-metal capping. O. Dorj1 1. Department of Physics, Incheon National University, Incheon, The Republic of Korea

F2-02. Magnetic PolyHIPE Composites with Activated carbon and Iron oxide Nanoparticles. P. Seeharaj1, E. Thasirisp2, C. Tridech1 and S. Jindasuwan1 1. Advanced Materials Research Unit, Department of Chemistry, Faculty of Science, King Mongkut’s Institute of Technology Ladkrabang, Bangkok, Thailand; 2. Science Park Promotion Agency, Ministry of Science and Technology, Bangkok, Thailand; 3. Department of Industrial Chemistry, Faculty of Applied Science, King Mongkut’s University of Technology North Bangkok, Bangkok, Thailand

F2-04. Remarkable magnetic anisotropy of nickel nanoparticles embedded in porous coir fiber. M.A. Macedo1, N.D. Ferreira1 and J.C. Menezes1 1. Physics, Federal University of Sergipe, Sao Cristovao, Brazil

F2-05. X-ray Magnetic Circular Dichroism Study of Ni-Cu Thermoseeds for Self-Controlled Magnetic Hyperthermia. S. Pandey1, A.T. N’Diaye2, A. Aryal1, I. Dubenko1, D. Mazumdar1, S. Roy1, S. Stadler and N. Ali1 1. Physics, Southern Illinois University Carbondale, Carbondale, IL, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Louisiana State University, Baton Rouge, LA, United States

F2-06. Effect of Ni-doping on the Magnetic Property and Biomedical Application of Zinc Oxide Nanoparticles. R. Srinivasan1, J. Mayekar1 and V.S. Dhat1 1. Physics, Jai Hind College, Mumbai, India; 2. Physics, University of Mumbai, Mumbai, India

F2-07. Withdrawn

F2-08. Research on Intervention effect of Magnetic Nanoparticles in Magnetic Field on Lung Tumor. N. Zhang1, S. Ning2, S. Wang1, C. Zhang1 and S. Wang1 1. State Key Laboratory of Electrical Insulation and Power Equipment, Faculty of Electrical Engineering, Xi’an Jiaotong University, Xi’an, China; 2. College of Electrical and Information Engineering, Shaanxi University of Science and Technology, Xi’an, China; 3. Department of Oncology, Johns Hopkins University School of Medicine, Baltimore, MD, United States

F2-09. Magnetic Vortex Nanodiscs for Intracellular Cancer Cell Disruption. M. Goiriena-Goikoetxea1,2, D. Muñoz1,4, E. Welbourne3, R. Mansell3,5, M. Fernández-Guibieda1,2, R. Cowburn1, A. Muela4,7 and A. García-Arribas1,5 1. Department of Electrical Engineering and Computer Sciences, University of California, Berkeley, San Francisco, CA, United States; 2. Department of Electrical and Electronics, University of the Basque Country (UPV/EHU), Leioa, Spain; 4. Department of Immunology, Microbiology and Parasitology, University of the Basque Country (UPV/EHU), Leioa, Spain; 5. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 6. Department of Applied Physics, Aalto University, Espoo, Finland; 7. Basque Center for Materials, Applications and Nanostructures (BCMaterials), Leioa, Spain
F2-10. Different magnetic behaviors and free radical contents of “DPPH reagents” N. Matsumoto1 and N. Itoh1. National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan

MONDAY SAN FRANCISCO BALLROOM

EVENING 5:00

Session F3
HEAVY FERMIONS I: HEAVY FERMIONS AND OTHER NOVEL PHASES
(Poster Session)
Priscila Rosa, Chair
Los Alamos National Laboratory, Los Alamos, NM, United States

F3-01. Withdrawn

F3-02. Probing strong electronic correlations in the Heavy Fermion Kondo-Lattice YbFe,Zn,M. Cabrera Baez1, M. de Abreu Avila1 and C. Rettori1,2 1. DEQ, Universidade Estadual de Campinas, Santo André, Brazil; 2. CCNH, Universidade Federal do ABC, Santo André, Brazil

F3-04. YbPdIn: a new promising metallic refrigerant for adiabatic demagnetization. F. Gastaldo1, A. Dzubinska2, M. Reiffers3, S. Gabani4, G. Pristas4, I. Čurlik1, J. Sereni5 and M. Giovannini6 1. Department of Chemistry, University of Genova, Genova, Italy; 2. Faculty of Natural Sciences, P.J. Šafárik University, Košice, Slovakia; 3. Faculty of Humanities and Natural Sciences, University of Prešov, Prešov, Slovakia; 4. Institute of Experimental Physics, Slovak Academy of Sciences, Košice, Slovakia; 5. Low Temperature Division, CEN-CNA, San Carlos de Bariloche, Argentina; 6. Department of Physics, University of Genova, Genova, Italy

F3-05. Vibron Quasi-bound States in Ce-based Intermetallic Compounds. M. Klicpera1 and P. Javorsky1 1. Department of Condensed Matter Physics, Charles University, Prague, Czechia

F3-06. Hill plot and magnetic properties of Ce,AuP,M. Kitagawa1, J. Miyahara1, N. Shirakawa1, Y. Setoguchi1, M. Tsubota1 and K. Kuroiwa1 1. Electrical Engineering, Fukuioka Institute of Technology, Fukuoka, Japan; 2. Flexible Electronics Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 3. Physonit Inc., Kaita Aki, Japan

F3-07. Systematic study of the UNiX ternary compounds (X=C, Si, Ge). K. Maeta1, M. Ohashi1, S. Hirokawa1 and T. Yamamura2 1. Kanazawa University, Kanazawa, Japan; 2. IMR, Tohoku University, Sendai, Japan

F3-08. Effects of Cd and Sb Substitution in CeCuBi Single Crystals. G.S. Freitas1, M.M. Piva1, C.B. Jesus1, J.C. Souza1, C. Adriano1 and P. Pagliuso1 1. DEQ, Instituto de Física Gleb Wataghin - Unicamp, Campinas, Brazil; 2. Departamento de Física, Universidade Federal de Sergipe, Campinas, Brazil

F3-09. Crystalline electric field calculations for Rhombhedral CeIr,Ge,J. Banda1, B.K. Rai1, E. Morosano2, C. Geibel1 and M. Brando1 1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Physics and Astronomy, Rice University, Houston, TX, United States

F3-10. Transport and thermodynamic properties of Nd,CuSn,M. Matsumoto1, N. Morioka1 and K. Hiraoka1 1. Ehime University, Matsuyama, Japan

F3-11. 27Al NMR studies of CDW transitions in SrAl,M. Klicpera1, H. Kuroshima1, N. Higa2, M. Morishima2, M. Yogi1, A. Nakamura3, K. Niki4, T. Maehira5, M. Hedo1, T. Nakama1 and Y. Onuki1 1. Faculty of Science, University of the Ryukyus, Nishihara, Japan; 2. Graduate School of Engineering and Science, University of the Ryukyus, Nishihara, Japan; 3. Institute for Materials Research, Tohoku University, Oarai, Japan; 4. Advanced Integration Science, Chiba University, Chiba, Japan

F3-03. Growth Routes for Synthesizing the VbCd,Sb, Intermetallic Compounds. D.S. Christovam1, C.B. Jesus1, J.C. Souza1, M.M. Piva1, C. Adriano1 and P. Pagliuso1 1. DEQ, Instituto de Física Gleb Wataghin - Unicamp, Campinas, Brazil; 2. Departamento de Física, Universidade Federal de Sergipe, Campinas, Brazil; 3. Physics, University of Campinas, Campinas, Brazil

F3-12. DISTorX Program for Analysis of Structural Distortions Affecting on X-ray Diffraction Patterns. L.S. Kalinowski1, J. Goraus1 and A. Slebarski1 1. Institute of Physics, University of Silesia, Chorzów, Poland

MONDAY SAN FRANCISCO BALLROOM

EVENING 5:00

Session F4
MAGNETIC IMAGING AND ASSOCIATED TECHNIQUES
(Poster Session)
Jan Vogel, Chair
CNRS, Institut Néel, Grenoble, France

F4-01. Magnetic Bragg dip and Bragg edge in neutron transmission spectra of a typical spin order. H. Mamiya1, Y. Oba2, N. Terada1, N. Watamabe1, K. Hiroi1, T. Shinohara1 and K. Oikawa1 1. National Institute for Materials Science, Tsukuba, Japan; 2. Japan Atomic Energy Agency, Tokai, Japan; 3. Neutron Scattering Group, National Institute for Materials Science (NIMS), Tsukuba, Japan; 4. Kanagawa University, Yokohama, Japan
F4-03. Magnetic imaging with high spatial and temporal resolution at the PolLux endstation of the Swiss Light Source.
S. Finizio1, S. Wintz2, K. Witte1, B. Watts3 and J. Raabe1
1. SYN, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Helmholtz Zentrum Dresden Rossendorf, Dresden, Germany

F4-04. Novel magnetic field imaging technique using pulsed polarized neutrons. T. Shinohara1, K. Hiroi1, J.D. Parker2, T. Kai1, K. Oikawa1, H. Hayashida2 and Y. Kiyana1
1. J-PARC Center, Japan Atomic Energy Agency, Tokai, Japan; 2. Neutron Science and Technology Center, CROSS, Tokai, Japan; 3. Nagoya University, Nagoya, Japan

F4-05. Subpixel-resolution Kerr Microscopy. V. Kletečka1, L. Ohnoutek, L. Beran1 and M. Veis1 1. Institute of Physics, Charles University, Prague, Czechia

F4-06. Feature Extraction from Magnetic Domain Structure by Persistent Homology. M. Kotsgaj1, T. Yamada1, S. Suzuki1, Y. Suzuki1, T. Ueno2, C. Mitsumata3, K. Ono4, I. Obayashi5, K. Akagi6 and Y. Hiraoka6
1. Tokyo University of Science, Tokyo, Japan; 2. NIMS, Tsukuba, Japan; 3. KEK, Tsukuba, Japan; 4. M12I, Tsukuba, Japan; 5. QST, Hyogo, Japan; 6. AIMR Tohoku Univ., Sendai, Japan

F4-07. An Ultrasensitive Differential Capacitance Dilatometer. M. Williamsen1, D. Martien1, R. Black1, T. DaPron1, D. Snow1, B. Colvin1 and S. Spagna1 1. Quantum Design Inc., San Diego, CA, United States


F4-09. Electromagnetic influence of CRDM operating coils on rod position indication system. G. Lee1, J. Lee1, Y. Park1 and J. Kim1 1. SMART Development, Korea Atomic Energy Research Institute, Daejeon, The Republic of Korea
F5-06. \textit{I-V} characteristics of diamagnetic Zn$_{2x}$Mg$_{1-x}$In$_2$O$_4$ \((x = 0.0, 0.4, 1.0, 1.6, 2.0)\) solid solutions. H. Duda$^1$, M. Bosacka$^2$, E. Filipsk$^2$, M. Oboz$^3$, T. Gron$^4$, B. Sawicki$^4$ and P. Urbanowicz$^5$. 1. Institute of Physics, University of Silesia, Katowice, Poland; 2. West Pomeranian University of Technology, Szczecin, Poland; 3. University of Silesia, Katowice, Poland

F5-07. Magnetic Semiconducting Heusler Compound Fe$_x$Ti$_{1-x}$Co$_3$Si. Y. Jin$^{1,2}$, Y. Yang$^{1,2}$, S. Vallophysical$^{1,2}$, S. Liou$^{1,2}$ and D. J. Sellmyer$^{1,2}$. 1. Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE, United States; 2. Nebraska Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, NE, United States

F5-08. Epitaxial thin films of EuS on InAs (100) for future spintronic applications. A. Goschew$^1$, N. Blümel$^1$ and P. Fumagalli$^1$. 1. Physics, Freie Universität Berlin, Berlin, Germany

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F6-01. Magnetization reversal mechanism of shape-anisotropy magnetic tunnel junctions. K. Watanabe$^1$, B. Jinnai$^1$, S. Fukami$^{1,2}$, H. Sato$^{1,2}$ and H. Ohno$^{1,2}$. 1. RIEC, Tohoku University, Sendai, Japan; 2. CSIS, Tohoku University, Sendai, Japan

F6-02. Experimental and theoretical evidence of band gap and spin injection devices. P. Kumar$^1$, R. Singh$^1$, F. Ahmed$^1$, N. Kumar$^1$, A. Ojha$^2$, S. Kusvahra$^2$ and R. Kumar$^2$. 1. Applied Sciences, IIT Allahabad, Allahabad, India; 2. Department of Physics, Motilal Nehru National Institute of Technology Allahabad-211004, India, Allahabad, India; 3. National Physical Laboratory, CSIR, New Delhi-110012, India

F6-03. Negative Tunneling Magnetoresistance in Magnetic Tunnel Junctions with Tetragonal and Ferrimagnetic Mn$_2$Ge Heusler Electrodes having Giant Perpendicular Magnetic Anisotropy using Amorphous Substrates. Y. Ferrante$^1$. 1. Spintronics & Magnetoelectronics, IBM Almaden Research Center, San Jose, CA, United States

F6-04. Ferromagnet/Semiconductor/Ferromagnet Hybrid Trilayers grown using Solid-phase Epitaxy. S. Gaucher$^1$, B. Jenichen$^1$ and J. Herfort$^1$. 1. Paul-Drude-Institute, Berlin, Germany


F6-06. Tunneling anisotropic magnetoresistance in an antiferromagnet-based perpendicular tunnel junction with L1$_1$-MnGa/FeMn/AIO/Pt structure. X. Zhao$^1$, D. Wei$^1$, J. Lu$^1$ and J. Zhao$^1$. 1. State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, Beijing, China

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F7-01. Magnetic phase diagram of rare earth based high entropy alloys. Z. Jaglicic$^{1,2}$, J. Luznik$^1$, P. Kozelj$^1$, S. Vrtnik$^1$, A. Jelen$^1$, J. Lukaž$^1$, J. Dolisek$^1$ and A. Meden$^1$. 1. Institute of Mathematics, Physics and Mechanics, Ljubljana, Slovenia; 2. Faculty of Civil and Geodetic Engineering, University of Ljubljana, Ljubljana, Slovenia; 3. J. Stefan Institute, Ljubljana, Slovenia; 4. Faculty of Chemistry and Chemical Technology, University of Ljubljana, Ljubljana, Slovenia

F7-02. Withdrawn

F7-03. Magneto-caloric effect of the Shastry-Sutherland compound SrCu$_2$(BO$_3$)$_2$. S. Akihara$^1$, Y. Kohama$^1$, Y. Matsuda$^1$ and H. Kageyama$^1$. 1. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. Graduate School of Engineering, Kyoto University, Kyoto, Japan

F7-04. Ferromagnetic to Spin Liquid Transition in HgCr$_2$Se$_4$ under Large Pressures. P. Jorba Cabré$^1$, M. Schulz$^2$, P. Böni$^1$, V. Tsukan$^1$, A. Loidl$^3$ and C. Pfleiderer$^1$. 1. Physics Department, Technical University of Munich, Munich, Germany; 2. Forschungsneutronenquelle Heinz Maier-Leibnitz (FRM II), Garching, Germany; 3. Center for Electronic Correlations and Magnetism, University of Augsburg, Augsburg, Germany

F7-05. The high-field susceptibility and magnetic anisotropy of the quasi-two-dimensional antiferromagnet FePS$_3$. D. Lançon$^{1,3}$, M.K. Chan$^2$, M.E. Zhitomirsky$^4$, M. Gvozdikova$^1$, V. Simonet$^5$, H.M. Ronnow$^3$ and A.R. Wildes$^1$. 1. Physics and Astronomy, University of Ljubljana, Ljubljana, Slovenia; 2. Electrical Engineering, Indian Institute of Technology, Bombay, Mumbai, India; 3. J. Stefan Institute, Ljubljana, Slovenia; 4. Faculty of Chemistry and Chemical Technology, University of Ljubljana, Ljubljana, Slovenia; 5. Institute of Materials, Indian Institute of Technology, Bombay, Mumbai, India

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MONDAY EVENING SAN FRANCISCO BALLROOM

Session F6

MAGNETIC TUNNEL JUNCTIONS I

Hiroaki Sukegawa, Chair
National Institute for Materials Science (NIMS), Tsukuba, Japan

Session F7

MAGNETOCALORIC AND FRUSTRATED SYSTEMS

(Poster Session)

Andrei Kirilyuk, Chair
Radboud University Nijmegen, Nijmegen, Netherlands

MONDAY EVENING SAN FRANCISCO BALLROOM
F7-06. Effect of Carbon Content on Transformation Temperature in Mn3SnC Antiperovskites. V. Gaonkar1, E. Dias2, K. Priolkar1 and A.K. Nigam1. 1. Goa University, Goa, India; 2. Tata Institute of Fundamental Research, Mumbai, India; 3. Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai, India

F7-07. Competition of the magnetic anisotropies in Ni1_xMn_xPS_y. Y. Morita1, T. Watanabe1, K. Takase1 and Y. Takano1. 1. Department of Physics, Nihon University, Tokyo, Japan

F7-08. Magnetocaloric effect and the change from first- to second-order magnetic phase transition in Pr1-xCa_xSr0.33MnO3 polycrystalline compounds. Y.D. Pham1, T. Thanl2, N. Dung2, M.V. Tien1, W. Shon3, J. Rhyee3, D. Kim1 and S. Yu1. 1. Department of Physics, Chungbuk National University, Cheongju, The Republic of Korea; 2. Institute of Materials Science, VAST, Hanoi, Vietnam; 3. Department of Applied Physics, Kyunghee University, Gyung-gi, The Republic of Korea

F7-09. Withdrawn


F7-11. Magnetic Critical Behavior and Magneto-caloric Effect in Mn9Ni4FeSn Heusler Alloys. A. Rosales Rivera1, N. Salazar-Henao1, R. González-Sánchez2, A. Velásquez-Salazar1, J. López-Tabares1 and F. Succocone2. 1. Laboratorio de Magnetismo y Materiales Avanzados, Universidad Nacional de Colombia, Sede Manizales, Manizales, Colombia; 2. Departamento de Física, Facultad de Ingeniería, Universidad de Buenos Aires, Buenos Aires, Argentina

F7-12. Influence of Cobalt doping on the Magnetism in NiBr2. B.K. Rai1, A.D. Christianson1 and A.F. May1. 1. Oak Ridge National Laboratory, Oak Ridge, TN, United States

F8-01. Hydrostatic Pressure Modulated Spin-Reorientation Transition And Magnetocaloric Effect In PrGa Compound. J. Hao1, J. He1. 1. Division of Functional Materials, Central Iron and Steel Research Institute, Beijing, China; Beijing, China; 2. Beijing National Laboratory for Condensed Matter Physics & State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China

F8-02. Withdrawn

F8-03. Magnetocaloric Effect of LaFe12-xNixCo0.06Si1.6B0.25 Alloy. Z. Wang1, Y. Zhang2, L. Ding1, X. Huang1, H. Piao1, L. Pan1 and S. Yu2. 1. College of Science, China Three Gorges University, Yichang, China; 2. Physics, Chungbuk National University, Cheongju, The Republic of Korea; 3. China Three Gorges University, Yichang, China; 4. Baotou Research Institute of Rare Earths, Baotou, China

F8-04. Magnetic properties and magnetocaloric effect in Er2Ni2In compounds. X. Zheng1, J. Xu1, J. Zhang1, S. Wang1, Y. Zhang2, J. Liu2, Y. Liu2 and B. Shen2. 1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China; 2. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China

F8-05. Low temperature large magnetocaloric effect of Ho2-xTm_xCuSi compound. J. Xu1, X. Zheng2, J. Zhang1, S. Wang1, Y. Zhang2, J. Liu2, Y. Liu2 and B. Shen2. 1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China; 2. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China

F8-06. Structural, magnetic properties and magnetocaloric effect in SmNi1 compound. A. Bajorek1 and P. Lopadezak1. 1. A. Chełkowski Institute of Physics, University of Silesia in Katowice, Poland, Chorzów, Poland; 2. Silesian Center for Education and Interdisciplinary Research, University of Silesia in Katowice, Chorzów, Poland

F8-08. Influence of high hydrostatic pressure on the magnetic, magnetocaloric and crystallographic properties of the Nd₈Sr₆CoO₆ cobaltite. M.S. Reis³, D.L. Rocco¹, R.J. Vivas¹, M.D. Santos³,², B. Pimentel¹, R. Torrão¹, L. Paixão¹ and A.M. Santos¹. ¹. Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil; 2. Centro Federal de Educação Tecnológica de Minas Gerais, Timóteo, Brazil; 3. Physics, Universidade Federal Fluminense, Niterói, Brazil; 4. Oak Ridge National Laboratory, Oak Ridge, TN, United States

F9-09. Magnetocaloric effect of ball milled Gd₆Si₁³. S.M. Harstad¹, A.A. El-Gendi⁴, S. Gupta¹, P. Vecharsky³ and R.L. Hadimani³. ¹. Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA, United States; 2. Department of Electrical and Computer Engineering, Iowa State University, Ames, IA, United States; 3. Division of Materials Science and Engineering, Ames Laboratory, US Department of Energy, Ames, IA, United States; 4. Physics, University of Texas at El Paso, El Paso, TX, United States

F8-10. Enhanced near room temperature magnetocaloric effect in La₆Ca₄MnO₇ for magnetic refrigeration application. A.A. El-Gendi¹, M. Tsu² and E. Carpenter². ¹. Physics, University of Texas at El Paso, El Paso, TX, United States; 2. Chemistry, Virginia Commonwealth University, Richmond, VA, United States

F9-01. Feedback Controlled Entanglement Creation in a Heisenberg Spin Chain Permeated by a Magnetic Field. J. Wang¹. ¹. University of Michigan Dearborn, Dearborn, MI, United States

F9-02. Magnetic impurity effects on low-dimensional multiferroic material Cu₃MoO₆ with spin frustration. H. Kuroe¹, M. Noda¹, Y. Ebukuro¹, H. Kuwahara¹, M. Hase², K. Oka¹, T. Ito¹ and H. Eisaki¹. ¹. Physics Division, Sophia University, Tokyo, Japan; 2. Research Center for Advanced Measurement and Characterization, National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan

F9-03. Quasi-phases and pseudo-transitions in one-dimensional models with nearest neighbor interactions. S.M. de Souza¹ and O.R. Santos². ¹. DFI, UFLA, Lavras, Brazil; 2. Departamento de Física, Universidade Federal de Lavras, Lavras, Brazil

F9-04. Interchain superlattice induced by charge order in (TMTTF)₂X (X = SbF₆, AsF₆ and PF₆) revealed by high field EPR. C. Dutoit¹, H. Van To¹, A. Stepanov¹ and S. Bertain¹. ¹. Nanoscience, IM2NP - CNRS, Marseille, France; 2. NHMFL, Tallahassee, FL, United States

F9-05. Construction and analysis of Langevin equation for charged particle in one dimensional random magnetic field Ising model spin chains. M. Fundator¹. ¹. Division on Behavioral and Social Sciences and Education, National Academies of Sciences, Engineering, and Medicine, Brooklyn, NY, United States

F9-06. Pressure Studies on K₂Cr₈O₁₆ Using Neutrons and Muons. O.K. Forslund¹, D. Andreica², Y. Sassa³, H. Nozaki⁴, I. Umegaki⁴, Z. Guguchia⁵, V. Jonsson¹, Z. Shermadini⁶, R. Khasanov⁶, M. Isobe⁷, H. Takagi⁷, Y. Ueda⁸, J. Sugiyama⁴ and M. Månsson¹. ¹. Materials and Nano Physics, KTH Royal Institute of Technology, Kista, Stockholm, Sweden; 2. Faculty of Physics, Babes-Bolyai University, Cluj-Napoca, Romania; 3. Uppsala University, Uppsala, Sweden; 4. Toyota Central Research and Development Laboratories Inc., Nagakute, Japan; 5. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Zurich, Switzerland; 6. Paul Scherrer Institut, Zurich, Switzerland; 7. Max Planck Institute for Solid State Research, Stuttgart, Germany; 8. Toyota Physical and Chemical Research Institute, Nagakute, Japan

F9-07. Withdrawn

F9-08. Spin dynamics of the longitudinal spin density wave phase in the quasi-1D Ising-like antiferromagnet BaCo₂V₂O₈. Q. Faure¹,³, S. Takayoshi², S. Petit⁴, V. Simonet⁴, J. White⁵, M. Månsson⁶, C. Rüegg⁵, P. Lejay³ and T. Giamarchi². ¹. Université Grenoble Alpes, INAC/MEM/MDN-CEA, Grenoble, France; 2. DPMC-MaNEP, University of Geneva, Geneva, Switzerland; 3. Institut Néel CNRS, Grenoble, France; 4. Paul Scherrer Institut, Villigen, Switzerland; 5. Max Planck Institute for Solid State Research, Stuttgart, Germany; 6. KTH Royal Institute of Technology, Stockholm, Sweden

F9-09. Interchain superlattice induced by charge order in (TMTTF)₂X (X = SbF₆, AsF₆ and PF₆) revealed by high field EPR. C. Dutoit¹, H. Van To¹, A. Stepanov¹ and S. Bertain¹. ¹. Nanoscience, IM2NP - CNRS, Marseille, France; 2. NHMFL, Tallahassee, FL, United States

F9-05. Construction and analysis of Langevin equation for charged particle in one dimensional random magnetic field Ising model spin chains. M. Fundator¹. ¹. Division on Behavioral and Social Sciences and Education, National Academies of Sciences, Engineering, and Medicine, Brooklyn, NY, United States

F9-06. Pressure Studies on K₂Cr₈O₁₆ Using Neutrons and Muons. O.K. Forslund¹, D. Andreica², Y. Sassa³, H. Nozaki⁴, I. Umegaki⁴, Z. Guguchia⁵, V. Jonsson¹, Z. Shermadini⁶, R. Khasanov⁶, M. Isobe⁷, H. Takagi⁷, Y. Ueda⁸, J. Sugiyama⁴ and M. Månsson¹. ¹. Materials and Nano Physics, KTH Royal Institute of Technology, Kista, Stockholm, Sweden; 2. Faculty of Physics, Babes-Bolyai University, Cluj-Napoca, Romania; 3. Uppsala University, Uppsala, Sweden; 4. Toyota Central Research and Development Laboratories Inc., Nagakute, Japan; 5. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Zurich, Switzerland; 6. Paul Scherrer Institut, Zurich, Switzerland; 7. Max Planck Institute for Solid State Research, Stuttgart, Germany; 8. Toyota Physical and Chemical Research Institute, Nagakute, Japan

F9-07. Withdrawn

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F10-01. Preparation and electro-magnetic properties of soft magnetic composites with ferrite nanofibres. J. Fuzer1, M. Streckova1, S. Dobak1, L. Dakova1, P. Kollar1, M. Faberova1, R. Bures2, Y. Osadchuk1, P. Kurek2 and M. Vojtko2 1. Institute of Physics, Faculty of Science, P. J. Šafárik University, Košice, Slovakia; 2. Institute of Materials Research, Slovak Academy of Sciences, Košice, Slovakia


F10-03. Magnetic properties of Y-type hexaferrite BaSr2NiFe2O18 (x = 0, 1.5) by using Mössbauer spectroscopy. J. Kim1, J. Lim1 and C. Kim1 1. Department of physics, Kookmin University, Seoul, The Republic of Korea

F10-04. Development of Soft Z-Type Hexa Nanoferrites for Antenna Miniaturization up to S-Band. A.K. Manhas1 and M. Singh1 1. Department of Physics, Himachal Pradesh University, Shimla 171005, Shimla, India

F10-05. The Effect of the Sintering Temperature on the RF Complex Permeability of NiCuCoZn Ferrites for Near Field Communication (NFC) Applications. P. Lathiya1 and J. Wang1 1. Electrical Engineering, University Of South Florida, Tampa, FL, United States

F10-06. Magnetic properties of FeSi/ hybrid resin based composite with different Ni-Zn-Fe2O4 ferrite content. L. Dakova1, J. Fuzer1, P. Kollar1, Y. Osadchuk1, M. Streckova1, M. Faberova1, R. Bures2, P. Kurek2 and M. Vojtko3 1. Department of Condensed Matter Physics, P.J. Safarik University, Košice, Slovakia; 2. Institute of Materials Research, Košice, Slovakia

F10-07. Modulation of magnetic properties in Ni-Zn ferrites by additives. K. Mun1 and Y. Kang1 1. Department of Materials Science and Engineering, Korea National University of Transportation, Chungju, The Republic of Korea

F10-08. Correlation of Hyperfine Field Distribution and Isomer Shifts with Magnetoelectric Properties in Mo-substituted Barium Hexaferrites. M. Przybyński4, J. Zukrowski1, K. Latka1, Z. Su1, C. Yu1, Z. Celinski1, Y. Chen1, A.S. Sokolov3 and V.G. Harris3 1. Academic Centre for Materials and Nanotechnology, AGH University of Science and Technology, Krakow, Poland; 2. Institute of Physics, Jagiellonian University, Krakow, Poland; 3. Electrical and Computer Engineering, Northeastern University, Boston, MA, United States; 4. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland; 5. Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, United States; 6. Rogers Innovation Center, Burlington, MA, United States; 7. Electrical and Computer Engineering, Northeastern University, Arlington, MA, United States

F10-09. Investigation of mechanisms governing microwave absorption in Co-La substituted Ba-Sr hexagonal ferrite from 8.2 GHz to 12.4 GHz. H. Kaur1, C. Singh1, A. Marwaha2, S. Bindra1, R. Jotania1, S. Mishra1, Y. Bai2, K. James Raju1, D. Singh1, M. Ghimire5, P. Druv1 and S. Sombra1 1. Electronics and Communication Enng., Lovely Professional University, Jalandhar, India; 2. ECE, SLET Lonewal, Sangrur, India; 3. Department of Electronics Technology, Guru Nanak Dev University, Amritsar, India; 4. Department of Physics, Gujarat University, Ahmedabad, India; 5. Department of Physics, University of Memphis, Memphis, TN, United States; 6. Institute of Advanced Materials and Technology, University of Science and Technology, Beijing, China; 7. School of Physics, Central University, Hyderabad, India; 8. ECE Department, Indian Institute of Technology, Roorkee, India

F10-10. Evaluation of microwave absorption mechanisms in Co-Hf doped Ba-Sr hexagonal ferrite. R. Joshi1, C. Singh1, S. Narang1, R. Jotania1, S. Mishra1, Y. Bai2, K. Rajaju1, D. Singh1, M. Ghimire5, P. Druv1, S. Sombra1 and J. Singh1 1. Electronics and Communication Enng., Lovely Professional University Jalandhar Punjab India, Jalandhar, India; 2. Department of Electronics Technology, Guru Nanak Dev University, Amritsar, India; 3. Department of Physics, Gujarat University, Ahmedabad, India; 4. Department of Physics, The University of Memphis, Memphis, TN, United States; 5. Institute of Advanced Materials and Technology, University of Science and Technology, Beijing, China; 6. School of Physics, Central University, Hyderabad, India; 7. Department of Electronics and Communication Engineering, Yadavindra college of Engineering, Talwandi Sabo, India; 8. Department of Electronics and Communication Engineering, Rayat Bahra Institute of Engineering and Nanotechnology, Hoshiarpur, India; 9. Physics Department, Federal University of Ceara, UFC, Brazil; 10. ECE Department, Indian Institute of Technology, Roorkee, India
F11-11. Microwave absorbing mechanisms in M-type Ba-Sr-Co-Cr hexagonal ferrites at X-band. J. Singh¹, C. singh², S. Narang², R. Jotania¹, S. Mishra¹, Y. Bai¹, K. Raju¹, D. Singh¹, M. Ghimire³ and R. Joshi⁴. 1. Electronics and Communication Engg., Lovely Professional University, Jalandhar, India; 2. Department of Electronics Technology, Guru Nanak Dev University, Amritsar, India; 3. Department of Physics, Gujarat University, Ahmedabad, India; 4. Department of Physics, University of Memphis, Memphis, TN, United States; 5. Institute of Advanced Materials and Technology, University of Science and Technology, Beijing, China; 6. School of Physics, Central University, Hyderabad, India; 7. ECE Department, Indian Institute of Technology, Roorkee, India; 8. Department of Electronics and Communication Engineering, Rayat Bahra Institute of Engineering and Nanotechnology, Hoshiarpur, India; 9. Yadwindera Enng. College, Talwandi Sabo, India

MONDAY EVENING
SAN FRANCISCO BALLROOM

Session F11
SPIN ICES AND MAGNETIC NANOPARTICLES II
(Poster Session)
Thomas Crawford, Chair
University of South Carolina, Columbia, SC, United States

F11-01. High-Frequency Dynamics of Honeycomb Artificial Spin Ice in Different Microstates. D.M. Arroo¹, J.C. Gartside¹ and W.R. Branford¹. 1. Department of Physics, Imperial College London, London, United Kingdom

F11-02. Defect-mediated Monopole-like States in Square Artificial Spin Ice Systems. N. Keswani¹ and P. Das¹. 1. Department of Physics, Indian Institute of Technology Delhi, New Delhi, India


F11-04. Magnetic Anisotropy Rules the Shape of the Magnetosome Chain Assembled by Magnetospirillum gryphiswaldense. I. Orue¹, L. Marcano Prieto², P. Bender³, A. García Prieto⁴, S. Valencia⁴, M. Mawass⁴, D. Gil Cartón⁵, D. Alba Venero⁵, D. Honecker⁶, A. García Arribas⁶, L. Fernández Barquin⁷, A. Muela⁷ and M. Fernández-Gabrieda⁷. 1. SGiker, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 2. Electricidad y Electrónica, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 3. CITIMAC, Universidad de Cantabria, Santander, Spain; 4. Física Aplicada I, Universidad del País Vasco (UPV/EHU), Bilbao, Spain; 5. BCMaterials, Basque Center for Materials, Applications and Nanostructures, Leioa, Spain; 6. Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany; 7. CIC bioGUNE, Structural Biology Unit, Derio, Spain; 8. ISIS, STFC Rutherford Appleton Laboratory, Didcot, United Kingdom; 9. Instituto Laue-Langevin, Grenoble, France; 10. Immunología, Microbiología y Parasitología, Universidad del País Vasco (UPV/EHU), Leioa, Spain

F11-05. Topological Magnetic Writing: Defining specific magnetization states in nanostructures. W.R. Branford⁴, J.C. Gartside¹, D.M. Arroo¹ and L.F. Cohen¹. 1. Physics, Imperial College London, London, United Kingdom

F11-06. Trapping Ferromagnetic Domains in Pentagonal Cairo-tilings. J.L. Palma¹,², E. Saavedra¹ and J. Escrig¹,². 1. Departamento de Ciencias Básicas, Universidad Central de Chile, Santiago, Chile; 2. Center for the Development of Nanoscience and Nanotechnology CEDENNA, Santiago, Chile; 3. Departamento de Física, Universidad de Santiago, Santiago, Chile; 4. Departamento de Física, Universidad de Santiago Chile, Santiago, Chile

F11-07. Withdrawn

F11-08. Low Energy Vertices and Ground State Ordering in Complex Oxide-Based Artificial Spin Ice Geometries. R.Y. Chopdekar³, M.S. Lee¹, A. Kane¹, S. Retterer¹, A. Scholl² and Y. Takamura¹. 1. Materials Science and Engineering, University of California, Davis, Davis, CA, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, Oak Ridge, TN, United States

F11-09. Blocking temperatures and interaction strengths in Artificial Spin Ices: an unexpected negative correlation. J. Porro Azpiroz¹,², S.A. Morley¹,¹, D. Alba Venero⁵, R. Macedo⁶, M. Rosamond⁶, E. Linfield⁶, R. Stamps⁶, C.H. Harrows⁶ and S. Langridge². 1. BCMaterials, the Basque Center for Materials, Applications and Nanostructures, Leioa, Spain; 2. ISIS Neutron and Muon Facility, Rutherford Appleton Laboratory, Didcot, United Kingdom; 3. Department of Physics, University of California Santa Cruz, Santa Cruz, CA, United States; 4. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 5. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 6. School of Electronics and Electrical Engineering, University of Leeds, Leeds, United Kingdom; 7. University of Glasgow, Glasgow, United Kingdom
F11-10. Correlations and Fluctuations of XY Macro Spins.
R. Streubel1, N. Kent1, S. Dhuey2, A. Scholl3, S. Kevan4 and P. Fischer5 1. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 2. Physics, University of California, Santa Cruz, Berkeley, CA, United States; 3. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 4. ALS, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 5. Lawrence Berkeley National Laboratory, Berkeley, CA, United States

F11-11. Withdrawn

F11-12. Withdrawn

F11-13. Bloch point states in arrays of dipole-coupled magnetic nanodots. I. Nekrashevich6 and D. Litvinov6 1. Materials Engineering, University of Houston, Houston, TX, United States; 2. Nanofabrication Facility, University of Houston, Houston, TX, United States

F11-14. Magnetotransport measurement of hexagonal NiFe artificial spin ice lattices and vertices. K. Esien7, S. Olivari2 and D. Read1 1. Physics, Queens University Belfast, Belfast, United Kingdom; 2. Physics, Cardiff University, Cardiff, United Kingdom

MONDAY EVENING 5:00
MONDAY SAN FRANCISCO BALLROOM

Session F12

SPIN STRUCTURES AND TRANSPORT PROPERTIES I (Poster Session)
Samuel Ciocys, Chair
University of California, Berkeley, Berkeley, CA, United States

F12-01. Large Anomalous Hall Effect in the Noncollinear Antiferromagnet Mn5Si3. C. Sürgers1, T. Wolf2, P. Adelmann2, W. Kittler1, G. Fischer3 and H. von Löhneysen4 1. Physikalisches Institut, Karlsruhe Institute of Technology, Karlsruhe, Germany; 2. Institute for Solid State Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany

F12-02. Photo-induced anomalous Hall effect in nickel. A. Ruotolo1,2, D. Li1,2 and K. Lin1 1. City University of Hong Kong, Kowloon, Hong Kong; 2. City University Shenzhen Research Institute, Shenzhen, China; 3. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan

F12-03. Surface roughness tuned anomalous Hall effect in Fe thin films. Q. Zhang1, Y. Wen1, P. Li1, Y. Zhao1, S. Zhang1 and X. Zhang1 1. Physical Science and Engineering Division (PSE), King Abdullah University of Science and Technology (KAUST), Jeddah, Saudi Arabia

F12-04. Hall effect and resistivity in epitaxial MnSi thin films and nanostructures under ambient and high pressure. D. Menzel1, D. Schroeter2, N. Steinki3, S. Süllov4, A. Fernandez-Searon2, H. Schumacher5, H. Okuyama3, H. Hidaka1 and H. Amitsuka1 1. Institut für Physik der Kondensierten Materie, Technische Universität Braunschweig, Braunschweig, Germany; 2. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany; 3. Department of Physics, Hokkaido University, Sapporo, Japan

F12-05. Anomalous Hysteresis in Magnetoresistance in Ru1.9Fe0.1CrSi under Pulsed Magnetic Fields. M. Hiroi5, I. Shigeta1, A. Kondo1 and K. Kindo1 1. Department of Physics and Astronomy, Graduate School of Science and Engineering, Kogoshima University, Kogoshima, Japan; 2. High Field Laboratory, Institute for Solid State Physics, the University of Tokyo, Kashiwa, Japan

F12-06. Tuning the Magnetic and Transport properties of the new double perovskite Ti3NiMnO6. P. Manuel1, L. Ding2, D. Khalyavin2, J. Blake2,3, F. Orlandi1, W. Yi1 and A. Belik4 1. ISIS Pulsed Neutron Facility, Rutherford Appleton Laboratory, Chilton, United Kingdom; 2. ISIS Facility, Rutherford Appleton Laboratory, Science and Technology Facilities Council, Oxford, United Kingdom; 3. Department of Physics, Royal Holloway University of London, Egham, United Kingdom; 4. National Institute for Materials Science (NIMS), Tsukuba, Japan

F12-07. Role of La doping for Topological Hall Effect in Epitaxial EuO Films. Y. Yun3,2, Y. Ma1,2, T. Su1,2, W. Xing1,2, Y. Chen1,2, Y. Yao1,2, R. Cai1,2, W. Yuan1,2 and W. Han1,2 1. International Center for Quantum Materials, School of Physics, Peking University, Beijing 100871, China; 2. Collaborative Innovation Center of Quantum Matter, Beijing 100871, China

F12-08. Anomalous Nernst Effect in Magnetically Ordered Mn5Ge2C0.8 and Mn5Si2C0.8 Thin Films. C. Sürgers1, S. Srichandan1 and S. Deng2 1. Physikalisches Institut, Karlsruhe Institute of Technology, Karlsruhe, Germany; 2. Physikalisches Institut, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

F12-09. Equilibrium and Nonequilibrium Spin Current Fluctuations in Quantum Paramagnets. J. Aftergood1, D. Joshi2, A. Schnyder3 and S. Takei3 1. Physics, CUNY Graduate Center, New York, NY, United States; 2. Max Planck Institute for Solid State Research, Stuttgart, Germany; 3. Physics, CUNY Queens College, Queens, NY, United States

F12-10. Spin-Lattice Coupling suppress Phonon Lifetimes in Paramagnetic CrN as revealed by Combined Atomistic Spin Dynamics and Ab Initio Molecular Dynamics. I. Stockem1,2 and B. Alling1,2 1. Department of Physics, Chemistry and Biology (IFM), Linköping University, Linköping, Sweden; 2. Max-Planck-Institut für Eisenforschung GmbH, Düsseldorf, Germany
**F13-11.** Tuning the Magnetic Anisotropy of Co metals on twodimensional van der Waals materials: A role of hybridization of tetrahedral sp-d Coupling. S. Rhim\(^1\), D. Odkhuu\(^2\), S. Choe\(^1\) and S. Hong\(^1\) 1. Physics, University of Ulsan, Ulsan, The Republic of Korea; 2. Department of Physics, Incheon National University, Incheon, The Republic of Korea; 3. Seoul National University, Seoul, The Republic of Korea

**MONDAY EVENING**

**SAN FRANCISCO BALLROOM**

**Session F13**

**SPIN-CHARGE CONVERSION AND SPIN-ORBIT TORQUE II**

*(Poster Session)*

Christian Stamm, Chair

ETH Zurich, Zurich, Switzerland

**F13-01.** Scanning tunneling microscopy study of the spin Hall effect in highly-resistive tungsten film. T. Xie\(^1\), M. Dreyer\(^2\), D. Bowen\(^1\), D. Hinkel\(^1\), R. Butera\(^1\), C. Krafft\(^1\) and I. Mayergoyz\(^2\) 1. ECE, University of Maryland, College Park, MD, United States; 2. Physics, University of Maryland, College Park, MD, United States

**F13-02.** Spin-orbit torque in W/CoFeB/MgO heterostructures – Wide-range W resistivity dependence. Y. Takeuchi\(^1\), K. Furuya\(^1\), Y. Takahashi\(^1\), C. Zhang\(^1\), A. Okada\(^1\), B. Jinmai\(^1\), H. Sato\(^1\), S. Fukami\(^1\) and H. Ohno\(^1\) 1. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan; 3. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 4. Center for Spintronics Research Network, Tohoku University, Sendai, Japan; 5. Center for Innovative Integrated Electronic Systems, Tohoku University, Sendai, Japan; 6. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan

**F13-03.** Spin-orbit torque induced switching of in-plane nanomagnet arrays evaluated through differential planar Hall effect. Y. Takahashi\(^1\), Y. Takeuchi\(^1\), C. Zhang\(^1\), B. Jinmai\(^1\), S. Fukami\(^1\) and H. Ohno\(^1\) 1. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 2. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan; 3. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan; 4. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan

**F13-04.** Charge pumping induced by magnetic texture dynamics in Weyl semimetals. Y. Araki\(^2\) and K. Nomura\(^1\) 1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan

**F13-05.** Spin–orbit torque switching of Ta/CoFeB/Ta/CoFeB/MgO composite layer. C. Siao\(^1\), C. Yang\(^2\), P. Chen\(^3\) and C. Lai\(^4\) 1. Material Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 3. Material Science and Engineering, National Tsing-Hua University, Hsinchu, Taiwan; 4. National Tsing Hua University, HsinChu, Taiwan

**F13-06.** Control of spin-orbit torque driven by W/Pt multilayers. S. Karube\(^1\), N. Tezuka\(^1\), M. Kohda\(^1\)\(^2\), S. Fujikawa\(^2\), M. Matsura\(^2\), S. Sugimoto\(^2\) and J. Nitta\(^1\)\(^2\) 1. Center for Spintronics Research Network, Tohoku University, Sendai, Japan; 2. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai, Japan

**F13-07.** Withdrawn

**F13-08.** Spin Relaxation at Ferromagnetic Metal/Metal Oxide Interface. A. Asami\(^1\) 1. Applied Physics and Physico-Informatics, Keio University, Kanagawa, Japan

**F13-09.** The Electronic Structures of Fe in the Y\(_2\)Fe\(_5\)O\(_{12}\) Single-Crystal and the Bilayer Thin Films. Y. Chin\(^1\), H. Lin\(^2\), P. Wang\(^1\), D. Wu\(^1\), Y. Tanaka\(^2\), C. Chen\(^2\), A. Tanaka\(^4\) and A. Chainani\(^3\) 1. Physics, National Chung Cheng University, Chiayi, Taiwan; 2. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 3. Physics, Nanjing University, Nanjing, China; 4. Hiroshima University, Higashi-Hiroshima, Japan; 5. RIKEN, Hyogo, Japan

**F13-10.** Vertical Spin Injection Devices for Spin-to-Charge Conversion: Scaling with Size. C. Lin\(^1\), S. Manipatruni\(^1\), T. Gosti\(^1\), D.E.ikonov\(^1\), K. Oguz\(^1\), V. Pham\(^2\), I. Groen\(^2\), E. Sagasta\(^1\), F. Casanova\(^2\)\(^3\) and I. Young\(^1\) 1. Components Research, Intel, Hillsboro, OR, United States; 2. CIC nanoGUNE, 20018 Donostia-San Sebastian, Spain; 3. IKERBASQUE, Basque Foundation for Science, 48013 Bilbao, Spain

**F13-11.** Large Surface Spin-orbit Torques in a Single Layer Permalloy Film. W. Wang\(^1\), T. Wang\(^2\), A. Davidson\(^3\), A. Humphries\(^3\), S. Allen\(^2\), Y. Wang\(^2\), A. Radhakrishnan\(^3\), H. Ohldag\(^4\), J. Xiao\(^2\), D.G. Cahill\(^5\), X. Fan\(^1\) and V. Lorenz\(^1\) 1. Department of Physics, University of Illinois at Urbana-Champaign, Urbana, IL, United States; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE, United States; 3. Department of Physics and Astronomy, University of Denver, Denver, CO, United States; 4. SSRL, SLAC National Accelerator Laboratory, Menlo Park, CA, United States; 5. Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, United States

**F13-12.** Withdrawn
F13-13. Spin-orbit torque induced by nonequilibrium spin density on the surface of a 3D topological insulator. R. Chang1, S. Chen1 and C. Chang1 1. Department of Applied Physics, National Taiwan University, Taipei, Taiwan; 2. Department of Applied Physics and Chemistry, University of Taipei, Taipei, Taiwan; 3. Department of physics, National Taiwan University, Taipei, Taiwan

F13-14. Effect of interfacial spin-transparency and magnetic dissipation on Pt/Ferromagnet/Capping layers. D. Lee1,2, H. Koo1, B. Min1, K. Lee1 and O. Lee1 1. Korea University, Seoul, The Republic of Korea; 2. Center for Spintronics, Korea Institute of Science and Technology (KIST), Seoul, The Republic of Korea

F14-01. Low Temperature Annealing of Superconducting Bismuth Nickel Bilayers. M. Vaughan1 and G. Burnell1 1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom

F14-02. Vortex Structures and Configurations in a Superconductor / Chiral-Helimagnet Hybrid System. S. Fukui1, M. Kato1, Y. Togawa1 and O. Sato1 1. Department of Mathematical Sciences, Osaka Prefecture University, Sakai, Japan; 2. Department of Physics and Electronics, Osaka Prefecture University, Sakai, Japan; 3. Osaka Prefecture University College of Technology, Neyagawa, Japan

F14-03. Non-uniform magnetisation in Nb/Ho/Nb Josephson junctions. B. Börcsök1 1. Department of Material Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom

F14-04. Determining the “0-π” thickness in Magnetic Josephson Junction using Magnetometry. T. Ambrose1 1. Northrop Grumman Corporation, Linthicum, MD, United States

F14-05. Magnetic and superconductive proximity effects in bilayer and trilayer thin film hybrids of a topological insulator, ferromagnet and cuprate superconductor: A possible new platform for Majorana nano-electronics. G. Koren1 1. Physics, Technion - Israel Institute of Technology, Haifa, Israel

F14-06. Withdrawn

F14-07. Photoemission spectroscopy in 2-dimensional Topological Kondo Insulators. E. Ramos Rodriguez1, R. Franco1, J. Silva Valencia1 and M. Figueira1 1. Departamento de Física, Universidad Nacional de Colombia, Bogotá D. C., Colombia; 2. Departamento de Física, Instituto de Física Universidad Federal Fluminense, Niterói, Brazil; 3. Physics, Universidad Nacional de Colombia, Bogotá, Colombia

MONDAY SAN FRANCISCO BALLROOM
EVENING 5:00

Session F15
TOPOLOGICAL SCES II: THEORY
(Poster Session)
Andriy Nevidomskyi, Chair
Rice University, Houston, TX, United States

F15-01. Casimir Amplitudes at Topological Quantum Phase Transitions. M. Continentino1 and M. Griffith1 1. Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil

F15-02. Withdrawn

F15-03. Ultracold dipolar fermions as an experimental platform for the reduction of topological classification. T. Yoshida1, I. Danshita2, R. Peters1 and N. Kawakami1 1. Department of Physics, Kyoto University, Kyoto, Japan; 2. Yukawa Institute for Theoretical Physics, Kyoto University, Kyoto, Japan

F15-04. Interaction effects on the Kane-Mele Model in the Hofstadter regime. T. Ambrose1 1. Northrop Grumman Corporation, Linthicum, MD, United States


F15-06. Topological insulators of Shastry-Sutherland lattice at integer filling. H. Yang1 and S. Lee1 1. Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea

F15-07. Tunable hybrid state of Weyl semimetals under electromagnetic field. Z. Alisultanov1,2 1. Amirkhanov Institute of Physics, Makhachkala, Russian Federation; 2. Department of physics, Dagestan State University, Makhachkala, Russian Federation

F15-08. Withdrawn

F15-09. Withdrawn
TUESDAY MORNING
8:30

Session G2
MULTIFERROIC MAGNETO-OPTICS
Colin Heikes, Chair
NIST Center for Neutron Research, Gaithersburg, MD, United States

8:30
G2-01. Nonreciprocal propagation of microwaves, magnons, and acoustic waves in noncentrosymmetric magnets. (Invited)
Y. Onose1 1. Institute for Material Research, Tohoku University, Sendai, Japan

9:00
S. Toyoda1,2, N. Abe1 and T. Arima1,2
1. Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 2. RIKEN CEMS, Wako, Japan

9:15
G2-03. Femtosecond activation of magnetoelectricity.
D. Bossini1,2, K. Konishi2, S. Toyoda2,3, T. Arima4, J. Yumoto2 and M. Kuwata-Gonokami2
1. TU Dortmund, Dortmund, Germany; 2. The University of Tokyo, Tokyo, Japan; 3. RIKEN, Tokyo, Japan; 4. The University of Tokyo, Tokyo, Japan

9:30
G2-04. Nonreciprocal DC Magnetoelectric Response in CaBaM4O7 (M=Co, Fe) Single Crystals.
H. Kuwahara1, M. Noda1, Y. Ebukuro1, M. Akaki2 and H. Kuroe1
1. Physics Division, Sophia University, Tokyo, Japan; 2. Center for Advanced High Magnetic Field Science, Graduate School of Science, Osaka University, Toyonaka, Japan

9:45
G2-05. Millimeter-wave Faraday Rotation from Magnetoelastic Multiferroic Materials.
N. Parsa1, R.C. Toonen1, F. Peng2 and M. Cakmak3
1. Electrical and Computer Engineering, The University of Akron, Akron, OH, United States; 2. Polymer Engineering, The University of Akron, Akron, OH, United States; 3. Materials and Mechanical Engineering, Purdue University, West Lafayette, IN, United States
Session G3

SOFT MAGNETIC MATERIALS AND MAGNETIC SHIELDING II
Jan Fuzer, Chair
P.J. Safarik University, Kosice, Slovakia

8:30

G3-01. Monolayer WSe₂ spin and valley Hall effect transistors controlled via electric field for spintronic applications. (Invited) J.C. Incorvia¹, E. Barré², S. Kim³, C. McClelland², E. Pop³, H. Wong³ and T. Heinz¹ 1. Electrical and Computer Engineering, University of Texas at Austin, Austin, TX, United States; 2. Electrical Engineering, Stanford University, Stanford, CA, United States; 3. Applied Physics, Stanford University, Stanford, CA, United States

9:00

G3-02. Grain size dependence of magnetic domain wall motion in soft-magnetic materials. H. Tsukahara¹, K. Iwano¹, C. Mitsumata¹, T. Ishikawa¹ and K. Ono¹ 1. KEK, Tsukuba, Japan; 2. NIMS, Tsukuba, Japan

9:15

G3-03. Measurement Study of Magnetic Properties of Different Electrical Sheet Steel under Different Temperature, and DC Bias. D. Chen¹, Z. Feng¹ and B. Bai¹ 1. School of Electrical Engineering, Shenyang University of Technology, Shenyang, China

9:30

G3-04. Evaluating the Suitability of Partial Recrystallisation as a Strengthening Method for High Strength-Thin Gauge Non-Orientated Electrical Steel. M. O’Reilly¹, C. Pleydell-Pearce¹, E. Sackett¹ and F. Robinson² 1. Engineering, Swansea University, Bristol, United Kingdom; 2. Cogent Power, Newport, United Kingdom

9:45

G3-05. Exploration of the 3D Printing of Transformer Structures with Embedded Ferrite Cores. D. Bowen² and D. Basu¹ 1. University of Maryland, College Park, MD, United States; 2. Laboratory for Physical Sciences, College Park, MD, United States

Session G4

ADVANCES WITH NANOPARTICLES I
Ahmed El-Gendy, Chair
University of Texas at El Paso, El Paso, TX, United States

8:30

G4-01. Self-assembled layering of magnetic nanoparticles in a ferrofluid onto solid surfaces. (Invited) K. Theis-Bröhl¹, E.C. Vreeland³, A. Gomez⁴, D.L. Huber⁴, A. Saini⁵, M. Wolff⁵, B.B. Maranville², E. Brok⁶, K.L. Krycka², J.A. Dura² and J.A. Borchers² 1. University of Applied Sciences Bremerhaven, Bremerhaven, Germany; 2. Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 3. Imagion Biosystems LLC, Albuquerque, NM, United States; 4. Sandia National Laboratories, Albuquerque, NM, United States; 5. Division for Materials Physics, Uppsala University, Uppsala, Sweden; 6. NanoScience Center, Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark

9:00

G4-02. Effects of Shape and Spatial Arrangement of Nanoparticle Assemblies on their Hyperthermia Performance. O. Iglesias¹,² and X. Rey-Martín¹,² 1. Dpt. Condensed Matter Physics, University of Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia UB, Barcelona, Spain

9:15

G4-03. Metallorganic 2D networks as a buffer layer to grow magnetic nanoclusters. L. Hernández-López¹,², J. Lobo-Checa¹,², I. Piquero-Zulaica¹,², M. Piantek³,² and F. Bartolome³,² 1. ICMA, CSIC - Universidad de Zaragoza, Zaragoza, Spain; 2. Departamento de Física de la Materia Condensada, Universidad de Zaragoza, Zaragoza, Spain; 3. Centro de Física de Materiales, CSIC - UPV/EHU, San Sebastián, Spain; 4. Materials Physics Center, San Sebastián, Spain; 5. INA / LMA, Universidad de Zaragoza, Zaragoza, Spain

9:30

G4-04. Strongly Exchange Coupled Core/Shell Nanoparticles with High Magnetic Anisotropy: A Strategy Toward Rare-Earth-Free Permanent Magnets. A. López-Ortega¹, C. de Julián Fernández² and C. Sangregorio³ 1. nanomagnetism, CIC nanoGUNE, Donostia – San Sebastian, Spain; 2. CNR-IMEM, Parma, Italy; 3. CNR-ICCOM, Firenze, Italy
TUESDAY MORNING
8:30

Session G5
MAGNETOCALORIC MATERIALS III
Joao Amaral, Chair
Universidade de Aveiro, Aveiro, Portugal

G5-01. Computational Search for Giant Magnetocaloric Materials: Application to MnAs. J.S. Amaral1, N.M. Fortunato2 and J. Gonçalves3. 1. CICECO & Physics dept., Universidade de Aveiro, Aveiro, Portugal; 2. Physics, University of Aveiro, Aveiro, Portugal; 3. Departamento de Fisica, Aveiro, Portugal

G5-02. Ultra-low Hysteresis in Giant Magnetocaloric MnVFe(P,Si,B) Compounds. J. Lai1, B. Huang1, N. van Dijk2, E. Brück1 and D. Zeng1. 1. Applied Science, Delft University of Technology, Delft, Netherlands; 2. School of Materials Science & Engineering, South China University of Technology, Guangzhou, China; 3. TU Delft, Delft, Netherlands

G5-03. Magnetic and Magnetocaloric Effect Studies on MnSb and MnSbR7.5 (R: Gd, Tb, Dy, Ho and Er). R. P1 and G. Markandeyulu1. 1. Physics, Indian Institute of Technology, Chennai, India

G5-04. Element-specific view on La(FeSi)13. K.J. Ollefs5, A. Terwey5, K.P. Skokov1, M. Krautz2, F. Wilhelm1, A. Rogalev1, B. Eggert1, J. Landers1, S. Salamon1, I.A. Radulov1, V. Brabänder1, M.Y. Hu1, E.E. Alp1, J. Zhao2, W.-. Keune1, O. Gutfleisch1, M. Gruner1 and H. Wende5. 1. FM, TU Darmstadt, Darmstadt, Germany; 2. IFW Dresden, Dresden, Germany; 3. ESRF, Grenoble, France; 4. Argonne National Laboratory, Lemont, IL, United States; 5. Faculty of Physics and CENIDE, University of Duisburg-Essen, Duisburg, Germany

TUESDAY MORNING
8:30

Session G6
ANTIFERROMAGNETIC SPINTRONICS: THEORY
Takahiro Moriyama, Chair
Kyoto University, Uji, Japan

G6-01. Classification of topological antiferromagnets for spintronics. (Invited) L. Šmejkal1,2*, J. Sinova1,2 and T. Jungwirth2,3. 1. Johannes Gutenberg University, MAINZ, Germany; 2. Academy of Sciences of the Czech Republic, Prague, Czechia; 3. University of Nottingham, Nottingham, United Kingdom

G6-02. Spin Hall effects in non-collinear antiferromagnetic Mn_{x}X (X = Ir, Sn, Ge) thin-films. J.M. Taylor1, E. Lesne1, A. Markou1, C. Felser2 and S.S.P. Parkin1. 1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. University of Chemical Technology of Prague, Prague, Czechia

G6-03. Spin Currents in Non-Collinear Antiferromagnets. J. Zelezny1. 1. Department of Spintronics and Nanoelectronics, Institute of Physics, ASCR, Prague, Czechia
G6-04. Lifetime of Antiferromagnetic Skyrmions. P. Bessarab1, D. Yudin1, D. Gulevich1, P. Wadley1, M. Titov1,2 and O. Tretiakov1. 1. Tohoku University, Sendai, Japan; 2. University of Iceland, Reykjavik, Iceland; 3. ITMO, Saint Petersburg, Russian Federation; 4. School of Physics and Astronomy, The University of Nottingham, Nottingham, United Kingdom; 5. Radboud University, Nijmegen, Netherlands

G6-05. Interlayer Couplings Mediated by Antiferromagnetic Magnons. R. Cheng1,2, D. Xiao1 and J. Zhu1,2. 1. Physics, Carnegie Mellon University, Pittsburgh, PA, United States; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, United States; 3. Data Storage Systems Center, Carnegie Mellon Univ, Pittsburgh, PA, United States


G7-02. Systematic experimental and theoretical study of giant voltage-controlled-magnetic-anisotropy (VCMA) effect in a strained MgO/CoFe/Ir. Y. Kato1, H. Yoda1, S. Kwon2, N. Kioussis3, K. Fujii1, M. Yoshiki1, A. Triwari1, A. Buyandalai1, S. Oikawa1, H. Sugiyama1, K. Koi1, M. Ishikawa1, T. Inokuchi1, N. Shimomura1, M. Shimizu1, S. Shirotori1, Y. Ohsawa1 and A. Kurobe1. 1. Toshiba Corporation, Kawasaki, Japan; 2. Physics and Astronomy, California State University, Northridge, PORTER RANCH, CA, United States

G7-03. Controlling the magnetization of insulators with voltages and interfacial rare-earth atoms. A. Leon1, A. Cahaya1 and G. Bauer1,2. 1. Institute for Materials Research, Tohoku University, Sendai 980-8577, Sendai, Japan; 2. Zernike Institute for Advanced Materials, University of Groningen, Groningen, Netherlands

G7-04. Control of Magnetic and Topological Orders with a DC Electric Field. K. Takasan1 and M. Sato2. 1. Department of Physics, Kyoto University, Kyoto, Japan; 2. Department of Physics, Ibaraki University, Mito, Japan

G7-05. Witten effect and emergent gauge fields on domain wall between topological insulators and spin ice components. I. Kanazawa1. 1. Physics, Tokyo Gakugei University, Tokyo, Japan

Session G8
QUANTUM SPIN LIQUIDS III
Frank Pollmann, Chair
TU Munich, Garching, Germany

G8-01. Quantum spin liquids: from theory to experiments and numerical simulations. (Invited) F. Mila1. 1. EPFL, Lausanne, Switzerland


G8-03. Disorder and its consequences in Pr-based quantum spin ices. O. Benton1. 1. Center for Emergent Matter Science (CEMS), RIKEN, Wako, Japan
G9-03. Ferromagnetic superconductivity mediated by pressure-enhanced spin fluctuation developed around the phase boundary of FM1 and FM2 in UGe₂. N. Tateiwa¹, Y. Haga¹ and E. Yamamoto¹.¹ 1. Advanced Science Research Center, Japan Atomic Energy Agency, Naka, Tokai, Japan

G9-04. Investigation of the Wing-Structure of the Ising Ferromagnet URhGe by Angle-Resolved Measurements. S. Nakamura¹,², S. Kittaka², T. Sakakibara², Y. Shimizu³,², Y. Kono², Y. Haga⁴ and E. Yamamoto⁴.¹ 1. Department of Engineering Physics, Electronics and Mechanics, Graduate School of Engineering, Nagoya Institute of Technology, Nagoya, Japan; 2. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 3. Institute for Materials Research, Tohoku University, Oarai, Japan; 4. Japan Atomic Energy Agency, Tokai, Japan

TUESDAY ROOM 313/314
MORNING
8:30

Session G10
SPIN-1 CHAINS AND FRUSTRATED SPIN-1/2 CHAINS
Britta Ryll, Chair
Helmholtz - Zentrum Berlin, Berlin, Germany

G10-02. Elementary excitations and stability of the spin-stripe state in a quantum spin chain. M. Pregelj¹, A. Zorko¹, M. Gomilsek¹, O. Zaharko¹, J. White², B. Ouladdiaf³, S. Nishimoto³, S. Drechsler³ and S. Süllow².¹ 1. Jozef Stefan Institute, Ljubljana, Slovenia; 2. Paul Scherrer Institut, Villigen, Swaziland; 3. Rutherford Appleton Laboratory, Didcot, United Kingdom; 4. Institute of Physics, Zagreb, Croatia; 5. Ecole polytechnique fédérale de Lausanne, Lausanne, Switzerland; 6. University of Ljubljana, Ljubljana, Slovenia

G10-03. Cluster-Based Haldane State with Finite Magnetization. T. Suginoto¹, K. Morita¹ and T. Tohyama¹.¹ 1. Applied Physics, Tokyo University of Science, Tokyo, Japan
G10-04. Quantized excitation spectra by magnon confinement in quasi S=1 spin-chain systems. T. Suzuki1 and S. Suga1
1. University of Hyodo, Himeji, Japan

9:30

G10-05. Defects in spin ladders. S. Galeski1, K. Povarov1, D. Blosser1, J. Ollivier2 and A. Zheludev1
1. Laboratory for Solid State Physics, ETH Zurich, Zurich, Switzerland; 2. Institut Laue-Langevin, Grenoble, France

9:45

Session H1
ADVANCES WITH NANOPARTICLES II
(Poster Session)
Fernando Bartolome, Chair
CSIC, Zaragoza, Spain

H1-01. Photomagnetic Control of Nanoparticles with Radical Pair System: A promising New Area of Liposomal DDS. H. Nakagawa1 and M. Ohuchi1. 1. Department of Electrical and Electronic Engineering, Tokyo Denki University, Adachi-ku, Japan


H1-03. Transfer to aqueous medium of magnetic nanoparticles codoped with rare earth for hyperthermia applications. J. Ibarra-Sánchez1, T. López-Luke1, T. Cordova-Fraga2, J. Bernal–Alvarado3, M. Cano3 and E. De la Rosa1. 1. Fotónica, Ingeniería Ambiental, Universidad de Guanajuato, León, Mexico; 2. Departamento de Ingeniería Física, Universidad de Guanajuato, León, Mexico; 3. Departamento de Ciencias Básicas, Centro Universitario de la Ciénega, León, Mexico

H1-04. Low temperature synthesis of Li1nMPt (M = Fe, Co, Ni) nanoparticles by salt layered precursors. G. Varvaro1, E. Agostinelli1, D. Fiorani1, P. Imperatori1, S. Laureti1, D. Peddis1 and A. Capobianchi1. 1. ISM - CNR, Monterotondo Scalo (Roma), Italy

H1-05. Withdrawn

H1-06. Towards the synthesis of molecularly-imprinted-polymer coated nanoparticles by magnetic field induced polymerization. L. Perez1, P. de la Presa2, C. Aroca3 and M. Moreno-Bondi2. 1. Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. Department of Analytical Chemistry, Universidad Complutense de Madrid, Madrid, Spain; 3. Instituto de Magnetismo Aplicado, UCM-CSIC-ADIF, Madrid, Spain; 4. IMDEA Nanociencia, Madrid, Spain; 5. Instituto de Sistemas Optoelectrónicos y Microtécología, Universidad Politécnica de Madrid, Madrid, Spain

H1-07. Size-tunable fabrication of multiferroic BiFeO3 nanoparticles and syntheses of porous BiFeO3 networks with enhanced visible light photocatalytic activity. T. Cadenbach1, M. Benitez2, L. Lascalzo2, C. Costa1, A. Debut1 and C. Arroyo1. 1. Ingeniería Ambiental, Universidad San Francisco de Quito, Quito, Ecuador; 2. Departamento de Física, Escuela Politécnica Nacional, Quito, Ecuador; 3. Center of Nanoscience and Nanotechnology, Escuela Politécnica del Ejército, Sangolquí, Ecuador

H1-08. Magnetic and Excellent Microwave Absorbing Properties Exhibited by Ni1−xZnxFe2−xEr1−xO4 Ferrite/Polyaniline Nanocomposite. R.N. Kambale1, A.K. Patel1, S.K. Yadav1, K. Suresh1 and V.A. Bambole1. 1. Department of Physics, University of Mumbai, Mumbai, India; 2. Department of Physics, KV IIT Powai, Mumbai, Mumbai, India; 3. Department of Physics, IIT Bombay, Mumbai, India; 4. Department of Physics, IIT Delhi, Delhi, India

H1-09. Temperature Dependence of Magnetic Anisotropy Constant in Ferrimagnetic ZnFe2O4 Nanoparticles. S. Yoon1. 1. Department of Physics, Gunsan National University, Gunsan, The Republic of Korea

H1-10. Formation of SmFeO3 with controllable morphology by changing the addition of KOH. W. Shen1, B. Ren1 and W. Wang1. 1. State Key Laboratory of Chemical Resource Engineering and School of Science, Beijing University of Chemical Technology, Beijing 100029, China; Beijing, China

H1-11. Structural, magnetic and electrochemical activity of Ti1−xNi1−XRnxFe2O4 nanoparticles synthesized by high energy ball milling. N.S. Osman1. 1. Institute of Laser, Sudan University of Science and Technology, Khartoum, Sudan

H1-12. Ferromagnetism and Giant Paramagnetism of Copper Nanoparticles Coated by Carbon Shell. A.N. Kocharian1, M. Estiphanos1, O. Bernal1, E. Sharoyan2, A. Manukyan2 and H. Gyulasaryan2. 1. Physics and Astronomy, California State University, Los Angeles, Los Angeles, CA, United States; 2. Institute for Physical Research, National Academy of Sciences, Ashtarak, Ashtarak, Armenia

H1-13. Separation and identification of various diamagnetic and paramagnetic particles based on the variances of magnetization assigned to individual materials. C. Uyeda1. 1. Osaka University, Graduate School of Science, Toyonaka, Japan
H2-01. First-principles calculations of Ru-substitution effect on magnetic anisotropy and Curie temperature in $L_1_0$-type FePt alloys. Y. Kota

1. National Institute of Technology, Fukushima College, Iwaki, Japan

H2-02. Magnetocrystalline anisotropy and magnetic microstructures in the ferromagnetic phase of $Nd_{x}\Sr_{y}\MnO_3$. Y. Fujibayashi, A. Kotani, K. Harada, Y. Ishii and S. Mori

1. Materials Science, Osaka Prefecture University, Osaka, Japan; 2. RIKEN, Wako, Japan


1. Physics Department, Federal University of São Carlos, São Carlos, Brazil; 2. Chemistry Department, Federal University of São Carlos, São Carlos, Brazil; 3. Brazilian Nanotechnology National Laboratory, Brazilian Center for Research in Energy and Materials, Campinas, Brazil

H2-04. Formation of A1 and L1$_1$ CoPt in CoPt/TiN films and the perpendicular magnetic coupling on glass substrate. H. An

1. Keio University, Yokohama, Japan


1. Faculty of Industrial Science and Technology, Tokyo University of Science, Katsushika, Japan; 2. The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 3. SPring-8, Japan Synchrotron Radiation Research Institute (JASRI), Sayo, Japan; 4. Tohoku University, Sendai, Japan; 5. Institute for Materials Research, Tohoku University, Sendai, Japan

H2-06. Controlled growth rate of Pt buffer layer promotes fcc (111) orientation of [CoFe/Pt], multilayers allowing to tailor its anisotropy field. L.E. Fernandez-Outon, W.G. Schmidt, A.M. Fortini, M.D. Martins and W. Macedo

1. Departamento de Fisica, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil; 2. Centro de Desenvolvimento da Tecnologia Nuclear, Belo Horizonte, Brazil

H2-07. Withdrawn

H2-08. Evolution of the interfacial perpendicular magnetic anisotropy constant of the Co2FeAl/MgO interface upon annealing. A. Conca, A. Niesen, G. Reiss and B. Hillebrands

1. Physics, TU Kaiserslautern, Kaiserslautern, Germany; 2. Physics Department, Bielefeld University, Bielefeld, Germany; 3. Center for Spintronic Materials and Devices, Physics Department, Bielefeld University, Bielefeld, Germany


1. Physics, Indian Institute of Technology, Chennai, India; 2. Jabalpur Engineering College, Jabalpur, India


1. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 2. The Center of Teacher Education, National Chung Hsing University, Taichung, Taiwan; 3. Nano Science, National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 4. Scientific Research Division, National Synchrotron Radiation Research Center, Hsinchu, Taiwan


1. IMDEA NANOSCIENCE, Madrid, Spain; 2. Institut Néel, CNRS, Grenoble, France; 3. Institut Néel, CNRS, Grenoble, France; 4. ALBA Synchrotron, Cerdanyola del Valles, Spain; 5. Universidad Complutense de Madrid, Madrid, Spain; 6. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain
Session H3
FRUSTRATED 1D MAGNETS, SPIN-LADDERS
AND S=1 CHAINS
(Poster Session)
Ursula Hansen, Chair
The Institute Laue Langevin, Grenoble, France


H3-02. Magnetic Behavior of Quasi-One-dimensional Frustrated Quantum spin systems (Rb,Cs)Cu3MoO12, Y. Yasui, S. Iguchi, S. Nakamura, Y. Kono, S. Kittaka and T. Sakakibara. 1. Physics, Meiji University, Kawasaki, Japan; 2. The Institute for Solid State Physics, The University of Tokyo, Chiba, Japan

H3-03. Magnetic Field Induced z=2 Quantum Phase Transitions in Spin Chain and Spin Ladder Compounds. D. Blosser, N. Kestin, K. Povarov, R. Bewley, E. Coira, T. Giamarchi and A. Zheludev. 1. Department of Quantum Matter Physics, University of Geneva, Geneva, Switzerland; 2. Laboratory for Solid State Physics, ETH Zurich, Zurich, Switzerland; 3. ISIS Facility, Rutherford Appleton Laboratory, Chilton, Didcot, United Kingdom

H3-04. Magnetism in the frustrated spin-chain compound Sr3NiIrO6 studied by muon-spin spectroscopy. J. Barker, D. Adroja, J. Sannigrahi, A. Hillier and E. Sampathkumaran. 1. Laboratory for muon-spin spectroscopy, Paul Scherrer Institut, Villigen-PSI, Switzerland; 2. ISIS neutron and muon facility, Rutherford Appleton Laboratory, STFC, Harwell Campus, Didcot, Oxfordshire, United Kingdom; 3. Tata Institute of Fundamental Research, Mumbai, India

H3-05. Ground States in an Anisotropic S=1/2 Ladder with Different Leg Interactions. T. Hikihara, T. Tonegawa, K. Okamoto, S. Furuya and T. Sakai. 1. Faculty of Science and Technology, Gunma University, Kiryu, Japan; 2. Kobe University, Kobe, Japan; 3. Department of Physical Science, Osaka Prefecture University, Sakai, Japan; 4. College of Engineering, Shibaura Institute of Technology, Saitama, Japan; 5. Condensed Matter Theory Laboratory, RIKEN, Wako, Japan; 6. Graduate School of Material Science, University of Hyogo, Ako, Japan


H3-07. Magnetism of the spin-1 tetramer compound Rb3Ni3MoO12, M. Hase, A. Matsuo, K. Kindo and M. Matsumoto. 1. Research Center for Advanced Measurement and Characterization, National Institute for Materials Science (NIMS), Tsukuba, Japan; 2. ISSP, The University of Tokyo, Kashiwa, Japan; 3. Shizuoka University, Shizuoka, Japan

H3-08. ESR Study of Spin Relaxation in Strong-leg Spin Ladder with Non-magnetic Doping, Y. Krasnikova, V. Glazkov, A. Ponomarev, S. Zvyagin, K. Povarov, S. Galeski, D. Schmidiger and A. Zheludev. 1. Laboratory for Condensed Matter Physics, National Research University “Higher School of Economics”, Moscow, Russian Federation; 2. P.L. Kapitza Institute for Physical Problems, Moscow, Russian Federation; 3. Dresden High Magnetic Field Laboratory (HLD-EMFL), Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 4. Laboratory for Solid State Physics, ETH Zurich, Zurich, Switzerland

H3-09. Revisiting of Sliding density wave in incommensurate spin-ladder Sr3Cu2MoO12, R. Bag and S. Singh. 1. Physics, Indian Institute of Science Education and Research, Pune, India

Session H4
HARD MAGNETIC FILMS
(Poster Session)
Benjamin Podmiljsak, Chair
Jozef Stefan Institute, Ljubljana, Slovenia

H4-01. Effect of Fe-B layer on Microstructure and Magnetic Properties of Exchange Coupled Nd-Fe-B/Co/Cu Nanocomposite Multilayer Films. K. Ohashi1, K. Koike1, T. Suzuki2, N. Inaba2, H. Kato3, M. Kondo3, M. Itakura3 and M. Nishida4 1. Graduate School of Science and Engineering, Yamagata University, Yonezawa, Japan; 2. Department of Electrical Engineering, Yamagata University, Yonezawa, Japan; 3. Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Kasuga, Japan

H4-02. Epitaxial Fe16N2 Thin Film on Nonmagnetic Seed Layer. X. Hang1, X. Zhang2, B. Ma2, V. Lauter3 and J. Wang4 1. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, United States; 2. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States; 3. NSDD, Oak Ridge National Laboratory, Oak Ridge, TN, United States

H4-03. Magnetic anisotropy of α″-Fe3N for potential rare earth free permanent magnet: Impurity doping and multilayer. I. Khan1 and J. Hong1 1. Physics, Pukyong National University, Busan, The Republic of Korea

H4-04. Clear evidence of interfacial anomalous Hall effect in epitaxial L1_0 FePt and FePd films. S. Xu1, Z. Shi1 and S. Zhou1 1. School of Physics, Tongji University, Shanghai, China


H4-06. Development of electroplated FePt thick magnetic films on silicon. Y. Wang1 and D.P. Arnold1 1. Electrical and Computer Engineering, University of Florida, Gainesville, FL, United States

H4-07. Microstructures and perpendicular magnetic properties of Co80Pt20/Ru/Ag multilayer films. S. Chen1,2, C. Wen1, S. Chen1, T. Chuang1 and P. Kuo1 1. Department of Materials Engineering and Center for Thin Film Technologies and Applications, Ming Chi University of Technology, Taipei 243, Taiwan; 2. Department of Electronic Engineering, Chang Gung University, Taoyuan 333, Taiwan; 3. Institute of Materials Science and Engineering, National Taiwan University, Taipei 106, Taiwan

H4-08. Effect of capping layer on formation and magnetic properties of MnBi thin films. P. Quartarman1,2, D. Zhang1, K. Schliep3, T. Peterson3, Y. Lv4 and J. Wang5 1. NIST Center for Neutron Research, Gaithersburg, MD, United States; 2. Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 3. NIST, Gaithersburg, MD, United States; 4. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States; 5. Electrical and Computer Engineering, School of Physics & Astronomy, Minneapolis, MN, United States

H4-09. Oriented Growth of Rare Earth Free Permanent Magnetic Thin Films. V. Bharadwaj1, S.P. Pal1 and R. Chatterjee1 1. Physics, Indian Institute of Technology Delhi, New-Delhi, India

H4-10. Magnetic Relaxation Process in Perpendicular Anisotropy Heterostructures. A. Lisfi1, S. Pokharel1, A. Davis1, S. Alomari1, A. Alqarni1, W. Morgan1 and M. Wuttig2 1. Physics, Morgan State University, Baltimore, MD, United States; 2. Materials Science and Engineering, University of Maryland, College Park, MD, United States
H5-04. Magnetic and transport properties of orthorhombic compounds $R\text{CoSn}_2$ ($R = \text{Ce and La}$). M. Kimura1, K. Wakiya1, T. Tomaki1, J. Gouchi2, Y. Uwatoko2, M. Uehara1 and I. Umehara1 1. Department of Physics, Faculty of Engineering, Yokohama National University, Yokohama, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan

H5-05. Ferromagnetic ground state in Ce$_2$Al$_2$Ge$_4$ with colossal magnetic anisotropy. S. Manni1, A. Thamizhavel1 and S.K. Dhar1 1. Condensed Matter Physics & Materials Science, Tata Institute of Fundamental Research, Mumbai, India

H5-06. Withdrawn

H5-07. Potential energy vs. kinetic energy in structural stability, ferromagnetism and magnetic anisotropy of f-d intermetallics. M. Matsumoto1 1. University of Tokyo, Institute for Solid State Physics, Kashiwa, Japan

H5-08. Field-induced phases in a heavy-fermion U(Ru$_{1-x}$Rh$_{x}$)$_2$Si$_2$ single crystal studied by high-field transport and magnetization measurements. K. Prokes1, T. Förster2, Y. Huang1 and J.A. Mydosh3 1. Helmholtz-Zentrum Berlin, Berlin, Germany; 2. Hochfeld-Magnetlabor Dresden, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 3. Van der Waals-Zeeman Institute, University of Amsterdam, Amsterdam, Netherlands; 4. Kamerlingh Onnes Laboratory, Leiden University, Leiden, Netherlands

H5-09. Pressure Effects on the Field-Induced Magnetic Phases in the Heavy-Fermion Compound CeAuSb$_2$. S. Seo1, S.M. Thomas1, F. Ronning1, E. Bauer1, J. Thompson1 and P. Rosa1 1. Condensed Matter and Magnet Science, Los Alamos National Laboratory, Los Alamos, NM, United States

H5-10. A possible explanation of meta-magnetic transition in CeRu$_2$Si$_2$ and magnetic behavior in Gd-poor (Ce-Gd)Ru$_2$Si$_2$. K. Yano1, Y. Amakai2, Y. Hara1, K. Sato3, E. Kita3, H. Takano2, T. Ohta5 and S. Murayama2 1. College of Science and Technology, Nihon University, Funabashi, Japan; 2. Muroran Institute of Technology, Muroran, Japan; 3. National Institute of Technology, Hitachinaka, Japan; 4. National Institute of Technology, Hitachinaka, Japan; 5. Quantum Design Japan, Tokyo, Japan

H5-11. High pressure electrical resistivity of ferromagnetic heavy fermion compound YbNi$_4$P$_2$. T. Muramatsu1, K. Klimet2, C. Krellner2 and S. Friedemann1 1. HH Wills Laboratory, University of Bristol, Bristol, United Kingdom; 2. Physics, Goethe-University Frankfurt, Frankfurt, Germany

TUESDAY MORNING

SAN FRANCISCO BALLROOM

Session H6

MAGNETOCALORIC MATERIALS IV (Poster Session)

Samir Kumar Giri, Chair
University of Cambridge, Cambridge, United Kingdom

H6-01. A comparative study of the magnetocaloric effect in MnFeP$\text{SiGeB}$ prepared by traditional sintering and spark plasma sintering. G. Wang1, B. Yang1, T. Jing2, Z. Zhao2, X. Zhang2 and Y. Liu1 1. Key laboratory of Integrated Exploitation of Bayan Obo Multi-Metal Resources, Inner Mongolia University of Science and Technology, Baotou, China; 2. School of Science, Inner Mongolia University of Science and Technology, Baotou, China

H6-02. Optimization of A Magnetic Heating Air-Conditioning & Refrigeration (HACR) Prototype for Experimental Purposes. B. Huang1, D. Zeng2, N. van Djik1 and E. Brück1 1. Faculty of Applied Sciences, Delft University of Technology, Delft, Netherlands; 2. School of Materials Science and Engineering, South China University of Technology, Guangzhou, China

H6-03. Table like Magnetocaloric Effect in Ho$_x$Co$_{16}$Al$_{18}$ Multiphase Alloy. E. Balfour3, H. Fu1, R.L. Hadimani2 and A.A. El-Gendy3 1. Physics, University of Texas at El Paso, El Paso, TX, United States; 2. Department of Electrical and Computer Engineering, Texas A&M University, College Station, TX, United States; 3. School of Materials and Nuclear engineering, Virginia Commonwealth University, Richmond, VA, United States

H6-04. Additive manufacturing of Gd$_2$Si$_2$ under magnetic field. S.M. Harstad1, K. Al Milaji1, A.A. El-Gendy2, S. Gupta1, V. Pecharsky1, H. Zhao1 and R.L. Hadimani1 1. Mechanical and Nuclear engineering, Virginia Commonwealth University, Richmond, VA, United States; 2. Physics, University of Texas at El Paso, El Paso, TX, United States; 3. Division of Materials Science and Engineering, Ames Laboratory, US Department of Energy, Ames, IA, United States; 4. Department of Materials Science and Engineering, Iowa State University, Ames, IA, United States

H6-05. Effect of rare-earth ($R = \text{Pr, Gd, Ho, Er}$) doping on the Magnetostructural phase transitions and Magnetocaloric properties in Ni$_{1+x}$R$_{1-x}$Mn$_{18}$Sn$_{11}$ shape memory alloys. A. Aryal3, S. Pandey2, I. Dubenko3, S. Stadler4 and N. Ali5 1. Physics, Southern Illinois University, Carbondale, USA; 2. Physics, Southern Illinois University Carbondale, Carbondale, IL, United States; 3. Physics, Southern Illinois University Carbondale, IL, United States; 4. Physics and Astronomy, Louisiana State University, Baton Rouge, LA, United States; 5. Physics, Southern Illinois University, Carbondale, IL, United States
H6-06. Theoretical investigation of magnetocaloric and magnetoresistance on PrNi$_5$ compound. B.D. Alho$^1$, P.D. Alho$^1$, V.G. de Paula$^2$, E.P. Nóbrega$^1$ and P. von Ranke$^1$
1. Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil

H6-07. Magnetostructural Phase Transitions and Magnetocaloric properties in Ag doped Mn$_x$AgCoGe compounds. A. Aryal$^1$, S. Pandey$^1$, I. Dubenko$^1$, S. Stadler$^2$ and N. Ali$^1$. 1. Physics, Southern Illinois University, Carbondale, IL, United States; 2. Physics and Astronomy, Louisiana State University, Baton Rouge, LA, United States

H6-08. Powdering and Sintering effect on The Magnetocaloric Properties of MnNi5-based Compounds. H. Zhang$^1$, I. Hidayah$^1$, Q. Lu$^1$, Y. Ming$^1$ and W. Liu$^1$. 1. Beijing University of Technology, Beijing, China

TUESDAY SAN FRANCISCO BALLROOM
10:00

Session H7
ORDERED PHASES IN SCES II: MAGNETISM AND OTHER
(Poster Session)
Paul Steffens, Chair
Institut Laue Langevin, Grenoble, France

H7-01. Onset of magnetic vortex state in CeGe compound: A dc and ac susceptibility, resistivity and heat capacity study. K. Singh$^1$ and K. Mukherjee$^1$. 1. School of Basic Science, Indian Institute of Technology, Mandi, Mandi, India

H7-02. Novel ferromagnetic Peierls insulators $A$Mg$_4$Mn$_6$O$_{15}$ ($A$ = K, Rb, Cs). T. Yamaguchi$^1$, K. Sugimoto$^2$, Y. Ohta$^1$, Y. Tanaka$^3$ and H. Sato$^1$. 1. Department of Physics, Chiba University, Chiba 263-8522, Japan; 2. Center for Frontier Science, Chiba University, Chiba 263-8522, Japan; 3. Department of Physics, Chuo University, Tokyo 112-8551, Japan

H7-03. Exciton condensation in excitonic insulators investigated by NMR. S. Li$^1$, S. Kawai$^2$, Y. Yamamoto$^1$, Y. Kobayashi$^1$ and M. Itoh$^1$. 1. Department of Physics, Nagoya University, Nagoya, Japan

H7-04. Thermal properties of the single crystal TrTe$_3$ (Tr = transition metal). S. Watanabe$^1$, K. Kondo$^1$, N. Kase$^1$ and N. Miyakawa$^1$. 1. Dept. of Applied Physics, Tokyo University of Science, Katsushika, Japan

H7-05. The origin of charge density wave and superconductivity in Lu$_x$P$_2$In ($P$ = Pd, Pt). H. Kim$^1$, B. Min$^2$ and K. Kim$^1$. 1. Physics, POSTECH, Pohang, The Republic of Korea; 2. POSTECH, Pohang, The Republic of Korea; 3. Max Planck Institute POSTECH/Korea, Pohang, The Republic of Korea

H7-06. Impact of the Al-doping on the ferromagnetic response of epitaxial TbMn$_{0.9}$Al$_{0.1}$O$_3$ thin films. O. Morán$^{1,3}$, J.L. Izquierdo$^2$, A. Astudillo$^3$, J. Martinez$^3$ and G. Bolaños$^3$. 1. National University of Colombia, Medellín, Colombia; 2. Institucion Universitaria Pascual Bravo, Medellín, Colombia; 3. Universidad del Cauca, Popayan, Colombia

H7-07. Schottky specific heat of the lightly Mn-substituted electron-doped SrTiO$_3$. T. Okuda$^{1,2}$, R. Kajimoto$^3$, M. Noda$^4$ and H. Kuwahara$^4$. 1. Graduate School of Science and Engineering, Kagoshima University, Kagoshima, Japan; 2. JST-CREST, Tokyo, Japan; 3. J-PARC Center, Ibaraki, Japan; 4. Physics, Sophia University, Chiyoda-ku, Japan

H7-08. Withdrawn

H7-09. Withdrawn

H7-10. Phase separation in Bi doped La$_{67}$Sr$_{33}$MnO$_3$. A. Subramanian$^1$ and N. Kambhala$^1$. 1. Centre for Nano and Soft Matter Sciences, Bangalore, India

H7-11. Superconductivity in Bi/Ni bilayer system: clear role of superconducting phases found at Ni/Bi interface. L. Liu$^{2,1}$, Y. Xing$^3$, D.F. Franceschini$^3$, I.G. solórzano$^2$ and E.B. Saitovitch$^1$. 1. CONAM, Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil; 2. DEQM, Pontifícia Universidade Católica do Rio de Janeiro, Rio de Janeiro, Brazil; 3. Instituto de Física, Universidade Federal Fluminense, Niterói, Brazil

TUESDAY SAN FRANCISCO BALLROOM
MORNING
H8-04. Low-temperature and high-magnetic-field ESR study of honeycomb-lattice quantum magnet α-RuCl₃. N. Kurita¹, R. Takeda¹, H. Nojiri¹ and H. Tanaka¹ 1. Tokyo Institute of Technology, Meguro-ku, Japan; 2. Institute for Materials Research, Tohoku University, Sendai-shi, Japan

H8-05. Topological Clustering in Frustrated Magnets. T. Mizoguchi¹,², L. Jaubert¹ and M. Udagawa¹ 1. Graduate School of Pure and Applied Science, University of Tsukuba, Tsukuba, Japan; 2. CNRS, University of Bordeaux, Bordeaux, France; 3. Department of Physics, Gakushuin University, Toshima-ku, Japan

H8-06. Withdrawn

H8-07. Importance of virtual singlets in RVB theory of quantum spin liquids. A. Ralko¹, F. Mila² and I. Rousochatzakis³ 1. Institut Néel CNRS, Grenoble, France; 2. EPFL, Lausanne, Switzerland; 3. University of Minnesota, Minneapolis, MN, United States

TUESDAY MORNING

SAN FRANCISCO BALLROOM

10:00

Session H9

SOFT MAGNETIC MATERIALS AND MAGNETIC SHIELDING III
(Poster Session)

Young Rang Uhm, Chair

Korea Atomic Energy Research Institute, Daejeon, The Republic of Korea

H9-01. Effects of thickness and thermal annealing of Fe₈₀Co₂₀B₄₀ thin films on ferromagnetic resonance and microwave propagation properties. A. Arteaga-Duran¹, R. Sáenz-Hernandez¹, C. Santillan-Rodriguez³, M. Botello-Zubiate¹, M.C. Grijalva Castillo¹ and J. Matutes-Aquino¹ 1. Physics, University of Basque Country, San Sebastian, Spain; 2. Dept. Phys., University of Basque Country, San Sebastian, Spain; 3. Dpto. Física Aplicada, University of Basque Country, San Sebastian, Spain

H9-02. Accurate Current Measurements of a High Frequency GaN Inverter for Magnetic Characteristic Evaluation. W. Martinez¹,² 1. KU Leuven, Diepenbeek, Belgium


H9-05. Numerical analysis of deformation in multi-layered magnetite small-scale sheets under magnetic field. D. Zhang¹, W. Guan¹ and M. Yang¹ 1. School of Electrical Engineering, Wuhan University, Wuhan, China

H9-06. Nanostructure evolution of co-evaporated FeNi-SiOₓ magnetic nanoparticle film prepared under high magnetic field. G. Li¹, Y. Ma¹, S. Liu¹, L. Chang¹ and Q. Wang¹ 1. Key Laboratory of Electromagnetic Processing of Materials (Ministry of Education), Northeastern University, Shenyang, China

H9-07. Preparation and characterization of Fe-based amorphous soft magnetic flakes for high performance magnetodielectric inductors. K. Qian¹, Q. Li¹, C. Yu¹, A.S. Sokolov¹ and V.G. Harris¹ 1. Electrical and Computer Engineering, Northeastern University, Boston, MA, United States

H9-08. Unusual influence of a heating rate on soft magnetic properties of Fe₈ₓSi₃ₓB₁₄₋₄ₓP₁₁₁₋₄ₓCₓ nano-crystalline alloy. Y. Zhang¹, L. Jiang¹, T. Suzuki¹, X. Tong¹ and A. Makino¹ 1. Tohoku University, Sendai, Japan

H9-09. Synthesis and Structural Characterization of Sr₉₋ₓSmₓFe₁₂O₃₅ produced by the Proteic Sol-gel Process. M.P. Buzinaro¹,², N.D. Ferreira¹, M.A. Macedo¹ and P.H. Buzinaro¹ 1. Physics, Federal University of Sergipe, Sao Cristovao, Brazil; 2. COELT, Federal Institute of Education, Science and Technology of Sergipe, Aracajú, Brazil; 3. Mechanical Engineering, Faculty of Industrial Engineering of São Bernardo do Campo, São Bernardo do Campo, Brazil

H9-10. Tunability of magnetostatic and magnetodynamic properties of Fe-Si-B amorphous microwires by stress release. I. Baraban¹, A. Litvinova¹ and V. Rodionova¹ 1. Laboratory of Novel Magnetic Materials, Immanuel Kant Baltic Federal University, Kaliningrad, Russian Federation; 2. National University of Science and Technology «MISIS», Leninsky Prospect 4, Moscow, Russian Federation

H9-11. Unusually inverted and conventional volume hysteresis loops and its crossover behavior in Fe₇₃₅₋ₓCrₓCuₓNbₓSi₁₃ₓB₄₀. A. Rosales Rivera¹, I.G. Cely-Orjuela¹, A. Velázquez-Salazar¹, J. López-Tabares¹, N. Salazar-Henao¹ and F. Saccone¹ 1. Laboratorio de Magnetismo y Materiales Avanzados, Universidad Nacional de Colombia, Sede Manizales, Manizales, Colombia; 2. Departamento de Física, Facultad de Ingeniería, Universidad de Buenos Aires, Buenos Aires, Argentina
H10-01. Nonreciprocal electrical transport on chiral magnetic order.
R. Aoki1 and Y. Togawa1 1. Department of Engineering Physics and Electronics, Osaka Prefecture University, Sakai, Japan; 2. Department of Engineering Physics and Electronics, Osaka Prefecture University, Sakai, Japan

H10-02. Effect of dc current on the magnetoresistance of ferrimagnetic insulator/normal metal bilayers. Y. Chen2, D. Roy1, E. Cogulu1, H. Chang1, M. Wu1 and A.D. Kent2 1. Department of Physics, Colorado State University, Fort Collins, CO, United States; 2. Center for Quantum Phenomena, Department of Physics, New York University, New York City, NY, United States

H10-03. Determination of the Néel temperature by the spin Hall magnetoresistance. T. Ino1, T. Moriyama1, H. Aono1, Y. Shiratsuchi2 and T. Ono2 1. Department of Chemistry, Kyoto University, Kyoto, Japan; 2. Institute for Chemical Research, Kyoto University, Uji, Japan

H10-04. Efficiency of unidirectional spin Hall magnetoresistance and spin-orbit torques in Pt/Co and Ta/Co multilayer systems. A. Moskaltssova1, J. Krieft1, T. Peters1, S. Francoual2, D. Meier1, J. Schmalhorst1, T. Kaschel1 and G. Reiss1 1. Center for Spin Electronics, University of Bielefeld, Bielefeld, Germany; 2. Photon Science, Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany

H10-05. Annealing Temperature Effects on Spin Hall Magnetoresistance in Perpendicularly Magnetized W/CoFeB Bilayers. T. Peterson1, P. Sahu1, D. Zhang1, D. Mahendra1 and J. Wang2 1. Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 2. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States

H10-06. Room Temperature Large Magnetoresistance Effect based on Avalanche Breakdown in Ag/SiO2/Sl-p-Si Schottky junction. X. He1, Z. Sun1 and J. He1 1. State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan, China; 2. Division of Functional Material Research, Central Iron and Steel Research Institute, Beijing, China

H10-07. AC Excited Spin Hall Magnetoresistance Sensor with Extremely Simple Structure and Zero DC Offset. Y. Xu1, Y. Yang1, M. Zhang1, Z. Luo1 and Y. Wu1 1. Electrical & Computing Engineering, National University of Singapore, Singapore, Singapore

H10-08. Low temperature divergence in the AHE and AMR of ultra-thin Pt/Co/Pt trilayers. E. Zion1 1. Physics, Bar Ilan University, Tel Aviv, Israel

H11-01. Roles of PtMn in spin-orbit torque switching in PtMn/[Co/Pt]. M. Yang1, P. Lin1, B. Yang1, Y. Du1 and C. Lai1 1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan

H11-02. Determination of damping and spin mixing conductance in highly Bi-doped Cu/YIG thin films. S. Ruiz-Gomez1, M. Muñoz2, R. Guerrero3, M. Amado4, J. Robinson4, A. Mascaraque1 and L. Perez1 1. Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. Instituto de Micro y Nanotecnología (CNM-CSIC), Madrid, Spain; 3. nanomagnetism, IMDEA-nanoscience, Madrid, Spain; 4. Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom

H11-03. Spin torque efficiency in Pt/Co bilayers estimated from spin torque ferromagnetic resonance. Y. Du1, S. Karube1,2, M. Kohda1,2 and J. Nitta1,2 1. Department of Materials Science, Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network, Tohoku University, Sendai, Japan

H11-04. Inverse Spin Hall Effect and Magnetization Switching in Topological Dirac Semimetals. T. Misawa1 and K. Nomura2 1. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 2. Tohoku University, Institute for Materials Research, Sendai, Japan

H11-05. Withdrawn

H11-06. Non-local dipole effects on spin density waves in planar ferromagnets. P. Sprenger1, M. Hoefer2 and E. Iacocca1 1. University of Colorado Boulder, Boulder, CO, United States; 2. Applied Mathematics, University of Colorado at Boulder, Boulder, CO, United States
H11-07. Determination of Spin Hall Effect and Spin Diffusion Length of Pt by Enforcement of Onsager Reciprocity in the Fitting of Damping and Inverse Spin-Orbit Torque. T. Silva1, A.J. Berger1, E. Edwards1, H. Nembach1, O. Karis2 and M. Weiler1 1. NIST, Boulder, CO, United States; 2. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 3. Physics Department, Technical University of Munich, Garching, Germany

H11-08. Quantifying the spin Hall angle and spin diffusion length in niobium from spin-pumping-induced inverse spin-Hall effect. K. Jeon1,2, C. Ciecerelli1, H. Kurebayashi1, J. Wunderlich1, L.F. Cohen1, S. Komori1, J. Robinson1 and M. Blamire1 1. Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 2. Physics, University of Cambridge, Cambridge, United Kingdom; 3. London Centre for Nanotechnology and Department of Electronic and Electrical Engineering, University of College London, London, United Kingdom; 4. Hitachi Cambridge Laboratory, Institute of Physics ASCR, Cambridge / Prague, United Kingdom; 5. The Blackett Laboratory, Imperial College London, London, United Kingdom

H11-09. Anomalous Behavior of Field-like Torque in Metallic Trilayers: Theory and Experiment. L. Karvacki1,2, W. Skowronski1, S. Zietek1, J. Kanal1, J. Checinski1,3, P. Kuswik1, F. Stobiect2, J. Barnas2,2 and T. Stobiect1,3 1. Department of Electronics, AGH University of Science and Technology, Krakow, Poland; 2. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland; 3. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland; 4. Faculty of Physics, Adam Mickiewicz University, Poznan, Poland

H11-10. First Principle Study of Angular and Thickness Dependence of Spin-Orbit Torque in Pt/Co and Pd/Co Bilayer Systems. F. Mahfouzi1 and N. Kioussis1 1. Physics and Astronomy, California State University, Northridge, Northridge, CA, United States; 2. Physics, California State University Northridge, Northridge, CA, United States

H11-11. Fast and Energy-effective STT Switching in MTJs with Assistance of SOT. S. Pathak1, J. Cha1, C. Yoon1 and J. Hong1 1. Materials Science and Engineering, Yonsei University, Seoul, South Korea, Seoul, The Republic of Korea; 2. Computer Science, Yonsei University, Seoul, The Republic of Korea

H11-12. Spin-Orbit Torques in Fe Pt_, Alloys and Fe/Pt Multilayer Heterostructures. Y. Oue1, R.C. Tapping2, D. Ralph1 and R. Buhrman1 1. Applied & Engineering Physics, Cornell University, Ithaca, NY, United States; 2. Physics, Cornell University, Ithaca, NY, United States

H11-13. Spin Transport and Spin-to-charge Current Conversion in Bi2Se3/Au Heterostructure. Y. Fanchiang1, C. Tseng2, Y. Liu1, C. Chen1, J. Lin1, S. Lee1, M. Hong1 and J. Kwo1 1. Department of Physics, National Taiwan University, Taipei, Taiwan; 2. Department of Physics, National Tsing Hua University, Hsinchu, Taiwan; 3. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan; 4. Institute of Physics, Academia Sinica, Taipei, Taiwan

TUESDAY MORNING
10:00

Session H12
SPIN-ORBIT, KONDO & HEAVY FERMION MAGNETISM (Poster Session)
Stephen Julian, Chair
University of Toronto, Toronto, ON, Canada

H12-01. Magnetic characteristics of RPd_Si_x (R = Rare earth). K. Uchima1, Y. Uwatok2 and T. Shigek1a 1. General Education, Okinawa Christian Junior College, Nishihara, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 3. Physics, Yamaguchi University, Yamaguchi, Japan

H12-02. Magnetic Structure of a Non-Centrosymmetric CePtSi3. D. Ueta1, M. Yoshida1, Y. Ikeda2, H. Yoshizawa1, M. Liu1 and T. Hong1 1. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States

H12-03. Signature of a Griffiths phase in layered canted antiferromagnet Sr2IrO4. A. Raihi1,2, P. Rout1, S. Perween1,2, R. Singh1, A. Gupta1,2, R. Pant1,2 and G. Basheed1,2 1. CSR-National Physical Laboratory (NPL), New Delhi, India, New Delhi, India; 2. CSR-National Physical Laboratory (NPL) Campus, New Delhi - 110012, India, New Delhi, India; 3. CSR-National Physical Laboratory, New Delhi, India; 4. Indian Institute of Science Education and Research (IISER), Bhopal - 462023, India, Bhopal, India

H12-04. Phase Diagram for the SU(2) Kondo Lattice Model. M. Abele1 and P.S. Riechborow1 1. Physics, Temple University, Downingtown, PA, United States

H12-05. Transitions from a Kondo-like Insulator into a Modulated Ferromagnetic Metal in FeGa3-. Y. Zhang1, Y. Ou2, D. Ralph2 and A.J. Berger1 1. Physics, California State University Northridge, Northridge, CA, United States; 2. Physics, California State University Northridge, Northridge, CA, United States

H12-06. Magnetic Structure and Transition of GdNiSi3. F. Arantes2, C.W. Galdino1, U.F. Kaneko3, M.D. Avila2 and D. Ralph2 1. Physics and Astronomy, The University of Queensland, Brisbane, Australia; 2. Centro de Ciências Naturais e Humanas, UFABC, Santo Andre, Brazil; 3. Brazilian Synchrotron Light Laboratory (LNLS), CNPEM, Campinas, Brazil

H12-07. Designing new magnetic materials in Ti3Co5B2 structure-type borides. P. Shankhari1 and B.P. Fokwa2 1. Chemistry, University of California, Riverside, Riverside, CA, United States; 2. Chemistry, University of California, Riverside, Riverside, CA, United States
Session H13
SUPERCONDUCTING SCES II: HEAVY FERMION SUPERCONDUCTORS
(Poster Session)

Onur Erten, Chair
Arizona State University, Tempe, AZ, United States

H13-01. Ferromagnetic fluctuations and Superconductivity of UCoGe under Pressure. M. Manago¹, S. Kitagawa¹, K. Ishida¹, K. Deguchi², N. Sato³ and T. Yamamura² ¹ Department of Physics, Graduate School of Science, Kyoto University, Kyoto, Japan; ² Department of Physics, Graduate School of Science, Nagoya University, Nagoya, Japan; ³ Institute for Materials Research, Tohoku University, Sendai, Japan

H13-02. ⁷³Ge-NQR studies of ferromagnetic superconductor UGe₂ under pressure. Y. Noma¹, H. Kotegawa¹, T. Kubo¹, H. Tou¹, H. Harima¹, Y. Haga², E. Yamamoto², Y. Onuki², K. Itoh³, E. Haller¹, A. Nakamura¹, Y. Homma¹, F. Honda¹ and D. Aoki¹ ¹ Kobe University, Kobe, Japan; ² Japan Atomic Energy Agency, Tokai, Japan; ³ University of the Ryukyus, Nishihara, Japan

H13-03. Development of a Low Temperature Magneto-Optic Kerr Microscope to Probe Ferromagnetic Superconductors. C. Clark¹ and A. Huxley¹ ¹ Physics, University of Edinburgh, Edinburgh, United Kingdom

H13-04. Effect of atomic disorder on superconductivity of Ca₅Rh₅Sn₁₁. A. Slebarski¹, M.M. Maska¹, P. Zajdel¹, M. Fijalkowski¹ and J. Goraus¹ ¹ Institute of Physics, University of Silesia, Katowice, Poland

H13-05. Magnetic response in multiple superconducting phases of U₁₋ₓThₓBe₁₃. K. Maruö¹ ¹ Materials Engineering Science, Osaka University, Toyonaka, Japan

H13-06. ⁹Be NMR Study of Magnetic Structure in Single Crystalline SmBe₁₉. H. Hidaka¹, Y. Ibara¹, S. Yamazaki¹, N. Miura¹, T. Yanagisawa¹ and H. Amitsuka¹ ¹ Department of Physics, Hokkaido University, Sapporo, Japan

H13-07. Magnetic structures of CePdAl₂ and CePtAl₂. P. Cermák¹,²,³, S. Weber¹, A. Schneidewind¹, P. Javorsky¹ and C. Pfleiderer² ¹ Department of Condensed Matter Physics, Charles University in Prague, Prague, Czechia; ² Technical University of Munich, Garching, Germany; ³ JCNS, Forschungszentrum Julich, Julich, Germany

H13-08. Thermal Analysis of the Specific Heat of Pr₁₋ₓNdₓOs₄Sb₁₂. S. Hishida¹, J. Velasquez¹, T. McCullough-Hunter¹, P. Ho¹, M.B. Maple² and T. Yanagisawa² ¹ Physics, California State University, Fresno, Fresno, CA, United States; ² Department of Physics, Hokkaido University, Sapporo, Japan; ³ Physics, University of California, San Diego, La Jolla, CA, United States

H13-09. Investigation of Broken Time Reversal Symmetry in the Pr-rich side of Pr₁₋ₓNdₓOs₄Sb₁₂. P. Ho¹, D.E. MacLaughlin², M.B. Maple³, L. Shu⁴, A. Hillier⁵, O. Bernal¹, T. Yanagisawa⁶, P. Biswas⁶, J. Zhang⁴, C. Tan⁴, S. Hishida¹ and T. McCullough-Hunter¹ ¹ Physics, California State University, Fresno, CA, United States; ² Physics, University of California, Riverside, Riverside, CA, United States; ³ Physics, University of California, San Diego, La Jolla, CA, United States; ⁴ Physics, Fudan University, Shanghai, China; ⁵ ISIS Neutron and Muon Sources, Science & Technology Facilities Council, Harwell, United Kingdom; ⁶ Physics, Hokkaido University, Sapporo, Japan

H13-10. Superconductivity in a Multiorbital Model for the Γ₁ Crystalline Electric Field State. K. Kubo¹ ¹ Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan

H13-11. Withdrawn
H14-04. Variational cluster approach to the excitonic condensation and superconductivity. R. Fujitachi¹, K. Sugimoto² and Y. Ohta³. 1. Department of Physics, Chiba University, Chiba, Japan; 2. Center for Frontier Science, Chiba University, Chiba, Japan; 3. Physics, Chiba University, Chiba, Japan

H14-05. On the enhancement of conventional superconductivity by a controlled incorporation of non-magnetic defects in some classes of crystalline solids. D.A. Chaves¹ and M. ElMassalami². 1. Fisics dos Solidos, Instituto de Fisica, Rio de Janeiro, Brazil

H14-06. Enhancement of the superconducting $T_c$ in doped SnTe possibly due to the negative-U mechanism. M. Kriener¹, M. Kamitani¹, T. Koretsune¹,2, R. Arita¹, Y. Taguchi¹ and Y. Tokura¹,3. 1. RIKEN - Center for Emergent Matter Science (CEMS), Wako-shi, Japan; 2. Department of Physics, Tohoku University, Sendai, Japan; 3. Department of Applied Physics and Quantum-Phase Electronics Center (QPEC), University of Tokyo, Tokyo, Japan

H14-07. Revisit CuCl. L. Deng¹, Z. Wu¹, S. Huyan¹, S. Yoshizumi³, S. Spagna² and P. Chu¹,². 1. Texas Center for Superconductivity at the University of Houston, Houston, TX, United States; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Quantum Design, Inc., San Diego, CA, United States

H14-08. Spin-Orbit-Coupled Ferroelectric Superconductivity. S. Kanasugi¹ and Y. Yanase¹. 1. Physics, Kyoto University, Kyoto, Japan

H14-09. Unconventional Superconductivity and Interplay between Superconductivity and Magnetism in 2-Dimensional Electron Gases at SrTiO$_3$ Capped LaAlO$_3$/SrTiO$_3$ (100). Y. Kwak¹, W. Han², J. Kim³ and J. Song¹. 1. Physics, Chungnam National University, Daejeon, The Republic of Korea; 2. Korea Research Institute of Standards and Science, Daejeon, The Republic of Korea

H14-02. Lattice Vibrations in the Neutron Scattering by Ferromagnetic Metals. G.V. Paradezhenko¹, N.B. Melnikov¹ and B.I. Reser². 1. Lomonosov Moscow State University, Moscow, Russian Federation; 2. Mikheev Institute of Metal Physics UB of RAS, Ekaterinburg, Russian Federation

H14-03. Short-Range Order in Metals Above the Curie Temperature. N.B. Melnikov¹, B.I. Reser² and G.V. Paradezhenko¹. 1. Lomonosov Moscow State University, Moscow, Russian Federation; 2. Mikheev Institute of Metal Physics UB of RAS, Ekaterinburg, Russian Federation

H14-04. Non-monotonic dependence of concentration on magnetic properties of Ni$_x$Mn$_{1-x}$Z$_z$ (Z = In, Sn, Sb) Heusler alloys: a local atomic configuration approach. K. Zaleski¹, M. Ekholm², B. Alling², I. Abrikosov² and J. Dubowik³. 1. NanoBioMedical Centre, Adam Mickiewicz University, Poznan, Poland; 2. Department of Physics, Chemistry and Biology, Linköping University, Linköping, Sweden; 3. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland

H14-05. Giant barocaloric effect and Maxwell relation in spin-crossover system: application in [Fe(pzdt)$_2$](PF$_6$)$_2$, P.D. Alho¹, B.D. Alho¹ and P. von Ranke¹. 1. Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil

H14-06. Field evolution of topological sectors in a finite Dzyaloshinskii-Moriya antiferromagnetic chain. J. Chovan¹,² and D. Legut¹. 1. IT4Innovations National Supercomputing Center VŠB - Technical University, Ostrava, Czechia; 2. Department of Physics, Matej Bel University, Banská Bystrica, Slovakia

H14-07. Ground-State Properties of Spin-1/2 Heisenberg Antiferromagnets with Frustration on the Diamond-Like-Decorated Square and Triangular Lattices. Y. Hirose¹, S. Miura¹, C. Yasuda² and Y. Fukumoto¹. 1. Tokyo University of Science, Noda, Japan; 2. University of the Ryukyus, Nishihara, Japan

H14-08. Engineering Surface Critical Behavior of (2+1)-Dimensional O(3) Quantum Critical Points. C. Ding¹, L. Zhang² and W. Guo². 1. School of Science and Engineering of Mathematics and Physics, Anhui University of Technology, Maanshan, Anhui 243002, China, Maanshan, China; 2. Kavli Institute for Theoretical Sciences and CAS Center for Excellence in Topological Quantum Computation, University of Chinese Academy of Sciences, Beijing, China; 3. Physics Department, Beijing Normal University, Beijing, China

H14-09. General method for atomistic spin-lattice dynamics with first principles accuracy. J. Hellsvik¹,², D. Thonig³, K. Modin¹,², D. Isan¹, A. Bergman¹, O. Eriksson¹, L. Bergqvist¹ and A. Delin². 1. Nordita, Stockholm, Sweden; 2. KTH Royal Institute of Technology, Stockholm, Sweden; 3. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 4. Chalmers University of Technology, Gothenburg, Sweden; 5. University of Gothenburg, Gothenburg, Sweden; 6. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 7. Physics and Astronomy, Uppsala University, Uppsala, Sweden; 8. Materials and Nano Physics, KTH Royal Institute of Technology, Kista, Sweden

TUESDAY MORNING

10:00

**Session H15**

**THEORY AND SIMULATION OF MAGNETIC SYSTEMS I**

*(Poster Session)*

Thomas Ostler, Chair

The University of Exeter, Sheffield, United Kingdom

H15-01. Generalised spin-wave simulations by SpinW and developments for the European Spallation Neutron Source. S. Ward¹ and S. Toth¹. 1. Paul Scherrer Institut, Villigen PSI, Switzerland; 2. European Spallation Neutron Source, Copenhagen, Denmark
Session H16
ULTRAFAST MAGNETISM AND THZ SPINTRONICS I
(Poster Session)
Alex Reid, Chair
SLAC National Accelerator Laboratory, Menlo Park, CA, United States

H16-01. Ultrafast Magnetization Dynamics of (Gd,Tb)Co alloys exhibiting Helicity-Independent All-Optical Switching.
A. Ceballos1, A. Pattabi2, C. Simon1, J. Bokor2 and F. Hellman1
1. UC Berkeley, Berkeley, CA, United States; 2. EECS Dept., University of California, Berkeley, CA, United States

H16-02. Crystal Growth and Spin Reorientation Transition of Sm$_n$Er$_{1-n}$FeO$_3$ Orthoferrite.
A. Wu1. Shanghai Institute of Ceramics, CAS, Shanghai, China

H16-03. Reversal time of jump-noise driven magnetization dynamics in nanomagnets via Monte Carlo simulations.
A. Parthasarathy1 and S. Rakheja1. I. Electrical and Computer Engineering, New York University, Brooklyn, NY, United States

H16-04. Correlating EUV TMOKE and ARPES Measurements to Understand the Temporal and Spatial Length Scales Underlying Ultrafast Demagnetization in Nickel.
P. Tengdin1, W. You1, C. Chen1, X. Shi1, D. Zustin1, Y. Zhang1, C. Gentry1, A. Blonsky1, M. Keller1, P.M. Oppeneer1, H. Kapteyn1, Z. Tao1 and M. Murnane1. JILA, University of Colorado Boulder, Boulder, CO, United States; 2. NIST, Boulder, CO, United States; 3. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden

H16-05. Withdrawn

K.H. Prabhakara1, C.S. Davies1, M.D. Davydova3, K. Zvezdin2, T.B. Shapavaev3, S. Wang4, A. Zvezdin3, A. Kirilyuk1, T. Rasing1 and A. Kimel1
1. Institute for Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands; 2. Moscow Institute of Physics and Technology (State University), Moscow, Russian Federation; 3. A. M. Prokhorov General Physics Institute, Moscow, Russian Federation; 4. Moscow State University, Moscow, Russian Federation; 5. Jilin University, Guangzhou, China; 6. Moscow Technological University, Moscow, Russian Federation

H16-07. Lattice dynamics in the helical phase of Dy epitaxial films.
K. Dumesnil1, A. von Reppert2, J. Pudell2, A. Koc1, M. Reinhardt2, W. Leitenberger2, F. Zamponi2 and M. Bargheer1
1. Institut Jean Lamour, CNRS/Université de Lorraine, Nancy, France; 2. Institute of Physics and Astronomy, University of Potsdam, Potsdam, Germany; 3. Helmholtz Zentrum Berlin, Berlin, Germany

H16-08. All-Optical Observation of Coherent Magneto-Phonon Polariton Dynamics.
C. Berk1, M. Jaris1, W. Yang1, S. Dhuey2, S. Cabrini1 and H. Schmidt1. UC Santa Cruz, Santa Cruz, CA, United States; 2. Molecular Foundry at Berkeley, Berkeley, CA, United States

H16-09. Rapid magnon coalescence after ultrafast optical pumping of ferrimagnetic alloys.
E. Iacocca1,2, A. Kirilyuk3, A. Kimel4, T. Rasing1, J. Stohr1, M. Hoefer1, R. Chantrell8, T. Silva2 and H. Dürr10

H16-10. Ab initio microscopic theory of phonon-magnon interactions.
P. Maldonado1 and Y. Kvashnin1
1. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden

H16-11. Spin dynamics induced by ultrashort far- and mid-infrared pulses in InMnAs.
A. Kimel1, A. Salewski1, E. Mashkovich1, A. Pogrebna1, K. Grishunin1, R. Mikhaylovskiy2, P. Christianen3, H. Munekata4 and T. Rasing5
1. Radboud University, Nijmegen, Netherlands; 2. Spectroscopy of Solids and Interfaces, Radboud University Nijmegen, Nijmegen, Netherlands; 3. High Field Magnetic Laboratory, Radboud University, Nijmegen, Netherlands; 4. Tokyo Institute of Technology, Yokohama, Japan; 5. Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands

TUESDAY MORNING
10:00

Session I1
PLENARY I: SPIN-ORBIT TORQUES: DISCOVERIES, ADVANCES AND POSSIBILITIES
Allan MacDonald, Chair
University of Texas at Austin, Austin, TX, United States

(Invited) R. Buhrman1. Applied Physics, Cornell University, Ithaca, NY, United States
Session J1

COMPUTING WITH SPINTRONIC DEVICES

Chih-Huang Lai, Chair
National Tsing Hua University, HsinChu, Taiwan

1:30

J1-01. Heusler Alloy/III-V Semiconductor Lateral Spin Valves. (Invited) T.A. Peterson¹, C. Liu¹, S. Patel¹, A.P. McFadden¹, C.J. Palmstrom¹ and P.A. Crowell¹. 1. Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 2. Electrical and Computer Engineering, University of California, Santa Barbara, Santa Barbara, CA, United States; 3. Materials, University of California, Santa Barbara, Santa Barbara, CA, United States

1:45

J1-02. Neuromorphic computing by artificial neural network with analog spin-orbit torque device. (Invited) S. Fukami¹
1. Tohoku University, Sendai, Japan

2:00

J1-03. Neuromorphic computing with spintronic nanodevices. (Invited) J. Grollier¹. 1. Unité Mixte CNRS/Thales, Palaiseau, France

Session J2

MOLECULAR MAGNETISM III

Yuko Hosokoshi, Co-Chair
Osaka Prefecture University, Sakai, Japan
Javier Campo, Co-Chair
Aragon Materials Science Institute (CSIC-UJZ), Zaragoza, Spain

1:30

J2-01. Molecular Lanthanide Spins For Quantum Technologies. (Invited) S. Hill¹, D. Komijani¹, A. Gaita Ariño², Y. Duan¹, E. Coronado¹, A. Ghiotti¹, M. AFFRONTE², E. Moreno Pineda³, S. Klyatskaya⁴ and M. Ruben⁴. 1. Physics and NHMFL, Florida State University, Tallahassee, FL, United States; 2. Molecular Science Institute (ICMol), Universitat de Valencia, Paterna, Spain; 3. CNR-NanoScience Institute, Modena, Italy; 4. Institute of Nanotechnology, Karlsruhe Institute of Technology, Karlsruhe, Germany; 5. Physics, Informatics and Mathematics, Università di Modena e Reggio Emilia, Modena, Italy

2:00

J2-02. Coherent Coupling of Molecular Spins With Microwave Photons in Planar Superconducting Resonators. M. AFFRONTE², A. Ghiotti³ and C. Bonizzoni¹. 1. Physics, Informatics and Mathematics, Università di Modena e Reggio Emilia, Modena, Italy; 2. Institute NANO, CNR, Modena, Italy

2:15

J2-03. Experimental Evidence of a Zero Toroidal Ground State in a Dy8 molecule. Q. Zhang¹, M.L. Baker², S. Li¹, M.P. Sarachik¹, T. Stamatatos³, J. Baldoví⁴, A. Gaita Ariño⁵ and E. Coronado⁵. 1. City College of New York, New York, NY, United States; 2. The University of Manchester, Manchester, United Kingdom; 3. Brock University, St. Catharines, ON, Canada; 4. Max-Planck Institute of Microstructure Physics, Weinberg, Germany; 5. Molecular Science Institute (ICMol), Universitat de Valencia, Paterna, Spain

2:30

1. Nagoya University, Nagoya, Japan

2:45

J2-05. Experimental Signatures and Control of Entanglement Transitions in Quantum Spin Clusters. T. Perring¹, J. Quintanilla²,1, H. Irons², L. Amico³,4 and G. Aeppli⁵,6. 1. ISIS Facility, STFC, Didcot, United Kingdom; 2. Hubbard Theory Consortium, University of Kent, Canterbury, United Kingdom; 3. Centre for Quantum Technologies, National University of Singapore, Singapore, Singapore; 4. Dipartimento di Fisica e Astronomia, Università Catania, Catania, Italy; 5. Photon Science Division, Paul Scherrer Institute, Villigen, Switzerland; 6. Department of Physics, ETH Zürich, Zürich, Switzerland
2:00

J3-02. Dynamics and spectral functions of quantum spin models. (Invited) F. Pollmann1, R. Verresen1 and R. Moessner2
1. Technical University of Munich, Garching, Germany; 2. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany

J3-03. The Mother of All States on the Kagome Quantum Antiferromagnet. H. Changlani1, D. Kochkov1, K. Kumar1, B. Clark1 and E. Fradkin1 1. Physics, University of Illinois at Urbana-Champaign, Urbana, IL, United States; 2. Physics, Johns Hopkins University, Baltimore, MD, United States

2:30

J3-04. Indications of a Spin Liquid Phase in the Triangular Lattice Hubbard Model from Density Matrix Renormalization Group Calculations. A. Szasz1,2, J. Motruk1,2 and J. Moore1,2 1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, United States

TUESDAY ESPLANADE 160
AFTERNOON
1:30

Session J4
ADVANCES WITH NANOPARTICLES III
Yunlong Jin, Chair
University of Nebraska, Lincoln, NE, United States

1:30

J4-01. Magnetic Nanoparticles in Borate Glasses: Theory, Experiment, Modelling, Application Prospective. (Invited) J. Kliava1, I. Edelman2, O. Ivanova2, R. Ivantsov2 and E. Petrakovskaja2 1. LOMA, Université de Bordeaux, Talence, France; 2. Kirensky Institute of Physics, FRC KSC SB RAS, Krasnoyarsk, Russian Federation

J4-02. Key role of the Co cations on the destabilization of the collinear magnetic order in Co-ferrite nanoparticles with tunable structural defects. A. Fraile Rodríguez1,2, C. Moya1,2, M. García del Muro1,2, S. Avula3, C. Piamonteze3, X. Batlle1,2 and A. Labarta1,2 1. Física Matèria Condensada, Universitat de Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia (IN2UB), Barcelona, Spain; 3. Swiss Light Source, Paul Scherrer Institut, Villigen PSI, Switzerland

2:00

J4-03. Self-Assembled Magnetically Isolated Co Nanoparticles Embedded Inside Carbon Nanotubes. S. Prischepa1,2, A. Danilyuk1, A.V. Kukharev1, F. Le Normand3,4, C.S. Cojocaru1,3 and C. Mény3 1. Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus; 2. Condensed Matter Physics, National Research Nuclear University MEPhI, Moscow, Russian Federation; 3. Institut de Physique et Chimie des Matériaux de Strasbourg (IPCMS), CNRS-University of Strasbourg, Strasbourg, France; 4. ICube/MaCEPV Laboratory, UMR 7357 CNRS-University of Strasbourg, Strasbourg, France; 5. Laboratoire de Physique des Interfaces et des couches Minces, CNRS, Ecole Polytechnique, Université Paris Saclay, Palaiseau, France

TUESDAY ESPLANADE 162
AFTERNOON
1:30

Session J5
MAGNETOCALORIC MATERIALS V
Zoe Boekelheide, Chair
Lafayette College, Easton, PA, United States

1:30

J5-01. Large low-field-induced entropy change at room temperature in Ni2Mn0.7Cu0.3Ga0.84Al0.16 material. A.A. Mendonça1, J.F. Jurado3, L.F. Cohen4, L. Ghivelder2 and A.M. Gomes1 1. Física dos Sólidos, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil; 2. Física Matemática, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil; 3. Física y Química, Universidad Nacional de Colombia, Manizales, Colombia; 4. Blackett Laboratory, Imperial College London, London, United Kingdom

2:00

J5-03. Entropy Changes and Caloric Effects in YbInCu₄, N. A. De Oliveira¹, P. von Ranke² and A. Troper² 1. Instituto de Fisica, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil; 2. Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil

J6-03. Time resolved imaging of coupled nano-contact spin transfer vortex oscillators. E. O. Burgos Parra¹, P. S. Keatley², S. Redjai Sani³, J. Åkerman⁴ and R. J. Hicken² 1. College of Engineering, Mathematics and Physical sciences, University of Exeter; Exeter, United Kingdom; 2. Department of Physics and Astronomy, University of Exeter; Exeter, United Kingdom; 3. Materials Science and Engineering, MIT - Massachusetts Institute of Technology, Cambridge, MA, United States; 4. Univ Gothenburg, Göteborg, Sweden

2:15

J5-04. The partial phase diagram of Mn₅Fe₂₋ₓPₓSi₁₋ₓ. X. You¹, M. Maschek¹, N. van Dijk² and E. Brück³ 1. Delft University of Technology, Delft, Netherlands

J6-04. Control of the skyrmion Hall angle by combining spin-Hall effect, breathing mode and in-plane field. R. Tomasello¹, A. Giordano¹, V. Puliafito², S. Chiappini³, M. Carpentieri⁴ and G. Finocchio¹ 1. Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, University of Messina, Messina, Italy; 2. Department of Engineering, University of Messina, Messina, Italy; 3. Istituto Nazionale di Geofisica e Vulcanologia, Rome, Italy; 4. Department of Electrical and Information Engineering, Politecnico di Bari, Bari, Italy

2:30

J5-05. Adiabatic Temperature Changes in the Vicinity of the Structural and Magnetic Phase Transitions of Ni₈₋ₓMnxCoSn₄ at High Magnetic Fields. S. Pandey¹, Y. Koshkido², I. Dubenko¹, A. Aryal¹, A. Granovsky¹, E. Lähderanta¹, S. Stadler¹ and N. Ali¹ 1. Physics, Southern Illinois University Carbondale, Carbondale, IL, United States; 2. Institute of Low Temperature and Structural Research PAS, Wroclaw, Poland; 3. Lomonosov Moscow State University, Moscow, Russian Federation; 4. Lappeenranta University of Technology, Lappeenranta, Finland; 5. Louisiana State University, Baton Rouge, LA, United States

J6-05. The skyrmion-bubble transition in a ferromagnetic thin film. (Invited) A. Bernand-Mantel¹, L. Camosi¹, A. Wartelle¹, N. Rougemaille¹, M. Darques¹ and L. Ranno¹ 1. Institut Neel-CNRS, Grenoble, France

2:45

J5-06. Dynamics of the magnetocaloric effect in oscillating fields up to 1kHz. J. Döntgen¹, J. Rudolph¹ and D. Hägele¹ 1. Ruhr-Universität Bochum, Bochum, Germany

J6-06. Dynamics of the magnetocaloric effect in oscillating fields up to 1kHz. J. Döntgen¹, J. Rudolph¹ and D. Hägele¹ 1. Ruhr-Universität Bochum, Bochum, Germany

TUESDAY ROOM 104
AFTERNOON
1:30

Session J7
SEMICONDUCTOR AND ORGANIC SPINTRONICS I
Masashi Shiraishi, Co-Chair
Kyoto University, Kyoto, Japan
Jun-Young Kim, Co-Chair
University of York, York, United Kingdom

1:30

J7-01. Noncentrosymmetric 2D Superconductors with Spin-Valley Locking. (Invited) Y. Iwasa¹ and ² 1. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 2. CEMS, RIKEN, Wako, Japan

J7-02. Introducing 2D Materials for Magnetic Tunnel Junctions. B. Dlubak¹, M. Piquemal¹, R. Galceran¹, F. Godel¹, M. Martin¹, S. Caneva², R. Weatherup², S. Hofmann², S. Xavier³, B. Servet³, R. Mattana¹, A. Anane¹, F. Petroff¹, A. Fert¹ and P. Seneor¹ 1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. University of Cambridge, Cambridge, United Kingdom; 3. Thales Research and Technology, Palaiseau, France
2:30 J8-03. Probing the ‘Hidden Order’ Phase in URu₂Si₂ by Means of Ultrasonic Measurements in Pulsed Magnetic Fields.
T. Yanagisawa¹, S. Mombetsu¹, H. Hidaka¹, H. Amitsuka¹, P.T. Cong², S. Yashin², S. Zherlitsyn², J. Wosnitza², K. Huang³, N. Kanchanavatee⁴, M. Janoschek⁵, M.B. Maple⁴ and D. Aoki⁶,⁷
1. Department of Physics, Hokkaido University, Sapporo, Japan; 2. HLD-EMFL, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 3. Institut für Festkörperphysik und Materialphysik, TU Dresden, Dresden, Germany; 4. Dept. of Physics, Univ. of California San Diego, La Jolla, CA, United States; 5. Los Alamos National Laboratory, Los Alamos, NM, United States; 6. IMR, Tohoku University, Oarai, Japan; 7. INAC/PHELIQS, CEA-Grenoble, Grenoble, France

2:45 J8-04. Heisenberg Ising-Kondo Necklace model with transverse field for heavy-fermion compound URu₂Si₂.
S. Rufo¹ and M. Continentino¹
1. Theoretical Physics, Brazilian Center for Research in Physics, Rio de Janeiro, Brazil

TUESDAY ROOM 307/308
AFTERNOON
1:30
Session J9
SUPERCONDUCTIVITY AND QUANTUM CRITICALITY
Qimiao Si, Chair
Rice University, Houston, TX, United States

1:30 Introduction by Qimiao Si

1:45 J9-01. Interplay of heavy-fermion quantum criticality and unconventional superconductivity. (Invited) F. Steglich¹
1. MPI Chemical Physics of Solids, Dresden, Germany

2:15 J9-02. Phonon Thermal Transport Near the Structural Quantum Critical Point in (Ca₅Sr₁₋ₓ)Rh₆Sn₁₃. M. Sutherland¹, X. Chen¹, K. Yoshimura¹, M. Imai², B. Chen², J. Yang², D. Tompsett¹ and S.K. Goh³. J. Physics, Cambridge University, Cambridge, United Kingdom; 2. Kyoto University, Kyoto, Japan; 3. University of Bath, Bath, United Kingdom; 4. Chinese University of Hong Kong, Hong Kong, China

Tuesday 114
2:30


2:45

**J9-04.** Vestiges of Superconducting Vortices in the Insulating State of an Oxide Interface. *E. Maniv*1, M. Mograbi1, P.K. Rout1, D. Graf2, J.H. Park2 and Y. Dagan1. 1. Physics, Tel Aviv University, Tel Aviv, Israel; 2. National High Magnetic Field Laboratory, Tallahassee, FL, United States; 3. Physics, University of California, Berkeley, Berkeley, CA, United States.

**TUESDAY AFTERNOON ROOM 313/314**

1:30

**Session J10**

**QUANTUM SPIN LIQUIDS V: KITAЕV SPIN LIQUIDS**

Kemp Plumb, Co-Chair
Brown University, Providence, RI, United States
Sasha Chernyshev, Co-Chair
University of California, Irvine, Irvine, CA, United States

1:30

**J10-01.** Majorana quantization and half-integer thermal quantum Hall effect in a Kitaev spin liquid. *(Invited)* Y. Kasahara1
1. Kyoto University, Kyoto, Japan

2:00

**J10-02.** Probing spinon nodal structures in Kitaev spin liquids. *(Invited)* N. Perkins1, G. Halasz2, J. van den Brink1 and B. Perreault4
1. Physics, University of Minnesota, Minneapolis, MN, United States; 2. KITP, Santa Barbara, CA, United States; 3. IFW Dresden, Dresden, Germany; 4. University of Minnesota, Minneapolis, MN, United States

2:30

**J10-03.** New physics in the field-induced ground state in Kitaev candidate alpha-RuCl₃. *(Invited)* A. Banerjee1, P. Lampen-Kelley2, C. Balz3, M. Lumsden1 and S.E. Nagler1

3:00

**TUESDAY ESPLANADE 157**

3:30

**Session K1**

**SPIN PUMPING**

Justin Shaw, Chair
NIST, Boulder, CO, United States

3:45

**K1-01.** Evidence for Spin-Transfer Torque Induced by Spin-Triplet Supercurrents. *Y. Sun1, L. Li1, Y. Zhao2 and X. Zhang2*
1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. King Abdullah University of Science and Technology, Thuwal, Saudi Arabia

4:00

**K1-02.** Probe of Spin Dynamics in Superconducting NbN Thin Films via Spin Pumping. *Y. Yao*
1. School of Physics, International Center for Quantum Materials, Beijing, China

4:15

**K1-03.** Superconducting spin transport via induced triplet states by spin-orbit coupling. *K. Jeon1,2, C. Ciccarelli1, A. Ferguson2, H. Kurebayashi1, L.F. Cohen1, X. Montiel2, M. Eschrig3, J. Robinson1 and M. Blamire1*
1. Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 2. Physics, University of Cambridge, Cambridge, United Kingdom; 3. London Centre for Nanotechnology and Department of Electronic and Electrical Engineering, University of College London, London, United Kingdom; 4. The Blackett Laboratory, Imperial College London, London, United Kingdom; 5. Physics, Royal Holloway, University of London, London, United Kingdom

4:30

**K1-04.** Spin pumping as a generic probe for linear spin fluctuations, irrespective of the magnetic and electrical nature of the spin-sink. *O. Gladii1, L. Frangou1, G. Forestier1, R.L. Seeger2, S. Auffret1, M. Rubio-Roy1, R. Weil2, A. Mougin2, C. Gomez3, W. Jahjah4, J. Jay4, D. Dekadjevi4, D. Spenato4, S. Gambarelli5 and V. Baltz1*
1. SPINTEC, Univ. Grenoble Alpes / CNRS / INAC-CEA / GINP, Grenoble, France; 2. LPS (Univ. Paris-Sud / Univ. Paris-Saclay / CNRS), Orsay, France; 3. OPTIMAG (Univ. Bretagne Occidentale), Brest, France; 4. SYMMES, Univ. Grenoble Alpes / CNRS / INAC-CEA, Grenoble, France

4:45

**K1-05.** Enhanced Spin Pumping near VOₓNi₁₋ₓFe₂ₓ Metal-Insulator Transition in VOₓNi₁₋ₓFe₂ₓ heterostructures. *J. Jones1,3, B. Khoddadi1,2, S. KC1, A.V. Singh1, A. Sapkota1,2, J. Beik Mohammadi1,2, G. Mankey1,2, A. Gupta1,3 and P.R. LeClair1,3*
1. Physics, University of Alabama, Tuscaloosa, AL, United States; 2. Physics, Virginia Tech, Blacksburg, VA, United States; 3. MINT, The University of Alabama, Tuscaloosa, AL, United States; 4. Physics, New York University, New York, NY, United States; 5. Chemistry, The University of Alabama, Tuscaloosa, AL, United States.
K1-06. Spin current generation in spinel-ferrite/Cu/Pt heterostructures. J. Wisser, H. Jeon, R. Budhani, M.T. Gray, S. Emori, B.M. Howe and Y. Suzuki. 1. Applied Physics, Stanford University, Stanford, CA, United States; 2. Wright State University, Dayton, OH, United States; 3. Physics, Morgan State University, Baltimore, MD, United States; 4. Materials Science and Engineering, Stanford University, Stanford, CA, United States; 5. Physics, Virginia Polytechnic Institute and State University, Blacksburg, VA, United States; 6. Materials and Manufacturing Directorate, Air Force Research Lab, Wright Patterson Air Force Base, OH, United States; 7. Stanford University, Stanford, CA, United States

K2-04. Interplay between Strain-Stabilized Ferromagnetism and Charge Transport in Epitaxial LaCoO$_3$-$\delta$ Thin Films. V. Chaturvedi, J. Walter, A. Paul, J.S. Jeong, A.J. Grutter, B.J. Kirby, J. Borchers, A. Mkoyan, T. Birol and C. Leighton. 1. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, United States; 2. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, United States; 3. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 4. NIST Center for Neutron Research, Gaithersburg, MD, United States; 5. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 6. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, United States

K2-05. Magnetic Imaging of Phase Domain Development in Laterally Confined FeRh. R.C. Temple, T.P. Almeida, J. Massey, K. Fallon, R. Lamb, S.A. Morley, S. McVitie, T.A. Moore and C.H. Marrows. 1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 3. Physics Department, University of California, Santa Cruz, CA, United States

K2-06. Control of Domain Size and Morphology in Non-Collinear Artificial Spin Systems. J. Lehmann, A. Bortis, P. Derlet, C. Donnelly, N. Leo, L. Heyderman and M. Fiebig. 1. Department of Materials, ETH Zurich, Zurich, Switzerland; 2. Paul Scherrer Institute, Villigen PSI, Switzerland


K3-03. The SQCRAMscope: Scanning Quantum Cryogenic Atom Microscope. S. Taylor1, F. Yang1, J. Palmstrøm1, S.D. Edkins1, I.R. Fisher2 and B. Lev1,2 1. Applied Physics, Stanford University, Palo Alto, CA, United States; 2. Physics, Stanford University, Palo Alto, CA, United States

3:30

K3-04. Visible light detection and imaging of magnetic field in the microwave regime with a combination of magnetic losses material and thermophotoluminescent molecules. (Invited) H. Ragazzo1, S. Faure1, J. Carrey1, F. Issac1, D. Prost2 and J. Bobo1 1. CEMES CNRS, Toulouse, France; 2. DEMR, ONERA, Toulouse, France; 3. LPCNO, Toulouse, France

TUESDAY ESPLANADE 160
AFTERNOON
3:30

Session K4
MAGNETORESISTANCE AND HALL EFFECTS
Emilie Jué, Chair
National Institute of Standards and Technology, Boulder, CO, United States

3:30


4:00

K4-02. Electrical detection and transport properties of magnetic skyrmions at room temperature. D. Maccariello1, W. Legrand1, N. Reyren1, K. Garcia1, K. Bouzehouane1, S. Collin1, V. Cros1 and A. Fert1 1. Unité Mixte de Physique CNRS-Thales, Univ. Paris-Sud, Université Paris-Saclay, Palaiseau, France

4:15

K4-03. Magnetoresistance in Hybrid Pt/CoFe₂O₄ Bilayers Controlled by Competing Spin Accumulation and Interfacial Chemical Reconstructions. H.B. Vasilii2, M. Gamino1, J. Gazquez1, F. Sanchez1, M. Valvidares3, P. Gargiani2, E. Pellegrin2 and J. Fontcuberta1 1. Institut de Ciencia de Materials de Barcelona, Bellaterra, Spain; 2. CELLS-Divisió Experiments, ALBA Synchrotron Light Source, E-08290 Cerdanyola del Vallès, Spain

TUESDAY ESPLANADE 152
AFTERNOON
3:30

Session K5
MATERIALS FOR ENERGY APPLICATIONS II
Ahmed El-Gendy, Chair
University of Texas at El Paso, El Paso, TX, United States

3:30

K5-01. Magnetic Nanostructured Materials for Non-biomedical Applications. (Invited) A.A. El-Gendy1 1. Physics, University of Texas at El Paso, El Paso, TX, United States

4:00

K5-02. Thermo-magnetic field driven magnetic fluid propulsion engine. V.H. Dave1, H.A. Virpura1 and S.P. Bhatnagar1 1. Department of Physics, Maharaja Krishnakumarsinhji Bhavnagar University, Bhavnagar, India

4:15

K5-03. Spark plasma sintering of ferrite-based hybrid magnets: towards rare-earth-free magnets for energy storage. P. Jus1, A. Kočjan1, J. Sangregorio1, M. Petrecca1 and S. Kobe1 1. Department for Nanostructured Materials, Jozef Stefan Institute, Ljubljana, Slovenia; 2. ICCOM – CNR and INSTM, Sesto Fiorentino, Italy; 3. Jozef Stefan International Postgraduate School, Ljubljana, Slovenia; 4. Department of Chemistry, University of Florence, Sesto Fiorentino, Italy
K5-04. From the Lab to the Factory: “Closing the Loop” through Recycling by Tuning Microstructural and Magnetic Properties in Sr-Ferrite Powder. A. Bollero1, J. Rial1, M. Villanueva1, A. Seoane2, J. Almunia2 and R. Altimira3 1. Division of Permanent Magnets and Applications, IMDEA Nanoscience, Madrid, Spain; 2. Ingeniería Magnética Aplicada IMA S.L., Barcelona, Spain

K5-05. Electric polarization influence on magnetic properties of Multiferroic Composites type PMN-PT/CoFe2O4. A.J. de Oliveira1, K.R. Jimenez1, F.L. Zabotto1, D. Garcia1 and A. Gauzzi1 1. Physics Department, Federal University of São Carlos, São Carlos, Brazil; 2. IMPMC, Sorbonne Université-CNRS-IRD-MNHN, Paris, France

K6-01. Emergent Dynamic Chirality in a Thermally Driven Artificial Spin Ratchet. (Invited) S. Gliga1 1. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom

K6-02. Spin dynamics in artificial spin ice. (Invited) M. Jungfleisch1,2, W. Zhang3,4, J. Sklenar3, J. Ding4, E. Iacocca5,6, J. Park4, W. Jiang3,4, S. Zhang3,4, J.E. Pearson2, V. Novosad1, J.B. Ketterson9, O. Heinonen1, P. Schiffer4,10 and A. Hoffmann1 1. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE, United States; 3. Oakland University, Rochester, MI, United States; 4. University of Illinois at Urbana-Champaign, Urbana, IL, United States; 5. Applied Mathematics, University of Colorado at Boulder, Boulder, CO, United States; 6. Chalmers University of Technology, Gothenburg, Sweden; 7. Department of Physics, Tsinghua University, Beijing, China; 8. CUNY Advanced Science Research Center, New York, NY, United States; 9. Northwestern University, Evanston, IL, United States; 10. Yale University, New Haven, CT, United States

K6-03. Magnetic States In Nanomagnets Probe By Superconducting Vortex Dynamics: From Vortex To Spin-ice States. (Invited) J. Vicent1,2, V. Rollano2, J. del Valle1, A. Gomez1, E.M. Gonzalez1, M. Velez4, F. Valdes-Bango4, C. Quiros5 and J. Martin5 1. Fisica Materiales, Universidad Complutense, Madrid, Spain; 2. IMDEA-Nanociencia, MADRID, Spain; 3. INTA-CSIC, Torrejon de Ardoz, Spain; 4. Universidad de Oviedo, Oviedo, Spain; 5. Fisica, Universidad de Oviedo, Oviedo, Spain; 6. Fisica, Universidad de Oviedo, Oviedo, Spain

K6-04. Vector Hamiltonian approach for nonlinear dynamics of nano-scale magnetic systems. V. Tyberkeych1, A.N. Slavin1, G. Rowlands2, P. Artemchuk1 and O. Prokopenko3 1. Department of Physics, Oakland University, Rochester, MI, United States; 2. Quantum Information Processing, BBN Technologies, Cambridge, MA, United States; 3. Faculty of Radio Physics, Electronics and Computer Systems, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine
D.I. Cortés-Ortuño1, M. Beg2, V. Nehruij3, L. Breth1, R.A. Pepper1, T. Klyuyver1, G. Downing1, T. Hesjedal4, P. Hatton1, T. Lancaster1, R. Hertel1, G. Balakrishnan5, O. Hovorka1 and H. Fangohr2 1. Faculty of Engineering and the Environment, University of Southampton, Southampton, United Kingdom; 2. European XFEL GmbH, Schenefeld, Germany; 3. Department of Physics, Durham University, Durham, United Kingdom; 4. Department of Physics, University of Oxford, Oxford, United Kingdom; 5. Institut de Physique et Chimie des Matériaux de Strasbourg, Université de Strasbourg, Strasbourg, France; 6. Department of Physics, University of Warwick, Coventry, United Kingdom

TUESDAY ROOM 307/308
AFTERNOON
3:30

Session K9
SUPERCONDUCTIVITY IN 115’S AND OTHER HEAVY FERMIION SYSTEMS
M Maple, Chair
University of California, San Diego, Del Mar, CA, United States

K9-01. Unidirectional superconductivity in the three-dimensional metal CeIrIn5, (Invited) P.J. Moll1,2, M.D. Bachmann1, T. Meng1, C. Putzke1, T. Helm1, Y. Li1, K. Modic1, M. Nicklas1, M. König1, A. Mackenzie1, F. Arnold1, H. Hassinger1, R.D. McDonald4, L.E. Stritzinger4, E. Bauer4 and F. Ronning4 1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. IMX, EPFL, Lausanne, Switzerland; 3. TU Dresden, Dresden, Germany; 4. Los Alamos National Laboratory, Los Alamos, NM, United States

K9-02. Intertwined magnetic and superconducting orders in two phases of Nd-doped CeCoIn5.
R. Movshovich1, D. Kim2, S. Lin3, F. Weickert4, P. Rosa5, E. Bauer3, F. Ronning3 and J. Thompson3 1. MPA, Los Alamos National Laboratory, Los Alamos, NM, United States; 2. Department of Energy Science, Center for Integrated Nanostructure Physics (CINAP), Institute for Basic Science, Sungkyunkwan University, Sungkyunkwan, The Republic of Korea; 3. Los Alamos National Laboratory, Los Alamos, NM, United States; 4. NHMFL, Florida State University, Los Alamos, NM, United States; 5. Condensed Matter and Magnet Science, Los Alamos National Laboratory, Los Alamos, NM, United States

K9-03. Field-induced Lifshitz transition in CeIrIn5 and Cd-doped CeIrIn5, (Invited) A. McCollam1, D. Aoki2,5, G. Seyfarth4,3, A. Pourret5, A. Gourgout5,7, J. Bruin1,6, Y. Krupko3, R. Tsunoda8, Y. Hirose8, R. Settai8 and I. Sheikin3 1. High Field Magnet Laboratory, Radboud University Nijmegen, Nijmegen, Netherlands; 2. IMR, Tohoku University, Oarai, Japan; 3. Laboratoire National des Champs Magnétiques Intenses (LNCMI-EMFL), CNRS, Grenoble, France; 4. LNCMI, Université Grenoble Alpes, Grenoble, France; 5. INAC-SPSMS, Université Grenoble Alpes, Grenoble, France; 6. Max Planck Institute for Solid State Research, Stuttgart, Stuttgart, Germany; 7. Département de Physique & RQMP, Université de Sherbrooke, Sherbrooke, QC, Canada; 8. Faculty of Science, Niigata University, Niigata, Japan

K9-04. FFLO state in CeCu2Si2 revealed by 63Cu-NMR.
S. Kitagawa1, G. Nakamine1, K. Ishida1, J. Hirale2, C. Geibel2 and F. Steglich2 1. Physics, Kyoto University, Kyoto, Japan; 2. Quantum Matter, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

TUESDAY ROOM 306
AFTERNOON
3:30

Session K8
TOPOLOGICAL SEMIMETALS IN KONDO SYSTEMS
Michael Sutherland, Chair
Cambridge University, Cambridge, United Kingdom

K8-01. Weyl-Kondo Semimetal in Heavy-Fermion Systems.
(Invited) H. Lai1 1. Physics and Astronomy, Rice University, Houston, TX, United States

K8-02. Weyl fermions in the heavy-fermion semimetal YbPtBi, (Invited) C. Guo1, F. Wu1, Z. Wu1, M. Smidman1, C. Cao2, Y. Liu1, F. Steglich1 and H. Yuan1 1. Center for Correlated Matter, Zhejiang University, Hangzhou, China; 2. Department of Physics, Hangzhou Normal University, Hangzhou, China; 3. MPI Chemical Physics ofSolids, Dresden, Germany

K8-03. Tuning spin-orbit coupling in heavy fermion systems: Discovery of the Weyl semimetal CeBi2Pd3, S. Desabre1, L. Prochaska1, A. Sidorenko1, G. Eguchi1, R. Svagera1, M. Waas1, A. Prokofiev1, Q. Si2 and S. Paschen1,2 1. Institute for Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. Rice University, Houston, TX, United States

K8-04. Topological bulk superconductivity of spin-3/2 carriers in a doped Luttinger semimetal, A. Nevidomskyy1, B. Roy1,2, S. Ghorashi1,4 and M. Foster1 1. Physics and Astronomy, Rice University, Houston, TX, United States; 2. Max Planck Institute for Physics of Complex Systems, Dresden, Germany; 3. Physics, University of Houston, Houston, TX, United States; 4. Texas Center for Superconductivity, Houston, TX, United States
K9-05. Anomalous temperature dependences of lower critical field in heavy-fermion superconductors PrOs$_4$Sb$_{12}$ and CeCu$_2$Si$_2$. I. Juraszek$^1$, A. Rudenko$^1$, L. Bochenek$^1$, D.G. Franco$^2$, S. Seiro$^{3,3}$, C. Geibel$^3$, M. Konczykowski$^3$ and T. Cichorek$^1$.
1. Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wroclaw, Poland; 2. Max-Planck-Institute for Chemical Physics of Solids, Dresden, Germany; 3. Institute for Solid State Physics, IFW, Dresden, Germany; 4. Laboratoire des Solides Irradiés, École Polytechnique, CNRS, CEA, Université Paris-Saclay, Palaiseau, France

K10-03. NMR of the Shastry-Sutherland system SrCu$_2$(BO$_3$)$_2$ at highest pulsed magnetic fields. H. Kuehne$^1$, J. Kohlrautz$^2$, J. Haase$^2$, E. Green$^1$, Z. Zhang$^1$, J. Wosnitza$^1$, T. Herrmannsdorfer$^1$, H. Dabkowska$^3$, B. Gaulin$^3$ and R. Stern$^4$.
1. Hochfeld-Magnetlabor Dresden (HLD-EMFL), Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Faculty of Physics and Earth Sciences, University of Leipzig, Leipzig, Germany; 3. Brockhouse Institute for Materials Research and Department of Physics and Astronomy, McMaster University, Hamilton, ON, Canada; 4. National Institute of Chemical Physics and Biophysics (NICPB), Tallinn, Estonia

1. Theory of Quantum Matter Unit, Okinawa Institute of Science and Technology, Onna-son, Japan; 2. University of California, Santa Barbara, Santa Barbara, CA, United States; 3. Max Planck Institute for Solid State Research, Stuttgart, Germany; 4. Institute for Functional Matter and Quantum Technologies, University of Stuttgart, Stuttgart, Germany

3:30
Session K10
DIMERS IN FRUSTRATED MAGNETS: SHASTRY-SUTHERLAND LATTICES AND BEYOND
Frederic Mila, Chair
EPFL, Lausanne, Switzerland

1. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany; 2. UCL, London, United Kingdom; 3. ISIS, STFC, Didcot, United Kingdom; 4. Department of Physics, University of Oxford, Oxford, United Kingdom; 5. STFC, ISIS, Didcot, United Kingdom; 6. Physics, Royal Holloway, London, United Kingdom; 7. STFC, CLF, Didcot, United Kingdom

1. Molecular Photoscience Research Center, Kobe University, Kobe, Japan; 2. Graduate School of Science, Kobe University, Kobe, Japan; 3. Research Facility Center for Science and Technology, Kobe University, Kobe, Japan; 4. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 5. Research Institute for Interdisciplinary Science, Okayama University, Okayama, Japan; 6. Department of Applied Physics, Tohoku University, Sendai, Japan

4:00

L1-01. Size effects on magnetic property and crystal structure of MnO$_x$ nanoparticles in mesoporous silica. T. Tajiri$^1$, K. Sakai$^2$, H. Deguchi$^3$, M. Mito$^2$ and A. Kohno$^1$.
1. Faculty of Science, Fukuoka University, Fukuoka, Japan; 2. Graduate School of Engineering, Kyushu Institute of Technology, Kitakyushu, Japan

L1-02. Probing the Variability in Oxidation States of Magnetite Nanoparticles by Single-particle Spectroscopy. A. Fraile Rodríguez$^{1,2}$, C. Moyà$^{1,2}$, M. Escuda-Torroella$^{1,2}$, A. Romero$^{1,2}$, A. Labarta$^{1,2}$ and X. Batlle$^{2,2}$.
1. Física Matèria Condensada, Universitat de Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia (IN2UB), Universitat de Barcelona, Barcelona, Spain
| L1-04. Magnetic states of nanostructures containing Ni²⁺ ions at the surface of SiO₂ nanospheres. P. Tiberto³, G. Barrera², G. Alberto³, G. Martra² and P. Allia¹. 1. INRIM, Torino, Italy; 2. Chemistry, Università di Torino, Torino, Italy; 3. DISAT, Politecnico di Torino, Torino, Italy. |
| L1-05. Probing Core and Shell Contributions to Exchange Bias in Co/Cu₉₁₋ₓCrₓ₂₅ Ferrite Nanoparticles of Controlled Size. D. De⁴, D. Iglesias¹,², S. Majumdar¹ and S. Giri¹. 1. Dpt. Condensed Matter Physics, University of Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia UB, Barcelona, Spain; 3. Solid State Physics, Indian Association for the Cultivation of Science, Kolkata, India; 4. Physics Dept., Neotia University, Neotia, India. |
| L1-07. NiO nanoparticles for diluted magnetic semiconductor by co-doping of transition metal ions. Y. Ichiyangát⁵, K. Fujjwara¹, T. Oka¹, T. Ide¹, A. Oshima¹, T. Hashimoto¹, D. Aihara¹ and K. Kanda¹. 1. Department of Physics, Yokohama National University, Yokohama, Japan; 2. Osaka University, Osaka, Japan. |
| L1-09. Thermal stability and magnetic properties of Ni-nanoparticles prepared by chemical reduction methods. S. Vishvakarma¹ and V. Srinivas¹. 1. Department of Physics, Indian Institute of Technology Madras, Chennai, India. |
| L1-10. Synthesis of Giant Single-Crystal Hematite Hexagonal Nanoplates : Elaborate Analysis of Microstructure, Size and Static Magnetic Properties. F. Chen¹, J. Liu², H. Luo³, X. Wang³, Y. Nie⁴, Z. Feng⁴, R. Gong⁵ and Z. Zhang¹. 1. School of Optical and Electric Information, Huazhong University of Science & Technology, Wuhan, China; 2. School of Optical and Electronic Information, Wuhan, China. |
| L1-12. XMCD as a powerful tool to examine the structural and magnetic properties of Mn and Co-doped magnetosomes. L. Marciano Prieto¹, D. Muñoz², D. Gandía¹, A. García Prieto³, S. Valencia¹, A. Muela⁴ and M. Fernández-Gubieda¹,³,⁴,⁵,¹¹. 1. Electricidad y Electrónica, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 2. Immunología, Microbiología y Parasitología, Universidad del País Vasco (UPV/EHU), Leioa, Spain; 3. BCMaterials, Basque Center for Materials, Applications and Nanostructures, Leioa, Spain; 4. Física Aplicada I, Universidad del País Vasco, Bilbao, Spain; 5. Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany. |
| L1-13. Investigation of the optical and magnetic properties of BiₓBaₓ₋ₓFe₂O₄ nano composites. H.M. Basma¹, H. Rahal², M. Mansour¹ and R. Awad¹. 1. Physics, Beirut Arab University, Debbiyeh, Lebanon. |
| L1-14. High Magnetic Moment Metal-Polymer Nanoparticles with Superparamagnetic-Like Characteristics. I. Nekrashevich¹, D. Litvinov¹ and L. Chang¹. 1. Materials Engineering, University of Houston, Houston, TX, United States; 2. Electrical and Computer Engineering, University of Houston, Houston, TX, United States. |
L2-01. The correlation between magnetic dead layer and perpendicular magnetic anisotropy in MgO/CoFeB/Ta top structure. S.H. Shen¹, D.S. Lee¹, C.W. Cheng¹, W.J. Chan¹ and G. Chern¹ 1. Physics Department, National Chung Cheng University, Chia-Yi, Taiwan; 2. Electrical Engineering Department, Da-Yeh University, Changhua, Taiwan.


L2-04. Thermally induced anisotropy transition in Gd-Fe thin film structures. E. Kirk³, C. Bull³, J. Raabe³, S. Finizio³, T. Thomson³, G. Hrkac¹ and L. Heyderman³ 1. Engineering, Mathematics and Physical Sciences, University of Exeter, Exeter, United Kingdom; 2. School of Computer Science, University of Manchester, Manchester, United Kingdom; 3. Paul Scherrer Institut, Villigen PSI, Switzerland; 4. SYN, Paul Scherrer Institut, Villigen PSI, Switzerland.

L2-05. Uniaxial Magnetic Anisotropy of bct FeCo-based Alloy Films. T. Hasegawa¹, M. Sakamoto¹, T. Niibori¹, Y. Nakamura¹, M. Oikawa¹, Y. Takemasa¹ and D. Yamamoto¹ 1. Department of Materials Science, Akita University, Akita City, Japan.

L2-06. Disentangling and quantifying temperature-driven symmetry-breaking effects in magnetic nanostructures with competing magnetic anisotropy contributions. J.F. Cuñado¹,², P. Perna¹, A. Bollero¹, R. Miranda¹,² and J. Camarero¹,² 1. IMDEA Nanociencia, Madrid, Spain; 2. Universidad Autónoma de Madrid, Madrid, Spain.

L2-07. Modulation of magnetic anisotropy in CoPt thin films by local and fast heat induced by surface acoustic waves. B. Casals¹, N. Statuto², R. Cichelero¹, F. Sanchez¹, A. Hernández-Minguez¹, J. Hernández², G. Herranz¹ and F. Macià¹ 1. Magnetic Materials and Functional Oxides, ICMAB-CSIC, Bellaterra, Spain; 2. Condensed Matter Physics Department, University of Barcelona, Barcelona, Spain; 3. Paul-Drude-Institut für Festkörperelektronik, Berlin, Germany.

L2-08. Tailoring magnetic properties of TMR sensors via oblique-incidence deposition of CoFeB. S. Willing¹,², K. Schlage³, T. Guriev¹ and R. Roehlsberger¹,² 1. Photon Science, Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 2. Physics, Hamburg University, Hamburg, Germany; 3. The Hamburg Centre for Ultrafast Imaging, Hamburg, Germany.

L2-09. Focused ion beam direct writing of magnetic patterns with controlled structural and magnetic properties. M. Urbánek¹, L. Flajsman¹, V. Krizakova¹, M. Horký¹, J. Gloss², M. Schmid² and P. Varga³ 1. Brno University of Technology, Brno, Czechia; 2. TU Wien, Vienna, Austria.


L2-11. First-principles Study of Perpendicular Magnetocrystalline Anisotropy on Co/Ni Multilayers. T. Nguyen¹,², K. Nakamura² and T. Oguchi² 1. Institute of Industrial and Scientific Research, Osaka, Japan; 2. MaDIS-CMI2, National Institute for Materials Science, Ibaraki, Japan; 3. Physics Engineering, Mie University, Tsu, Japan.

L2-12. Dynamic and symmetry effects in magnetic nanostructures. J. Fernández Cuñado¹,², P. Perna¹, A. Gudin², P. Olleros¹, A. Bollero¹, R. Miranda¹ and J. Camarero¹ 1. Universidad Autónoma de Madrid, Madrid, Spain; 2. IMDEA Nanociencia, Madrid, Spain.
L3-01. Magnetoelastic resonance sensor for water-cut applications.  
L. Swanepeol1,2, A. Kaidarova2, A. Almansouri2, M. Khan2,  
J.H. Müller1 and J. Kosel2. 1. Mechanical Engineering,  
Stellenbosch University, Stellenbosch, South Africa; 2. CEMSE,  
King Abdullah University of Science and Technology (KAUST),  
Thuwal, Saudi Arabia

L3-02. Magnetic Sensing of Residual Stress and Cold Work in a  
Bi-metallic Ti-6Al-4V Alloy. H. Carreon1, S. Barriuso2,  
J. Gonzalez-Carrasco2, J. Ocaña2 and M. Carreon1  
i. Universidad Michoacana, Morelia, Mexico; 2. Centro  
Nacional de Investigaciones Metalárgicas, Madrid, Spain;  
3. Universidad Politécnica de Madrid, Madrid, Spain

L3-03. An Improved Method for Measuring the Magnetic  
Properties of Silicon Steel with Double Sheets at High  
Frequency. Y. Li1, R. Chen1 and C. Zhang1. 1. Hebei University  
of Technology, Tianjin, China

L3-04. 3D magnetic properties measurement of silicon steel under  
bias magnetic excitation along laminated direction.  
C. Zhang3, X. Yan3, Y. Li3, Q. Yang1 and J. Zhu1. 1. Hebei  
University of Technology, Tianjin, China; 2. School of  
Electrical Engineering, University of Technology Sydney,  
Sydney, NSW, Australia; 3. School of Electrical Engineering,  
Hebei University of Technology, Tianjin, China

L3-05. Ultrahigh Anisotropic Magnetoelastic Sensor Based on  
FeCoSiB/AlN Thin Film Composites. J. Ouyang1, W. Wang1,  
B. Tong1, Y. Zhang1, B. Zhu1, S. Chen1 and X. Yang1. 1. School  
of Optical and Electronic Information, Huazhong University of  
Science and Technology, Wuhan, China

L3-06. Measurement of Magnetic Properties of Electrical Materials  
Considering The Effect of Temperature. Y. Li1, M. Yang1,3,  
C. Zhang1,3 and Q. Yang1,4 1. School of Electrical Engineering,  
Hebei University of Technology, Tianjin, China; 2. Hebei  
University of Technology, Tianjin, China; 3. State Key  
Laboratory of Reliability and Intelligence of Electrical  
equipment, Tianjin, China; 4. Tianjin Key Laboratory of  
AEEET, Tianjin, China

L3-07. Optimization Design of Vibration and demagnetization  
Reduction by Winding Method of Electric Compressor  
Motor for Automotive Air Conditioning. J. Lee1, M. Kim1,  
S.H. Jung1 and D. Kang1. 1. Electrical Energy Engineering,  
Keimyung University, Daegu, The Republic of Korea

L3-08. Permanent Magnet Modeling to Detect Single Particle in  
Two-Phase Lorentz Force Velocimetry. N.T. Tran1,2 and  
U. Luedtke1. 1. Electrothermal Energy Conversion Group,  
Technical University of Ilmenau, Ilmenau, Germany; 2. Research Training Group Lorentz Force Velocimetry and  
Lorentz Force Eddy Current Testing, Technical University of  
Ilmenau, Ilmenau, Germany

L3-09. Magnetization detected in a single particle without mass  
measurement using a niobium permanent magnet. C. Uyeda1  
1. Graduate School of Science, Toyonaka, Japan

L3-10. A Versatile Demagnetization Refrigerator. A. Regnati1,  
J. Spallek1, C. Duvinage1, T. Schulz1 and C. Pfleiderer1  
1. Physics Department, Technical University of Munich,  
Garching, Germany

L3-11. A torque compensation control scheme of permanent  
magnet synchronous motor considering wide variation of  
permanent magnet temperature. S. Cho1. 1. Electric  
Powertrain R&D Center, Korea Automotive Technology  
Institute, Cheoan-si, The Republic of Korea

L3-12. Withdrawn
L4-05. Stabilizing the Skyrmion Phase in Cu$_2$OSeO$_3$: The Influence of Field, Temperature and Time. J.D. Reim$^1$, K. Makino$^1$, D. Higashi$^1$, D. Okuyama$^1$, T.J. Sato$^1$, Y. Nambu$^2$, E.P. Gilbert$^3$, N. Booth$^1$, S. Seki$^1$ and Y. Tokura$^1$.

Tohoku University, Sendai, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. ACNS, Australian Nuclear Science and Technology Organization, Karawake DC, NSW, Australia; 4. RIKEN Center for Emergent Matter Science (CEMS), Saitama, Japan

L4-06. Chirality domain walls in frustrated spin system. P. Rusek$^1$

1, Wroclaw University of Technology and Science, Wroclaw, Poland

L4-07. Withdrawn

L4-08. Ground State and Excitation Properties of the Frustrated Spin Nematic Candidate Material BaCdVO(PO$_4$)$_2$.

M. Skoulatos$^1$, A. Smerald$^2$, Y. Kubo$^1$, N. Shannon$^1$, R. Georgii$^1$, A. Schneidewind$^1$, A. Senyshyn$^1$, F. Rucker$^1$, C. Pfleiderer$^1$, C. Ruegg$^1$, L. Keller$^2$, E. Pomjakushina$^1$, G.J. Nilsen$^1$, N. Qureshi$^1$ and J. Ollivier$^1$.

Technical University of Munich, Germany; 2. Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany; 3. Okinawa Institute of Science and Technology Graduate School of Science, Okinawa, Japan; 4. Jülich Centre for Neutron science (JCNS) at MLZ, and T. Kuwai$^2$.


1, University of California, Berkeley, Berkeley, CA, United States; 2. Rutgers University, Piscataway, NJ, United States

L5-03. The Effect of Rashba Spin-Orbit Coupling on f-electron Materials. Y. Michishita$^1$ and R. Peters$^1$.

1, Kyoto University, Kyoto, Japan


1, Department of Physics and Earth Sciences, University of the Ryukyus, Nishihara, Nakagami, Japan; 2. NSRRC, Hsinchu, Taiwan

L5-05. Dense Kondo Behavior in the Low Temperature Resistivity and Specific Heat for Amorphous Ce$_8$Al$_{18}$ Alloy. S. Ito$^1$, K. Seki$^1$, Y. Amakai$^1$, S. Murayama$^1$, H. Takano$^1$, N. Momomo$^1$ and T. Kuwai$^2$.

1, Muroran Institute of Technology, Muroran, Japan; 2. University of Toyama, Toyama, Japan


1, Department of Physics, Graduate School of Science, Nagoya University, Nagoya, Japan


1, Department of Applied Quantum Physics, University of the Ryukyus, Okinawa, Japan; 2. College of Science, Ibaraki University, Mito, Japan; 3. Faculty of Science, University of the Ryukyus, Okinawa, Japan

L5-08. Withdrawn

L5-09. Magnetic Phase Transitions in Single Crystalline Noncentrosymmetric URhSn under Pressure. A. Maurya$^1$, F. Honda$^1$, Y. Shimizu$^1$, A. Nakamura$^1$, Y.J. Sato$^1$, Y. Homma$^1$, D. Li$^1$ and D. Aoki$^1$.

1, Institute for Materials Research, Tohoku University, Higashiibaraki, Japan

L5-10. Withdrawn

L5-11. Novel Heavy-Fermion Compound U$_{11}$Hg$_{45}$. E. Svanidze$^1$, A. Amon$^1$, R. Borth$^1$, M. Nicklas$^1$, A. Leithe-Jasper$^1$ and Y. Grin$^1$.

1, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

L5-12. Tracking aluminum in UBe$_{13}$ single crystals. A. Amon$^1$, I. Zelenina$^1$, P. Simon$^1$, M. Bobnar$^1$, M. Naumann$^1$, E. Svanidze$^1$, F. Arnold$^1$, H. Borrmann$^1$, U. Burkhardt$^1$, W. Schnelle$^1$, E. Hassinger$^1$, A. Leithe-Jasper$^1$ and Y. Grin$^1$.

1, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany
Session L6
MAGNETIC SEMICONDUCTORS III
(Poster Session)

Yang Ji, Chair
Institute of Semiconductors, Chinese Academy of Science, Beijing, China

L6-01. Insights into the Origin of Room Temperature Ferromagnetism in SnO and Mn doped SnO Quantum Dots. D. Manikandan1, A. Yadav2, S. Jha2, D. Bhattacharyya2 and R. Murugan3 1. Department of Physics, Pondicherry University, Puducherry, India; 2. Atomic & Molecular Physics Division, Bhabha Atomic Research Centre, Mumbai, India

L6-02. Magnetic Interaction and Spin Dynamics in Cr doped 3C-SiC. G.P. Moharana1, S. Singh1 and H. Narayanan3 1. Physics, IIT Madras, Chennai, India; 2. CSIR Innovation Centre For Plasma Processing, IMMT, Bhubaneswar 751013, India, IMMT Bhubaneswar, Bhubaneswar, India; 3. Physics, IIT Madras, Chennai, India

L6-03. ac magnetic susceptibility in GaMnAsP films with perpendicular anisotropy. J.K. Furdyna1, X. Liu1, S. Bac1,2, S. Dong1, S. Lee1 and M. Dobrowolska1 1. Physics, Korea University, Seoul, The Republic of Korea; 2. Department of Physics, University of Notre Dame, Notre Dame, IN, United States

L6-04. Magnetic anisotropy of GaMnAsP ferromagnetic semiconductor films grown by MBE with a graded phosphorus concentration. S. Dong1, X. Liu1, S. Bac1,2, T. Yoo1, S. Lee1, X. Li1, M. Dobrowolska1 and J.K. Furdyna1 1. Department of Physics, University of Notre Dame, Notre Dame, IN, United States; 2. Physics, Korea University, Seoul, The Republic of Korea


L6-06. Interlayer exchange coupling between Fe and GaMnAs ferromagnetic semiconductor. K. Tivakornnasitthorn1, S. Lee1, S. Bac1, S. Choi1, S. Lee1, X. Liu1 and J.K. Furdyna1 1. Physics, Korea University, Seoul, The Republic of Korea; 2. Physics, Mahidol University, Bangkok, Thailand; 3. Department of Physics, University of Notre Dame, Notre Dame, IN, United States

L6-07. Magnetic properties of (Ga, Mn)As films epitaxied on GaAs (110). J. Ma1, H. Wang2, X. Wang2 and J. Zhao3 1. State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China

L6-08. Withdrawn

Session L7
MAGNETOCALORIC MATERIALS VI
(Poster Session)

Radhika Barua, Chair
Northeastern University, Quincy, MA, United States

L7-01. Effect of Graphene on Magnetocaloric Properties of La0.7Ca0.3MnO3 Perovskite Manganese Oxide. K. Sarlar1,2, E. Civan3, N. Kucuk1 and I. Kucuk1 1. Physics Department, Uludag University, Bursa, Turkey; 2. National Defence University, Izmir, Turkey; 3. Physics Department, Karamanoglu Mehmetbey University, Karaman, Turkey

L7-02. Magnetocaloric effect in promising magnetocaloric materials in cyclic magnetic fields. A. Aliev1, A. Gamzatov1, A. Batdalov1, L. Khanov1, A. Makhachev1, V. Koledov2, V. Shavrov2, A.P. Kamantsev1, G. Govor4, K.P. Skokov4 and O. Gutleisch3 1. LTP&M, Amirkhanov Institute of Physics of Daghestan Scientific Center of RAS, Makhachkala, Russian Federation; 2. Kotelinkov Institute of Radioengineering and Electronics of RAS, Moscow, Russian Federation; 3. Scientific-Practical Materials Research Centre of the National Academy of Sciences of Belarus, Minsk, Belarus; 4. FM, TU Darmstadt, Darmstadt, Germany; 5. Fb11, FG FM, TU Darmstadt, Darmstadt, Germany

L7-03. Mechanical alloying influence on the preparation of single-phase Mn-Fe-P-Si magnetocaloric compounds. J.H. da Silva1, A. Davarpanah1, F. Mohseni1, J.S. Amaral1 and V.S. Amaral1 1. LTP&M, Amirkhanov Institute of Physics of Daghestan Scientific Center of RAS, Makhachkala, Russian Federation; 2. Kotelnikov Institute of Radioengineering and Electronics of RAS, Moscow, Russian Federation; 3. Scientific-Practical Materials Research Centre of the National Academy of Sciences of Belarus, Minsk, Belarus; 4. FM, TU Darmstadt, Darmstadt, Germany; 5. Fb11, FG FM, TU Darmstadt, Darmstadt, Germany

L7-04. Influence of the characterization protocols for erasing the thermal and magnetic history on the direct-ΔTcal of FOPT magnetocaloric materials. L.M. Moreno-Ramírez1, A. Delgado-Matarín1, J. Law1, V. Franco1, A. Conde1 and A. Giri2 1. Universidad de Sevilla, Sevilla, Spain; 2. Weapons and Materials Research Directorate, US Army Research Laboratory, Aberdeen, MD, United States

L7-05. Dynamic Magnetic Losses along different Directions in Hi-B GO Laminations. C. Appino1, L. Rocchino1, F. Fiorillo1 and C. Ragusa2 1. Nanoscience and Materials Division, Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. Energy Department, Politecnico di Torino, Turin, Italy
L7-06. Severe Plastic Deformation as a Tool for Production of Advanced Magnetic Materials. S.Y. Taskaev1, K.P. Skokov2, V. Khovaylo1, A.A. Dyakonov3 and M. Bogush1 1. Physics department, Chelyabinsk State University, Chelyabinsk, Russian Federation; 2. FM, TU Darmstadt, Darmstadt, Germany; 3. National University of Science and Technology "MIS&S", Moscow, Russian Federation; 4. South Ural state University, Chelyabinsk, Russian Federation

L7-07. Vibration Analysis, Calculation, and Reduction in Surface-mounted Permanent Magnet Motors. J. Hong1 and S. Wang1 1. Tsinghua University, Beijing, China


TUESDAY EVENING

SAN FRANCISCO BALLROOM

5:00

Session L8

MAGNON SPINTRONICS AND CONDENSATES
(Poster Session)

Matthias Benjamin Jungfleisch, Chair
University of Delaware, Newark, DE, United States

L8-01. Chaotic magnetization dynamics in elliptical nanodots excited by spin transfer torque. E.A. Montoya1, S. Perma1, M. d’Aquino2, C. Serpico1 and I. Krivorotov3 1. DIETI, Università di Napoli Federico II, Napoli, Italy; 2. Dipartimento di Ingegneria, Università degli Studi di Napoli “Parthenope”, Napoli, Italy; 3. Physics and Astronomy, University of California, Irvine, Irvine, CA, United States

L8-02. Excitation of Short-Wave Packets by Pure Spin Current. B. Divinskij1, V.E. Demidov1, S. Demokritov1 and S. Urashdin2 1. Institute for Applied Physics, University of Muenster, Muenster, Germany; 2. Emory University, Atlanta, GA, United States

L8-03. Increased Gilbert Damping at Low Temperature in Polycrystalline YIG Films with Pt Capping layer. S. Pati1 and Y. Endo2 1. Department of Electrical Engineering, Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network (CSRN), Tohoku University, Sendai, Japan

L8-04. Ferromagnetic Resonance and Spin Pumping in Heterostructures with SrIrO3. S. Crossley1, A.G. Swartz1, K. Nishio2, Y. Hikita1 and H. Hwang2 1. Applied Physics, Stanford University, Stanford, CA, United States; 2. Stanford Institute for Materials and Energy Sciences, SLAC National Accelerator Laboratory, Menlo Park, CA, United States

L8-05. Enhanced Gilbert Damping Due to the Oxide Interface in Py/LaTiO3/SrTiO3 Trilayers. M.J. Veit1, J. Wisser1, S. Emori2, Y. Deng1, M. Chan1, B. Ramshaw1, R. Arras2, R. Pentcheva1, S. Wang1 and Y. Suzuki2 1. Stanford University, Stanford, CA, United States; 2. Virginia Tech, Blacksburg, VA, United States; 3. Los Alamos National Laboratory, Los Alamos, NM, United States; 4. Cornell University, Ithaca, NY, United States; 5. University of Duisburg-Essen, Duisburg, Germany; 6. CEMES-CNRS, Toulouse, France

L8-06. Mg(Al, Fe)2O4: A New Magnetic Insulator for Spin Pumping. L. Riddiford1, S. Emori1, J. Wisser1 and Y. Suzuki2 1. Applied Physics, Stanford University, Menlo Park, CA, United States; 2. Stanford University, Stanford, CA, United States; 3. Virginia Tech, Blacksburg, VA, United States

L8-07. The dc voltage induced by nonuniform microwave power in YIG/NM system. H. Zhou1,2, Q. Zhang1, X. Fan1, D. Xue1 and L. Ma1 1. The Key Lab for Magnetism and Magnetic Materials of Ministry of Education, Lanzhou University, Lanzhou, China; 2. State Key Laboratory of Low-Dimensional Quantum Physics and Department of Physics, Tsinghua University, Beijing, China; 3. Physics, Tongji University, Shanghai, China; 4. Xi’an University of Technology, Xi’an, China

L8-08. Caustic-like Spin Transport by Hybrid Magneto-Elastic Bosons in a Ferrimagnetic Film. D.A. Bozhko1, P. Frey1, A.A. Serga1 and B. Hillebrands1 1. Physics, Technische Universität Kaiserslautern, Kaiserslautern, Germany

L8-09. Measurements and simulations of micron scale dipole-exchange spin waves in an yttrium iron garnet film. J. Lim1, W. Bang1, J.S. Trossman1, A. Kreisel1, A. Hoffmann1, C.C. Tsai1 and J.B. Ketterson1 1. Department of Physics and Astronomy, Northwestern University, Evanston, IL, United States; 2. Institut für Theoretische Physik, Universität Leipzig, Leipzig, Germany; 3. Department of Engineering & Management of Advanced Technology, Chang Jung Christian University, Tainan, Taiwan; 4. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 5. Department of Electrical and Computer Engineering, Northwestern University, Evanston, IL, United States

L8-10. Analytical Study of Broadband Nonlinear Ferromagnetic Resonance in Uniaxial Nanoparticles. C. Serpico1, M. d’Aquino2, V. Scalera1, A. Quercia1, S. Perna1 and I. Mayergoyz3 1. DIETI, Università di Napoli Federico II, Napoli, Italy; 2. Dipartimento di Ingegneria, Università degli Studi di Napoli “Parthenope”, Napoli, Italy; 3. ECE Department, University of Maryland, College Park, MD, United States

L8-11. Analysis of Transient Chaos in Nanomagnets Subject to Time-harmonic excitations. M. d’Aquino1, C. Serpico2, A. Quercia1, S. Perna1, P. Ansalone1 and I. Mayergoyz4 1. DIETI, Università di Napoli Federico II, Napoli, Italy; 2. DIETI, Università degli Studi di Napoli “Parthenope”, Napoli, Italy; 3. INRIM, Torino, Italy; 4. ECE Department, University of Maryland, College Park, MD, United States

L8-12. Withdrawn
L9-06. Spin torque nano-oscillators based on fully perpendicular magnetic tunnel junctions subject to a planar magnetic field.

I. Firastrau1, M. Volmer1, V. Iurchuk2, I.L. Prejbeanu2, C. Murapaka3, N. Lamard1, J. Langer1, J. Wrona1, L. Vila1, R.C. Sousa2 and U. Ebels2

1. Transilvania University of Brasov, 500036 Brasov, Romania; 2. Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, INAC, SPINTEC, F-38000 Grenoble, France; 3. Singulus Technologies AG, Kahl am Main, Germany


E. Jué1, M. Pufall2,1 and W. Rippard1

1. National Institute of Standards and Technology, Boulder, CO, United States; 2. NIST, Boulder, CO, United States

L9-08. Low frequency noise in vortex spin torque nano-oscillators.

S. Wittrock1, S. Tsunegi2, K. Yakushiji2, A. Fukushima2, H. Kubota2, E. Rubiola3 and V. Cros1

1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Spintronics Research Center, National Institute of Advanced Industrial Science And Technology (AIST), Tsukuba, Japan; 3. Centre National d’Etudes Spatiales (CNES), Toulouse, France; 5. FEMTO-ST Institute, CNRS, Université Bourgogne Franche Comté, Besançon, France

L9-09. Discovery of chiral Majorana fermion.

X. Sun1

1. Physics, Stanford University, Palo Alto, CA, United States

L9-10. Ferromagnetic resonance linewidth in nanoscale magnetic tunnel junctions.

C. Sha1 and I. Krivorotov2

1. Physics & Astronomy, University of California, Irvine, Irvine, CA, United States; 2. Physics and Astronomy, University of California, Irvine, Irvine, CA, United States
L10-01. Nature of the Spin Liquid Ground State in a Breathing Kagome Compound studied by NMR and Series Expansion. J. Orain, B. Bernu, P. Mendels, L. Clark, P. Lightfoot, R.E. Morris and F. Bert. 1. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Laboratoire de Physique Théorique de la Matière Condensée, Université Pierre et Marie Curie, Paris, France; 3. Lab. Physique des solides, Université Paris-Sud, ORSAY, France; 4. Departments of Chemistry and Physics, University of Liverpool, Liverpool, United Kingdom; 5. School of Chemistry and EaSiChem, University of St Andrews, Saint Andrews, United Kingdom.

L10-02. Withdrawn

L10-03. Quantum Fluctuations on a Hyperkagome Lattice. L. ÖRDUK. Sandberg, K. Lefmann, M. Ciomaga Hatnean, G. Balakrishnan, G. Ehlers, G. Sala and P. Deen. 1. Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark; 2. Physics, University of Warwick, Coventry CV4 7AL, United Kingdom; 3. Physics, University of Warwick, Coventry CV4 7AL, United Kingdom; 4. Spallation Neutron Source, Oak Ridge, TN, United States; 5. European Spallation Source, Lund, Sweden.

L10-04. Majorana Representations of Spin and an Alternative Solution of the Kitaev Honeycomb Model. J. Fu, J. Knolle and N. Perkins. 1. School of Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 2. Blackett Laboratory, Imperial College London, London, United Kingdom.


L10-08. Probing the ground state magnetic structure of M3V2O7 (M = Co, Mn). J. Sammighi, D. Adroja, D. Khalyavin, P. Manuel, M. Gutmann, S. Capelli and R. Perry. 1. ISIS neutron and muon facility, Rutherford Appleton Laboratory, STFC, Harwell Campus, Didcot, Oxfordshire, United Kingdom.


L10-10. Withdrawn

Session L11

SKYRMIONS I

(Poster Session)

Riccardo Tomassello, Chair
University of Perugia, Terni, Italy


L11-03. Antiferromagnetic and conventional skyrmion crystals: Generation, topological Hall and topological spin Hall effect. B. Göbel, A. Mook, J. Henk and I. Mertig. 1. Max Planck Institute for Microstructure Physics, Halle (Saale), Germany; 2. Martin-Luther University, Halle, Germany.


L11-06. Skyrmion Confinement in Magnonic Antidot Lattices. S. Saha, S. Finizio, M. Mruczkiewicz, M. Zelent, C. Magen, J. de Teresa, A. Asenjo, A. Suszka, S. Wintz, J. Raabe, M. Krawczyk and L. Heyderman. 1. Laboratory for Mesoscopic Systems, Department of Materials, ETH Zurich, Zurich, Switzerland; 2. LMX, Paul Scherrer Institut, Villigen, Switzerland; 3. SYN, Paul Scherrer Institut, Villigen PSI, Switzerland; 4. Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia; 5. Faculty of Physics, Adam Mickiewicz University, Poznan, Poland; 6. Paul Scherrer Institut, Villigen PSI, Switzerland; 7. Faculty of Physics, Adam Mickiewicz University in Poznan, Poznan, Poland

L11-07. Hybrid Magnetic Skyrmions. B. Miao, H. Wu, L. Sun, D. Wu and H. Ding. 1. Department of Physics, Nanjing University, Nanjing, China

L11-08. Study of hedgehog skyrmions in sub-100 nm soft magnetic nanodots. E. Berganza, M. Jaafar, M. Goiriena-Goikoetxea, J. Pablo-Navarro, A. García-Arribas, K. Guslienko, V. Krivoruchko, J. Bertolotti, M. Krawczyk and L. Heyderman. 1. Laboratory for Mesoscopic Systems, Department of Materials, ETH Zurich, Zurich, Switzerland; 2. LMX, Paul Scherrer Institut, Villigen, Switzerland; 3. SYN, Paul Scherrer Institut, Villigen PSI, Switzerland; 4. Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia; 5. Faculty of Physics, Adam Mickiewicz University, Poznan, Poland; 6. Paul Scherrer Institut, Villigen PSI, Switzerland; 7. Faculty of Physics, Adam Mickiewicz University in Poznan, Poznan, Poland

L11-09. Withdrawn

TUESDAY EVENING SAN FRANCISCO BALLROOM

Session L12

SPIN STRUCTURES AND TRANSPORT PROPERTIES II

(Poster Session)

Hwanbeom Cho, Chair
Seoul National University, Seoul, The Republic of Korea

L12-01. 3D Ferromagnetism in Bulk CrGeTe. C. Nelson, Y. Liu and C. Petrovic. 1. NSLS-II, Brookhaven National Laboratory, Upton, NY, United States; 2. Condensed Matter Physics, Brookhaven National Laboratory, Upton, NY, United States

L12-02. LnT,Si: Single crystal growth and characterization of bulk and surface properties. K. Klient, J. Sichelschmidt, C. Geibel, C. Krellner and D. Vyalikh. 1. Institute of Physics, Goethe-University Frankfurt, Frankfurt, Germany; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 3. Departamento de Física de Materiales UPV/EHU, Donostia International Physics Center (DIPC), San Sebastian, Spain; 4. Basque Foundation for Science, IKERBASQUE, Bilbao, Spain

L12-03. Magnetic strutures of (locally) non-centrosymmetric Mn-based systems. P. Dalmas de Réotier, R. Khasanov, A. Maisuradze, A. Yauwanci, E. Morenzoni, Z. Guguchia, B. Roessli, D. Andreica, H. Luetkens and A. Amato. 1. Laboratory for Muon-Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. INC-PHELIQS, CEA, Grenoble, France; 3. Department of Physics, Thlisi University, Thlisi, Georgia; 4. Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut, Villigen, Switzerland; 5. Faculty of Physics, Babes-Bolyai University, Cluj-Napoca, Romania

L12-04. Withdrawn

L12-05. Withdrawn

L12-06. Crystal structure and magnetic properties of oxyfluorides (Co, Ni)3Sb4O6F. H. Ishibashi, Y. Ishii, N. Otsuki, S. Kawaguchi, S. Morii and Y. Kubota. 1. Department of Physical Science, Osaka Prefecture University, Sakai, Japan; 2. Department of Materials Science, Osaka Prefecture University, Sakai, Japan; 3. Japan Synchrotron Radiation Research Institute (JASRI), Sayo-cho, Japan


L12-08. The magnetic anomaly and the thermodynamic properties of the charge-ordered system Ca$_{3}$Sr$_{2}$Mn$_{3}$Sb$_{2}$O$_{9}$. H. Taniguchi, A. Terui, S. Kobayashi, M. Matsukawa and R. Suryanarayanan. 1. Department of Physical Science and Materials Engineering, Iwate University, Morioka, Japan; 2. Universite Paris-Sud, Orsay, France

L12-09. Complex magnetic structure of the swedenborgite CaBa(Fe$_{2}$O$_{9}$) derived by unpolarized neutron diffraction and spherical neutron polarimetry. N. Qureshi, M. Fernández Diaz, L. Chapon, A. Senyshyn, W. Schweika and M. Valldor. 1. Institut Laue Langevin, Grenoble, France; 2. II. Physikalisches Institut, Universität zu Köln, Cologne, Germany; 3. Diamond Light Source Ltd, Didcot, United Kingdom; 4. Forschungs-Neutronenquelle Heinz Maier-Leibnitz, Garching, Germany; 5. Forschungszentrum Jülich, Jülich, Germany; 6. Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany

L12-10. Withdrawn
L12-11. X-ray emission spectroscopy study of pressure-induced magnetic transitions in magnetite Fe₃O₄. A. Efimenko¹, S. Agrestini², S. Liao³, S. Petigitirard⁴, A.C. Komarek⁵, C.J. Sahle⁶ and Z. Hu⁷ 1. ESRF (The European Synchrotron), Grenoble, France; 2. Experiments, ALBA Synchrotron Light Source, Barcelona, Spain; 3. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 4. Bayerische Forschungsstelle für Experimental Geochemie und Geophysik, University of Bayreuth, Bayreuth, Germany

TUESDAY EVENING

NEW MAGNETIC MATERIALS I
(Poster Session)

Yunpeng Chen, Co-Chair
University of Delaware, Newark, DE, United States
Zhongqiang Hu, Co-Chair
Xi’an Jiaotong University, Xi’an, China

L13-01. Synthesis of (In, Co) co-doped ZnO films by RF magnetron sputtering: Structural, electrical and magnetic properties. S. Chen¹,², H. Sun³, C. Wang⁴, C. Wen⁵ and T. Chuang⁶ 1. Department of Materials Engineering and Center for Thin Film Technologies and Applications, Ming Chi University of Technology, Taipei 243, Taiwan; 2. Department of Electronic Engineering, Chang Gung University, Taoyuan 333, Taiwan; 3. School of Space Science and Physics, Shandong University at Weihai, Weihai 264209, China; 4. Institute of Materials Science and Engineering, National Taiwan University, Taipei 106, Taiwan


L13-03. Magnetic and electrical properties of (Al, Co) co-doped ZnO films deposited by RF magnetron sputtering. S. Chen¹,², H. Sun³, C. Wang⁴, C. Wen⁵ and T. Chuang⁶ 1. Department of Materials Engineering and Center for Thin Film Technologies and Applications, Ming Chi University of Technology, New Taipei City, Taiwan; 2. Department of Electronic Engineering, Chang Gung University, Taoyuan 333, Taiwan; 3. School of Space Science and Physics, Shandong University at Weihai, Weihai 264209, China; 4. Institute of Materials Science and Engineering, National Taiwan University, Taipei 106, Taiwan


L13-05. Anisotropy in Antiferromagnetic Thin films. J. Sinclair², A. Hirohata³, J. Balluff³, M. Meiner² and K. O’Grady³ 1. Department of Physics, University of York, York, United Kingdom; 2. Department of Electronics, University of York, York, United Kingdom; 3. Center for Spintronic Materials and Devices, Bielefeld University, Bielefeld, Germany

L13-06. Magnetic properties and magnetocaloric effect of Pd-Ni-Mn-Sn Heusler alloys. H. Yako¹, T. Shima² and M. Doy³ 1. Tohoku Gakuin University, Tagajo, Japan; 2. Faculty of Engineering, Tohoku Gakuin University, Tagajo, Japan; 3. Tohoku Gakuin University, Tagajo, Japan

L13-07. Helical magnetic ordering in epitaxial SrFeO₃ and CaFeO₃ heterostructures. P.C. Rogge¹, R.J. Green² and S. May³ 1. Materials Science and Engineering, Drexel University, Philadelphia, PA, United States; 2. Department of Physics and Engineering, University of Saskatchewan, Saskatoon, SK, Canada; 3. Stewart Blusson Quantum Matter Institute, University of British Columbia, Vancouver, BC, Canada

L13-08. Magnetic properties of quaternary silicide carbides RFe₂SiC (R=rare earth). M. Ohashi¹, K. Maeda² and S. Hirokawa³ ¹. Kanazawa University, Kanazawa, Japan

L13-09. Structural and Magnetic Properties of (111) CaRuO₃/ CaMnO₃ heterostructures. M. Kane¹, C. Flint² and Y. Suzuki³ 1. Materials Science and Engineering, Stanford University, Stanford, CA, United States; 2. Stanford University, Stanford, CA, United States

L13-10. Magnetic states and band gaps of Ba₃Pr(Bi,Sb)O₆ double perovskite oxide compounds. K. Onodera¹, M. Matsukawa¹, H. Taniguchi¹ and A. Matsuishi³ 1. Waseda University, Miyorioka, Japan; 2. Department of Physical Science and Materials Engineering, Waseda University, Miyorioka, Japan; 3. National Institute for Materials Science (NIMS), Tsukuba, Japan

L13-11. Highly sensitive flexible zero-biased magnetic sensor based on Metglas/poly(vinylidene fluoride) magnetoelectric heterostructures. J. Qiu¹, Y. Long¹, X. He¹, Q. Chang¹, Z. Hu¹ and H. Liu¹ 1. College of Optoelectronic Engineering, Chongqing University, Chongqing, China

L13-12. Study of highly uniform Heusler based Ni-Mn-Ga Nanowires fabricated by DC Electrodeposition. K. Javed², W. Li², N. Ahmad³, S.S. Ali³, U. Khan² and X. Han² 1. Department of Physics, Forman Christian College(University), Lahore, Pakistan; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 3. Department of Physics, FBAS, International Islamic University, Islamabad, Pakistan

L13-13. Withdrawn

L13-14. Barkhausen noise analysis in Fe-Co magnetostrictive alloy wire for monitoring stress and damage accumulation. T. Yamazaki¹, Y. Furuya² and W. Nakao¹ 1. Department of Materials Science and Engineering, Yokohama National University, Yokohama, Japan; 2. Micro System Integration Center, Tohoku University, Sendai, Japan
Session L14
SUPERCONDUCTING SCES IV: NOVEL MATERIALS
(Poster Session)
Georg Knebel, Chair
CEA, Universite Grenoble Alpes, Grenoble, France

L14-01. High Pressure Phases and Superconductivity in Cerium Hydrides, B. Li 1, Information Physics Research Center, Nanjing University of Posts and Telecommunications, Nanjing, China

L14-02. Electron-Hole Asymmetry and Two Superconducting Phases in Carrier Doped Molecular Conductor κ-(ET)_2X, N. H. Watanabe 1, H. Seo 2,3 and S. Yunoki 1,2,1. J. Waseda Institute for Advanced Study (WIAS), Waseda University, Tokyo, Japan; 2. RIKEN, Saitama, Japan; 3. RIKEN CEMS, Saitama, Japan

L14-03. Paramagnetic Meissner Effect in Metal-Molecule Hybrid Systems, M.D. Rogers 1, F. Al Ma’Mari 1,2, H. Bradshaw 1, S. Lee 1, R. Stewart 1, M. Flokstra 1, T. Prokscha 1, T. Moorsom 1, M. Ali 1, G. Burnell 1 and O. Cespedes 1,1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. Department of Physics, Sultan Qaboos University, Muscat, Oman; 3. School of Physics and Astronomy, University of St. Andrews, St. Andrews, United Kingdom; 4. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen, Switzerland

L14-04. Minimal microscopic model for the quasi-one-dimensional superconductor K₂Cr₄As₃, G. Cuono 1, C. Autieri 1, F. Forte 1, G. Busiello 1, M. Mercaldo 2, A. Romano 2, C. Nocci 2 and A. Avella 1,2. 1. Dipartimento di Fisica “E.R. Caianiello”, Università degli Studi di Salerno, Fisciano, Italy; 2. UoS of Physics and Astronomy, University of St. Andrews, St. Andrews, United Kingdom; 3. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen, Switzerland

L14-05. ¹¹B NMR studies of YNiBC system, P.L. Paulose 1 and S.M. Patil 1,2, 1. Department of Condensed Matter Physics-AMMS, Tata Institute of Fundamental Research, Mumbai, India; 2. Department of Physics, Wilson College, Mumbai, India

L14-06. Vortex Lattice Domain Formation in the Type-II/1 Superconductor Niobium, A. Backs 1,2, T. Reimann 2,1, M. Schulz 2,3, V. Pipich 1, P. Böni 1 and S. Muchlbaier 2, 1. Physik-Department E21, Technische Universität München, Garching, Germany; 2. Heinz Maier-Leibnitz Zentrum (MLZ), Technische Universität München, Garching, Germany; 3. Jülich Centre for Neutron Science, Forschungszentrum Jülich GmbH, Garching, Germany


L14-08. LE-m′SR Study of Superconductivity in the Thin Film Battery Material LiTi₂O₄, E. Nocerino 1, O.K. Forslund 1, H. Nozaki 1, I. Umegaki 2, S. Shiraki 1, T. Hitosugi 2, T. Prokscha 1, Z. Salman 1, A. Suter 2, Y. Sassa 2, J. Sugiyama 2 and M. Månsson 1, 1. Applied Physics, KTH Royal Institute of Technology, Stockholm, Sweden; 2. Materials and Nano Physics, KTH Royal Institute of Technology, Stockholm, Sweden; 3. Materials Analysis Evaluation Dept., Toyota Central R&D Labs., Inc., Nagakute, Japan; 4. Toyota Central R&D Labs., Inc., Nagakute, Japan; 5. Tohoku University, Sendai, Japan; 6. Paul Scherrer Institut, Zurich, Switzerland; 7. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen, Switzerland; 8. Uppsala University, Uppsala, Sweden

L14-09. Withdrawn

Session L15
TOPOLOGICAL SCES III: TM PNICTIDES AND CHALCOGENIDES
(Poster Session)
Alexander Steppke, Chair
Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

L15-01. Magnetoresistance and Hall resistivity in MoTe₂ under pressure, S. Lee 1, T. Park 2, S. Jung 2, S. Kim 1, J. Kim 1, S. Cho 1, S. Kim 1, J. Jang 1 and J. Rhe 1, 1. Sungkyunkwan University, Suwon, The Republic of Korea; 2. Physics, Sungkyunkwan University, Suwon, The Republic of Korea

L15-02. Shubnikov–de Haas oscillations in Weyl semimetal WTe₂ measured up to 56 T, T. S. Onishi 1, R. Jha 1, A. Miyake 2, R. Higashinaka 1, T. Matsuda 1, M. Tokunaga 2 and Y. Aoki 1, 1. Department of Physics, Tokyo Metropolitan University, Hachioji, Japan; 2. The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan

L15-03. Anisotropic electrical resistivity of Weyl semimetal WTe₂, R. Jha 1, S. Onishi 1, R. Higashinaka 1, T. Matsuda 1, R.A. Ribeiro 1 and Y. Aoki 1, 1. Department of Physics, Tokyo Metropolitan University, Hachioji, Japan; 2. CCNH, Universidade Federal do ABC, Santo Andre, 09210-580, Brazil

L15-04. Longitudinal magneto-thermopower in Weyl semimetal TaAs, A. Rudenko 1, J. Jurasek 1, and T. Cichorek 1, Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wroclaw, Poland
L15-05. Absence of the chiral anomaly -- the longitudinal magnetoresistance in TaAs-type Weyl metals. M. Naumann1,2, F. Arnold1, K. Modic1, M. Bachmann1, P.J. Moll1, B. Ramshaw1, V. Stüß1, M. Schmidt1 and E. Hassinger1,2. 1. Max-Planck-Institut für Chemie, Jülich, Germany; 2. Technische Universität Dresden, Dresden, Germany.


Session L16
TWO DIMENSIONAL FRUSTRATED LATTICES
(Poster Session)
Ovidiu Garlea, Chair
ORNL, Oak Ridge, TN, United States

L16-02. A Novel Kagome-like Cu2OSO4 Crystal. V.Y. Farvre1, G.S. Tucker2, I. Zivkovic1 and H.M. Ronnow1. 1. Physics, EPFL, Lausanne, Switzerland.


L16-08. Equation of Motion for Spin-1 Magnets with Applications to Nematic Phases. K. Remund1, R. Pohle1, J. Romhanyi1 and N. Shannon1. 1. Theory of Quantum Matter Unit, Okinawa Institute of Science and Technology, Onna-son, Japan.


L16-11. Ground state with nonzero spontaneous magnetization of the two-dimensional spin-1/2 Heisenberg antiferromagnet with frustration. T. Sakai1,2 and H. Nakano1. 1. Graduate School of Material Science, University of Hyogo, Akō, Japan; 2. OIST SPring-8, Sayo, Japan.

L16-12. Frustration vs. magnetic Ordering in the Cr-Triangles of TiCrIr2-xOsxB2. J. Scheifers1, M. Küppers2 and B.P. Fokwa1. 1. Department of Chemistry, University of California, Riverside, Riverside, CA, United States; 2. IAC, RWTH Aachen University, Aachen, Germany.


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**WEDNESDAY**

**MORNING**

8:30

**Session M1**

**SPIN DIFFUSION AND RELAXATION**

Antonio Azevedo, Chair

UFPE, Recife, Brazil

8:30

**M1-01. Position Dependence of Spin Scattering in Lateral Spin Valves.** G. Stefanou¹, J. Adams¹, K.A. Moran¹, M. Rosamond², M. Ali¹, G. Burnell¹ and B. Hickey³ 1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. Electronic and Electrical Engineering, University of Leeds, Leeds, United Kingdom; 3. Physics and Astronomy, University of Leeds, Leeds, United Kingdom

8:45

**M1-02. Size-Dependent Elliott-Yafet Phonon Spin Relaxation in Al Non-Local Spin Valves.** J.D. Watts¹², J. Batley¹, J.P. Hoch¹², L. O’Brien¹², J.S. Jeong³, A. Mkhoyan³, N.A. Rabideau², P.A. Crowell¹ and C. Leighton² 1. Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 2. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, United States; 3. Materials Department, University of California, Santa Barbara, CA, United States; 4. Department of Physics, University of Liverpool, Liverpool, United Kingdom

9:00

**M1-03. Observation of Rashba effect induced electrochemical potentials in a multi-terminal spin valve device.** J. Lee¹², H. Kim², J. Chang², S. Han², K. Lee¹³, H. Koo¹², S. Hong²⁶, S. Sayed⁴ and S. Datta⁴ 1. KU-KIST Graduate School of Converging Science and Technology, Seoul, The Republic of Korea; 2. Center for Spintronics, Korea Institute of Science and Technology, Seoul, The Republic of Korea; 3. Materials Science and Engineering, Korea University, Seoul, The Republic of Korea; 4. School of Electrical and Computer Engineering, Purdue University, West Lafayette, IN, United States

9:15

**M1-04. Out of plane superconducting Nb/Cu/Ni/Cu/Co triplet spin-valves.** Z. Feng¹ and M. Blamire¹ 1. Material Sciences and Metallurgy, University of Cambridge, Cambridge, United Kingdom

9:30

**M1-05. Magnon auto-oscillation in domain walls.** N. Nishida¹, T. Hache¹², P. Arekapudi³, A.A. Awad¹, O. Hellwig¹², J. Fassbender¹ and H. Schultheiss¹ 1. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 2. Physics, Chemnitz University of Technology, Chemnitz, Germany; 3. Physics Department, Gothenburg University, Gothenburg, Sweden

9:45

**M1-06. Effect of the electron-phonon scattering on the spin diffusion length and its effect on the spin mixing conductance at NiFe/Pt bilayers.** C.A. Gonzalez-Fuentes¹ 1. Physics, UTFSM, Valparaiso, Chile

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**WEDNESDAY**

**MORNING**

8:30

**Session M2**

**FUNCTIONAL MULTIFERROICS I**

William Ratcliff, Chair

NIST, Gaithersburg, MD, United States

8:30

**M2-01. Phase Coexistence in Multiferroic BiFeO₃-based Superlattices. (Invited)** J. Mundy¹, C. Heikes², Z. Wang³, D. Ferenc Segedin⁴, D. Schlom³ and R. Ramesh⁴ 1. Harvard University, Cambridge, MA, United States; 2. NIST Center for Neutron Research, Gaithersburg, MD, United States; 3. Cornell University, Ithaca, NY, United States; 4. Physics / MSE, UC Berkeley, Berkeley, CA, United States

9:00

**M2-02. Fe/BaTiO₃ nanoengineering towards a switchable spin state multiferroic.** C.D. Amorim¹, J.S. Amaral¹, J. Gonçalves¹ and V.S. Amaral¹ 1. Physics Department & CICECO, University of Aveiro, Aveiro, Portugal

9:15

**M2-03. Electric-field manipulation of magnetism in mesoscopic multiferroic heterostructures. (Invited)** Y. Ba¹, Y. Zhao¹, D. Ferenc Segedin³, J. Unguris³, D. Pierce³, J. Zhang⁴, X. Han⁵ and J. Cai⁵ 1. Physics, Tsinghua University, Beijing, China; 2. School of Materials Science and Engineering and State Key Lab of New Ceramics and Fine Processing, Tsinghua University, Beijing, China; 3. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, MD, MD, United States; 4. Beijing Normal University, Beijing, China; 5. State Key Lab of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China

9:45

**M2-04. The multicaloric effect in multiferroics: recent developments and future directions.** M.M. Vopson¹ 1. University of Portsmouth, Portsmouth, United Kingdom
Session M3
NEW SENSORS AND NEW PROBES
Hendrik Ohldag, Chair
SLAC National Accelerator Laboratory, California, United States

8:30
M3-01. Magnetic sensor system for real-time marine animals monitoring. A. Kaidarova1, M.A. Karimi1, S. Amara1, A. Shamimi1, N. Geraldi1, C.M. Duarte1 and J. Kosel1. 1. CEMSE, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia; 2. RSRC, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia

8:45
M3-02. Self-Powered Magneto-Acoustic Tag for Aquatic Animal Tracking. A. Almansouri1, M. Khan1, H. Al Malki1, K. Salama1 and J. Kosel1. 1. CEMSE, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia

9:00
M3-03. Comprehensive Model of the $\Delta E$ Effect for Sensor Applications. B. Spetzler1, P. Durda1, A. Kittmann1, R. Knöchel2, M. Höft2, E. Quandt1 and F. Faupel1. 1. Materials Science, Christian-Albrechts-University Kiel, Kiel, Germany; 2. Institute of Electrical Engineering and Information Technology, Christian-Albrechts-University Kiel, Kiel, Germany

9:15
M3-04. Josephson Parametric Amplification of Circuit Quantum Electrodynamic Signals. N.J. Stevenson1,2, K.P. O'Brien1,2 and I. Siddiqi1,2. 1. Quantum Nanoelectronics Laboratory, Department of Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Center for Quantum Coherent Science, University of California, Berkeley, CA, United States

9:30

9:45
M3-06. Novel Ultra-wide Band (10 MHz- 26 GHz) Permeability Measurements System for Magnetic Films. Y. Chen1, X. Wang1, H. Chen2, Y. Gao1 and N. Sun2. 1. Winchester Technologies, Burlington, MA, United States; 2. Electrical and Computer Engineering, Northeastern University, Boston, MA, United States

Session M4
MAGNETIC CONFIGURATION AND APPLICATION OF NANOWIRES AND NANOTUBES
Oscar Iglesias, Chair
University of Barcelona, Barcelona, Spain

8:30
M4-01. Resolving the Three-Dimensional Magnetic Configuration of Nanowire Arrays using Neutron Techniques. (Invited) A.J. Grutter1, K.L. Krycka1, E. Tartakovskaya2, J. Borchers1, K. Reddy4, E. Ortega3, A. Ponce3 and B. Stadler4. 1. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 2. Institute of Magnetism NAS Ukraine, Kiev, Ukraine; 3. Physics and Astronomy, University of Texas at San Antonio, San Antonio, TX, United States; 4. University of Minnesota, Minneapolis, MN, United States

9:00
M4-02. Magnetization Reversal in Individual Multisegmented [FeCo/Cu]$_n$ Nanowires as determined by Local Magnetooptic Kerr Effect Magnetometry. M. Poggio1. 1. Department of Physics, University of Basel, Basel, Switzerland

9:15
M4-03. Micromagnetic evaluation of the dissipated heat in cylindrical magnetic nanowires. O. Chubykalo-Fesenko1, J. Fernandez-Roldan1, O. Chubykalo-Fesenko1, R. Perez del Real1 and M. Vázquez1. 1. Instituto de Ciencia de Materiales de Madrid (CSIC), Madrid, Spain; 2. IMDEA, Madrid, Spain

9:30
M4-04. Magnetization configurations and reversal of individual ferromagnetic nanotubes. (Invited) M. Poggio1. 1. Department of Physics, University of Basel, Basel, Switzerland
Session M5
RARE EARTH TRANSITION METAL PERMANENT MAGNETS I
Johann Fischbacher, Chair
Danube University Krems, Wiener Neustadt, Austria

8:30

M5-01. Permanent Magnets Beyond Nd-Dy-Fe-B. (Invited)
S. Hirosawa1. Elements Strategy Initiative Center for
Magnetic Materials, National Institute for Materials Science,
Tsukuba, Japan

9:00

M5-02. Effects of GaF₄/Ag co-doping on the magnetic properties
and Nd-rich grain boundary structure of Nd-Fe-B sintered
magnet. K. Bae1, S. Lee1, H. Kim2, M. Lee3 and T. Jang4
1. Dept. of Materials Science and Engineering, Korea
University, Seoul, The Republic of Korea; 2. R&D Center of
Jahwa Electronics Co. Ltd., Cheongwon, The Republic of
Korea; 3. Dept. of Advanced Materials Engineering, Sunmoon
University, Asan, The Republic of Korea

9:15

M5-03. Enhancing the Magnetic Properties of Pr-Co-B Melt-spun
Ribbons via Microstructural Refinement. C.I. Nlebedim1,
M. Huang2, L. Zhou3 and M.J. Kramer2. 1. Critical Materials
Institute, Ames Laboratory, US Department of Energy, Ames,
IA, United States; 2. Ames Laboratory, Iowa State University,
Ames, IA, United States; 3. Ames Lab, Ames, IA, United States

9:30

M5-04. Machine learning-based prediction of magnetization process
in magnetic materials. K. Ono1, H. Tsukahara2, H. Hino3,
T. Ishikawa1, K. Iwano4 and C. Mitsumata1. 1. KEK, Tsukuba,
Japan; 2. High Energy Accelerator Research Organization,
Tsukuba, Japan; 3. University of Tsukuba, Tsukuba, Japan;
4. IMSS, KEK, Tsukuba, Japan; 5. NIMS, Tsukuba, Japan

9:45

M5-05. Using FORC to Understand the Microstructure-
Magnetism Relationship in Supermagnets. S.E. Ilse1,
F. Groß2, J. Gräfe1 and E.J. Goering1. 1. Modern Magnetic
Systems, Max Planck Institute for Intelligent Systems,
Stuttgart, Germany

Session M6
DOMAIN WALL DYNAMICS II
Andrew Rushforth, Chair
University of Nottingham, Nottingham, United Kingdom

8:30

M6-01. Antiferromagnetic domain wall dynamics at an angular
momentum compensation temperature of ferrimagnets.
(Invited) K. Kim1, S. Kim2, Y. Tserkovnyak3, A. Tsukamoto4,
T. Moriyama4, K. Lee5 and T. Ono6. 1. Department of Physics,
Korea Advanced Institute of Science and Technology (KAIST),
Daejeon, The Republic of Korea; 2. Physics and Astronomy,
UCLA, Los Angeles, CA, United States; 3. Nihon University,
Chiba, Japan; 4. Kyoto University, Uji, Japan; 5. Nihon
University, Seoul, The Republic of Korea; 6. Institute for
Chemical Research, Kyoto University, Uji, Japan

9:00

M6-02. Spin-Transfer Torques in the Vicinity of the Angular
Momentum Compensation Temperature of Ferrimagnetic
GdFeCo. T. Okuno1, D. Kim1, S. Oh2, S. Kim3, Y. Hirata4,
T. Nishimura1, Y. Futakawa5, H. Yoshikawa6, A. Tsukamoto7,
Y. Tserkovnyak3, Y. Shiota1, T. Moriyama4, K. Kim8, K. Lee9
and T. Ono1,10. 1. Institute for Chemical Research, Kyoto
University, Uji-City, Japan; 2. Department of Materials Science
and Engineering, Nihon University, Funabashi, Chiba,
Japan; 3. College of Science and Technology, Nihon
University, Funabashi, Japan; 4. Graduate School of Science and Technology, Nihon
University, Funabashi, Japan; 5. Electronic Engineering,
College of Science and Technology Nihon University,
Funabashi, Japan; 6. Department of Physics, Korea Advanced
Institute of Science and Technology (KAIST), Daejeon,
The Republic of Korea; 9. Korea University, Seoul, The Republic of
Korea; 10. Center for Spintronics Research Network, Graduate
School of Engineering Science, Osaka University, Osaka, Japan

9:15

M6-03. Ultrafast and Ultrasmall: Domain Walls and Skyrmions in
Compensated Ferrimagnetic Thin Films. L.M. Caretta1,
M. Mann1, F. Buettnner1, K. Ueda1, B. Pfau2, C. Guenther2,
P. Hessing2, A. Churkova2, M. Schneider1, D. Engel2,
C. Marcus1, D. Bon1, K. Bagschick1, S. Eisebitt2 and G. Beach1
1. Department of Materials Science and Engineering,
Massachusetts Institute of Technology, Cambridge, MA, United
States; 2. Max-Born Institut, Berlin, Germany; 3. Deutsches
Elektronen-Synchrotron (DESY), Hamburg, Germany
M6-04. Observation of Domains During Spin-Orbit Torque Induced Memristive Switching in Antiferromagnet/Ferromagnet Heterostructures. A. Kurenkov1, M. Baumgartner2, G. Sala2, G. Krishnaswamy2, F. Maccherozzi3, S. Fukami4 and H. Ohno4. 1. RIEC, Tohoku University, Sendai, Japan; 2. ETH Zurich, Zurich, Switzerland; 3. Diamond Light Source Ltd, Didcot, United Kingdom; 4. Center for Spintronics Integrated Systems, Tohoku University, Sendai, Japan

M6-05. Controlled current-driven bidirectional motion of trains of domain walls along a ferromagnetic strip. L. Sánchez-Tejerina1, E. Martínez2, V. Raposo3 and ÓSCAR. Alejos1. 1. Electricidad y Electrónica, Universidad de Valladolid, Valladolid, Spain; 2. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain
M9-01. Möbius Topological Superconductivity in UPt₃ and UCoGe. (Invited) Y. Yanase¹, A. Daido¹, T. Yoshida¹ and K. Shiozaki²
¹. Department of Physics, Kyoto University, Kyoto, Japan; 2. Condensed Matter Theory Laboratory, RIKEN, Wako, Japan

M9-02. Unconventional gap structure depending on angular momentum. S. Sumita¹ and Y. Yanase¹
¹. Department of Physics, Kyoto University, Kyoto, Japan

M9-03. Unconventional Superconductivity in Single Crystal YFe₂Ge₃. J. Chen¹, K.J. Murphy¹, M. Gamza², K. Semeniuk³ and M. Grosche¹
¹. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Jeremiah Horrocks Institute for Mathematics, Physics and Astronomy, University of Central Lancashire, Preston, United Kingdom

M9-04. Phase transitions and topological states in odd-parity superconductors interfaced with antiferromagnets. M. Mercaldo¹, P. Kotetes² and M. Cuoco³
¹. Dipartimento di Fisica, University of Salerno, Fisciano, Italy; 2. Center for Quantum Devices, Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark; 3. CNR-SPIN Salerno, Fisciano, Italy


WEDNESDAY ROOM 313/314 MORNING 8:30

Session M10
PYROCHLORES AND MAGNETIC FRAGMENTATION
Alannah Hallas, Chair
Rice University, Houston, TX, United States

M10-02. Spin dynamics in pyrochlore iridates Ho₂Ir₂O₇ and Dy₂Ir₂O₇. V. Cathelin¹,², E. Lefrancois³,⁴, E. Lhotel¹, J. Robert¹, P. Lejay¹, F. Damay⁵, L. Chapon⁶, R. Ballou¹ and V. Simonet¹
¹. Institut Néel CNRS, Grenoble, France; 2. Univ. Grenoble Alpes, Grenoble, France; 3. Max Planck Institute, Stuttgart, Germany; 4. Institut Laue Langevin, Grenoble, France; 5. Laboratoire Léon Brillouin, Saclay, France; 6. Diamond Light Source Ltd, Didcot, United Kingdom
M10-05. Creating a large density of monopoles at 200 mK in the spin ice Ho2Ti2O7, and watching them disappear. C. Poulson1,3, E. Lhotel1,3, S.R. Giblin2, S.T. Bramwell1 and K. Matsuhiura4
1. Institut Néel CNRS, Grenoble, France; 2. School of Physics and Astronomy, Cardiff University, Cardiff, United Kingdom; 3. Physics & Astronomy, University College London, London, United Kingdom; 4. Department of Electronics, Faculty of Engineering, Kyushu Institute of Technology, Kitakyushu, Japan; 5. Université Grenoble Alps, Grenoble, France

N1-05. The effect of magnetization on the capacitance of capacitor structures based on nanoporous alumina with electrodoped Ni nanowires. G.M. Oliveira1, E. Padrón Hernandez2, A.A. Quivy3 and D.R. Cornejo4 1. DFMT, Physics Institute Of São Paulo University, São Paulo, Brazil; 2. Physics Department, Universidade Federal de Pernambuco, Recife, Brazil

N1-06. Magnetic energy optimization of Cobalt-based nanowires and nanostructured magnet. H.T. Nong1, K. Mrad2, F. Schoenstein3, N. Jouini4, J. Piquemal2, B. Leridon3 and S. Mercone1 1. Department of Physics, Laboratoire des Sciences des Procédés et des Matériaux (LSPM (CNRS UPR3407)), Villeneuve, France; 2. Chemistry Department, Laboratoire ITODYS, CNRS UMR 7086, University Paris Diderot, Paris, France; 3. Department of Physics, LPEM-ESPCI, CNRS UMR 8213, PSL Research University, CNRS, Sorbonne University, Paris, France

N1-07. Synthesis and Characterization of γ'-Fe2N Nanowire for Biomedical Application. Y. Jiang1 1. Jiangnan University, Wuxi, China

N1-08. Magnetic entropy change and thermomagnetic behavior in La0.5Ca0.4Sr0.1MnO3 nanofibers obtained by electrospinning. L.A. Burrola Gándara1, L. vazquez Zubiate1, D.M. Carrillo Flores2 and J.T. Elizalde Galindo3 1. Instituto de Ingeniería y Tecnología, Universidad Autónoma de Ciudad Juárez, Juárez, Mexico; 2. Physics and Mathematics, Universidad Autónoma de Ciudad Juárez, Juárez, Mexico; 3. Physics and Mathematics, Universidad Autónoma de Ciudad Juárez, Juárez, Mexico

N1-09. Withdrawn

N1-10. Magnetic Behavior of Ultra-Short 1D Ferromagnetic Chains Based on Metallo-Phthalocyanine Superlattices. N.M. Vargas1, C. Montón2 and I.K. Schuller1 1. Physics, University of California, San Diego, San Diego, CA, United States; 2. Physics and Astronomy, University of Texas at San Antonio, San Antonio, TX, United States

N1-11. Magnetic nanowires as permanent magnets: modeling strategies to increase the coercive field. H.D. Salinas1, J. Fernandez-Roldan2, J. Restrepo3 and O. Chubykalo-Fesenko3 1. Antioquia, Universidad de Antioquia, Medellin, Colombia; 2. Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain; 3. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain

N1-12. Magnetization reversal modes of single-wall zig-zag ferromagnetic nanotubes with Dipolar Interactions. H.D. Salinas1, J. Restrepo1 and O. Iglesias3 1. Antioquia, Universidad de Antioquia, Medellin, Colombia; 2. Dept. Condensed Matter Physics, University of Barcelona, Barcelona, Spain

Session N1

CYLINDRICAL NANOSTRUCTURES: PROPERTIES AND APPLICATIONS
(Poster Session)

Martino Poggio, Chair
University of Basel, Basel, Switzerland

N1-01. Magnetic groundstate of curved nanotubes. V.L. Carvalho-Santos1, J.M. Fonseca1 and D. Altibir2 1. Physics, Universidade Federal de Viçosa, Viçosa, Brazil; 2. Physics, Universidad de Santiago de Chile, Santiago, Chile

N1-02. Effect of Dipolar Interactions on the Magnetic Properties of Tubular Nanostructures. O. Iglesias1,2, H.D. Salinas3 and J. Restrepo1 1. Dpt. Condensed Matter Physics, University of Barcelona, Barcelona, Spain; 2. Institut de Nanociencia y Nanotecnologia de la UB, Barcelona, Spain; 3. Instituto de Fisica, Universidad de Antioquia, Medellin, Colombia

N1-03. Effect of Segment Length on Domain Wall Pinning in Multisegmented Co/Ni nanowires for 3D Memory Applications. H. Mohammed1, J.A. Moreno2 and J. Kosel1 1. Computer, Electrical and Mathematical Sciences & Engineering Division, King Abdullah University of Science and Technology, Thuwal - Jeddah, Saudi Arabia; 2. Physical Science and Engineering Division, King Abdullah University of Science and Technology, Thuwal - Jeddah, Saudi Arabia

N1-04. Control of the magnetization reversal processes in FeNi nanowires with chemical notches. S. Ruiz-Gomez1, C. Fernandez-Gonzalez1, M. Foerster1, L. Aballe1, R. Guerrero2, J. de la Figuera2, A. Quesada1, A. Mascaraque1 and L. Perez1,2 1. Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. IMDEA Nanoscience, Madrid, Spain; 3. Alba Synchrontron Light Facility, CELLS, Barcelona, Spain; 4. Material’s Physical Chemistry, Instituto de Química Física “Rocasolano”, Madrid, Spain; 5. Electroceramics, Instituto de Cerámica y Vidrio, Madrid, Spain
Session N2
ELECTRIC FIELD EFFECTS AND MAGNETIC SWITCHING I
(Poster Session)
Cheng Song, Chair
Tsinghua University, Beijing, China

N2-01. A comprehensive Study of Sign Change in Electric Field Control Perpendicular Magnetic Anisotropy Energy at Fe/MgO Interface: First-Principles Calculation. I. Pardede1, T. Kanagawa1, N. Ikhsan1, M. Obata1,2 and T. Oda1,2 1. Graduate School of Natural Science and Technology, Kanazawa University, Kakuma-machi, Japan; 2. Institute of Science and Engineering, Kanazawa University, Kakuma-machi, Japan

N2-02. Effect of metallic Mg insertion on the Voltage-Controlled Magnetic Anisotropy Effect in MgO/CoFeB-Based Magnetic Tunnel Junctions. J. Ko1 and J. Hong1 1. Materials Science and Engineering, Yonsei University, Seoul, The Republic of Korea

N2-03. Electrically Programmable Magnetoresistive Switching in AIO Magnetic Tunnel Junctions. C. Hung1, J. Hong2, K. Ou Yang1, K. Chiu1 and M. Lin1,2 1. Physics, National Taiwan University, Taipei, Taiwan; 2. Physics, Tamkang University, New Taipei City, Taiwan; 3. Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan

N2-04. Electric-Field Induced Control of Magnetization in Thicker CoPd Multi-layered Films. A. Siddique1, C. Nwokoye2, A. Aslani1, L.H. Bennett1 and E. Della Torre1 1. Electrical and Computer Engineering, The George Washington University, Ashburn, VA, United States; 2. Naval Surface Warfare Center, Carderock Division, West Bethesda, MD, United States; 3. Electrical and Computer Engineering, The George Washington University, Washington, DC, United States

N2-05. Electrochemical Manipulation of Magnetism and Magnetization Reorientation in LiFePO4 by Li-ion Intercalation. T. Tumurbaatar1, D. Odkhuu1 and S. Hong1 1. Department of Physics, University of Ulsan, Ulsan, The Republic of Korea; 2. Department of Physics, Incheon National University, Incheon, The Republic of Korea; 3. Physics, University of Ulsan, Ulsan, The Republic of Korea

N2-06. Ferroelectric control of magnetic anisotropy across the CoFe/BaTiO3 interface. A.P. Chen1, W. Lin2, Y. Feng1,3 and J. Chen1,2 1. NUS Graduate School of Integrative Sciences and Engineering, National University of Singapore, Singapore, Singapore; 2. Department of Materials Sciences and Engineering, National University of Singapore, Singapore, Singapore; 3. Department of Physics, National University of Singapore, Singapore, Singapore

N2-07. Magnetic domain writing defined by electrical gating in Pt/Co film. F. Ando1, M. Ishibashi1, T. Koyama1, Y. Shiota1, T. Moriyama1, D. Chiba1 and T. Ono1 1. Institute for Chemical Research, Kyoto University, Kyoto, Japan; 2. Department of Applied Physics, The University of Tokyo, Tokyo, Japan

N2-08. Observation of reversal process of perpendicular exchange bias during magnetoelectric field cooling. Y. Shiratsuchi1, S. Watanabe1 and R. Nakatani1 1. Osaka University, Osaka, Japan

N2-09. Reversible electrical field control of magnetization and anomalous Hall effect in Co/PMN-PT hybrid heterostructures. Y. Tian1 and Y. Chen1 1. School of Physics, Shandong University, Jinan, China

N2-10. Electric-field-induced ultra-fast switching of antiferromagnets. V. Lopez Dominguez1, H. Almasi1 and P. Khalili Amiri1 1. Electrical Engineering and Computer Science, Northwestern University, Evanston, IL, United States


N3-01. Magnetic order, Kondo effect and crystalline electric field effect in Semiconducting CeSbTe. B. Lv1 1. Physics Department, Zhejiang University, Hangzhou, China

N3-02. Electronic Structure of CeNiSn: is it a Kondo Insulator or not? T. Nam1, B. Cedric2, C. Kang1, D. Ryu1, K. Kim1 and B. Min1 1. POSTECH, Pohang, The Republic of Korea; 2. The University of Tokyo, Tokyo, Japan
N3-03. Low energy excitations of the topological non-trivial Kondo insulators CeRu$_3$Sn$_4$ and SmB$_6$: A high resolution Resonant Inelastic X-ray Scattering (RIXS) study. A. Amorese$^{1,2}$, K. Kummer$^1$, O. Stockert$^1$, D. Adroja$^1$, A. Strydom$^1$, A. Prokofiev$^2$, S. Paschen$^2$, D. Kim$^2$, Z. Fisk$^2$, M. Haverkort$^1$, L. Tjeng$^2$ and A. Severing$^1$ 1. Institute of Physics II, University of Cologne, Dresden, Germany; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 3. European Synchrotron Radiation Facility (ESRF), Grenoble, France; 4. ISIS Facility, Didcot, United Kingdom; 5. Physics, University of Johannesburg, Auckland Park, South Africa; 6. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 7. Institute for Theoretical Physics, Heidelberg University, Heidelberg, Germany; 8. Department of Physics and Astronomy, University of California, Irvine, Irvine, CA, United States

N3-04. Divalent ion substitution effect on Yb-site in Kondo Insulator YbB$_{23}$. W. Matsuura$^1$, K. Yokomichi$^1$, W. Hirano$^2$, S. Kikuchi$^1$, N. Uematsu$^1$, H. Nakayama$^1$, A. Kondo$^1$, K. Kindo$^3$ and F. Iga$^{1,2}$ 1. Graduate School and Engineering, Ibaraki University, Mito-shi, Japan; 2. College of science, Ibaraki University, Mito-shi, Japan; 3. ISSP, The University of Tokyo, Tokyo, Japan

N3-05. Kondo effect at carbon vacancies in graphene sheets: A Numerical Renormalization Group study. D. May$^1$ and F. Anders$^2$ 1. Theoretical Physics, Technical University Dortmund, Dortmund, Germany; 2. Theoretical Physics, Technical University Dortmund, Dortmund, Germany

N3-06. Observation of a resonant-type ground state in graphene intercalated with cerium. C. Hwang$^1$ 1. Physics, Pusan National University, Busan, The Republic of Korea

N3-07. Withdrawn

N3-08. Abnormal mixed-valent behavior in Sm$_{1-x}$Y$_x$S. D.G. Mazzone$^1$, J. Hancock$^2$, K. Imura$^3$, J. Rueff$^4$, J. Ablett$^1$, H. Yamaoka$^1$, N. Hiraoka$^3$, K. Tsuei$^3$ and I. Jarrige$^1$ 1. National Synchrotron Light Source II, Brookhaven National Laboratory, Upton, NY, United States; 2. Department of Physics, University of Connecticut, Storrs, CT, United States; 3. Department of Physics, Graduate School of Science, Nagoya University, Nagoya, Japan; 4. Synchrotron SOLEIL, Gif-sur-Yvette Cedex, France; 5. RIKEN SPring-8 Center, Hyogo, Japan; 6. National Synchrotron Radiation Research Center, Hsinchu, Taiwan

N3-09. Withdrawn

N4-01. Strong interlayer magnon-magnon coupling in magnetic metal/insulator hybrid nanostructures. J. Chen$^1$, C. Liu$^1$, T. Liu$^2$, Y. Xiao$^3$, G. Bauer$^5$, M. Wu$^2$ and H. Yu$^1$ 1. Spintronics Interdisciplinary Center, Beihang University, Beijing, China; 2. Department of Physics, Colorado State University, Fort Collins, CO, United States; 3. Department of Applied Physics, Nanjing University of Aeronautics and Astronautics, Nanjing, China; 4. Department of Physics, Beijing Normal University, Beijing, China; 5. IMR, Tohoku University, Sendai, Japan

N4-02. Spin waves in configurational antiferromagnetic states: transitions to and from ferromagnetic states. F. Montoncello$^1$, D. Kuzma$^{1,2}$, P. Sobieszczyk$^2$, A. Wal$^3$, L. Giovannini$^1$ and P. Zielinski$^2$ 1. Department of Physics and Earth Sciences, University of Ferrara, Ferrara, Italy; 2. Institute of Nuclear Physics, Polish Academy of Sciences, Cracow, Poland; 3. University of Rzeszow, Rzeszow, Poland

N4-03. Spin-Resolved Inelastic Electron Scattering by Spin Waves in Noncollinear Magnets. F. dos Santos$^1$, M. dos Santos Dias$^1$, F. Souza Mendes Guimaraes$^1$, J. Bouaziz$^1$ and S. Lounis$^1$ 1. Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Jülich & JARA, Jülich, Germany

N4-04. Excitation and propagation of spin wave pulses in a magnonic crystal. C.L. Ordóñez-Romero$^1$, P. Pan$^2$, N. Qureshi$^3$ and G. Monsivais$^1$ 1. Solid State, Physics Institute, UNAM, Mexico City, Mexico; 2. BUAP, Puebla, Mexico; 3. CCADoT, UNAM, Mexico City, Mexico

N4-05. Magnonic Spectra of Spin Wave in Antiferromagnetic Skyrmion Crystals. F. Ma$^{1,2}$, P. Pan$^2$, X. Jin$^2$ and Y. Li$^2$ 1. School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore; 2. School of Physics and Technology, Nanjing Normal University, Nanjing, China

N4-06. Withdrawn

N4-07. Withdrawn
N4-08. Reconfigurable magnonic band structure in Py/Cu/Py nanowires. G. Gubbioni1, L. Z. Zhou1, Z. Haghshenasfarid1, A. Adeyeye1 and M. Kostylev1 1. IOM-CNR, Perugia, Italy; 2. Department of Physics and Astronomy, University of Western Ontario, London, ON, Canada; 3. Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore; 4. School of Physics, The University of Western Australia, Crawley, WA, Australia

N4-09. Collective spin waves in arrays of permalloy nanowires with single- and double-side periodical width-modulation. G. Gubbioni1, L. Xiong2, F. Montoncelli3, L. Giovannini1 and A. Adeyeye1 1. IOM-CNR, Perugia, Italy; 2. ECE, NUS, Singapore, Singapore; 3. Physics, University of Ferrara, Ferrara, Italy; 4. Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore

N5-04. Magnetic Properties of reactive sputtered NiFe-oxide samples. B. D. C1, W. J. Geerts2, A. Oliva3, A. Ayala3, S. C. Acharya1, J. Talbert1, L. Scolfaro1 and F. Twagirayezu1 1. Physics, Texas State University, San Marcos, TX, United States; 2. Physics, Texas State University, San Marcos, TX, United States

N5-05. Recrystallization behavior and magnetostriuctive property in the rolled Fe-Ga alloy slab. Q. Qi2, X. Gao1 and J. Li1 1. State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, Beijing, China

N5-06. Ferrimagnetic resonance lineshape of annealed Ni ferrites. M. Pessoa1, F. Pelegrini2, P. S. Moscon3, J. R. Proveti1, E. P. Muniz1 and P. S. Porto1 1. Departamento de Ciências Naturais, Universidade Federal do Espírito Santo, São Mateus, Brazil; 2. Instituto de Física, Universidade Federal de Goiás, Goiânia, Brazil; 3. Departamento de Física, Universidade Federal do Espírito Santo, Vitória, Brazil; 4. Departamento de Engenharias e Tecnologia, Universidade Federal do Espírito Santo, São Mateus, Brazil

N5-07. Magnetic phase diagrams of TbFe2Al16 single crystal. T. Mizushima1, Y. Kamide1, R. Sahoo1, E. Benedikt1, A. Markou1, A. Kalache1, R. Cabassi1, F. Albertini1 and C. Felser4 1. Department of Physics, University of Toyama, Toyama, 930-8555, Japan

N5-08. Enhanced magnetic anisotropy in Mn3Ga thin films grown on LSAT. J. Karel1, F. Casoli1, L. Nasi1, P. Lupo1, R. Sahoo1, E. Benedikt1, A. Markou1, A. Kalache1, R. Cabassi1, V. Zviagin1, F. Pelegrini2, P. S. Moscon3, J. R. Proveti1, E. P. Muniz1 and P. S. Porto1 1. IOM-CNR, Perugia, Italy; 2. ECE, NUS, Singapore, Singapore; 3. Physics, University of Ferrara, Ferrara, Italy; 4. Materials Science and Engineering, Monash University, Clayton, VIC, Australia; 5. IMEM-CNR, Parma, Italy

N5-09. Structural, Magnetic and Transport Properties in Epitaxial Thin Films of spin-filter Heusler Alloy CrVTiAl. V. K. Kushwaha1, J. Rani1,3, A. Tulapurkar2 and C. Tomy1 1. Department of Physics, Indian Institute of Technology Bombay, Mumbai, India; 2. Department of Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, India; 3. Department of Physics, Vardhaman College, Bijnor, India; 4. School of Natural Sciences, Shiv Nadar University, Gautam Buddha Nagar, India

N5-10. Temperature evolution of unconventional magnetic domains in multiferroic Sr3Co2Fe24O41. X. Gao1, L. Xiong2, F. Montoncello3, L. Giovannini3 and J. R. Proveti1 1. Materials Science, Institute of Physics ASCR, Prague, Prague, Czechia; 2. IMEM-CNR, Parma, Italy; 3. Materials Science, Institute of Physics ASCR, Prague, Prague, Czechia

N5-11. Spinel Ferrite Bulk and Surface Cation and Defect Contribution to the Ferrimagnetic Response. V. Zviagin1, P. Huth1, C. Sturm1, J. Lenzner1, A. Setzer1, R. Denecke2, P. Esquinazi2, M. Grundmann1 and R. Schmidt-Grund1 1. Felix Bloch Institute for Solid State Physics, University of Leipzig, Leipzig, Germany; 2. Wilhelm-Ostwald-Institute for Physical and Theoretical Chemistry, University of Leipzig, Leipzig, Germany

WEDNESDAY MORNING
SAN FRANCISCO BALLROOM

Session N5
NEW MAGNETIC MATERIALS II
(Poster Session)
Zhongqiang Hu, Co-Chair
Xi’an Jiaotong University, Xi’an, China
Ziyao Zhou, Co-Chair
Xi’an Jiaotong University, Xi’an, China

N5-01. Optical and Magneto-optical Studies of Doped Magnetic Shape Memory Ni-Mn-Ga Heusler alloys. D. Kral1, M. Veis2, P. Cejpek3, O. Heczko3, L. Straka3, L. Beran4 and M. Zeleny4 1. Institute of Physics, Charles University in Prague, Prague, Czechia; 2. Institute of Physics, Charles University, Prague, Czechia; 3. Department of Condensed Matter Physics, Charles University, Prague, Czechia; 4. Department of Functional Materials, Institute of Physics ASCR, Prague, Prague, Czechia

N5-02. Dewetting Of Ni Thin Films Obtained By Atomic Layer Deposition Due To The Thermal Reduction Process: Variation Of The Thickness. D. Alburquenque1, P. Cejpek1, O. Heczko3, L. Straka3, L. Beran4 and M. Zeleny4 1. Centro para el Desarrollo de la Nanociencia y la Nanotecnologia CEDENNA, Santiago, Chile; 2. Department of Physics, University of Santiago of Chile, Santiago, Chile

N5-03. Structural and magnetic properties of bulk SrMnO3 samples. V. C. Isaza1, C. E. Maya1, M. E. Moncada1, H. J. Alánglar1, C. Parra2, A. Gomez2, J. A. Astudillo2, G. Bolaños Pantoja2, S. Dionizio3, O. Morán1 and J. L. Izquierdo1 1. Facultad de Ingeniería, Institución Universitaria Pascual Bravo, Medellín, Colombia; 2. Facultad de Ciencias, Universidad Pedagógica y Tecnológica de Colombia, Tunja, Colombia; 3. Grupo de Investigación en Materiales Avanzados y Energía MATyER, Institución Universitaria ITM, Medellín, Colombia; 4. Facultad de Ciencias- Escuela de Física, Universidad Nacional de Colombia – Sede Medellín, Medellín, Colombia; 5. Departamento de física, Universidad del Cauca, Popayan, Colombia

N5-04. Magnetic Properties of reactive sputtered NiFe-oxide samples. B. D. C1, W. J. Geerts2, A. Oliva3, A. Ayala3, S. C. Acharya1, J. Talbert1, L. Scolfaro1 and F. Twagirayezu1 1. Physics, Texas State University, San Marcos, TX, United States; 2. Physics, Texas State University, San Marcos, TX, United States

N5-05. Recrystallization behavior and magnetostriuctive property in the rolled Fe-Ga alloy slab. Q. Qi2, X. Gao1 and J. Li1 1. State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, Beijing, China

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N5-07. Magnetic phase diagrams of TbFe2Al16 single crystal. T. Mizushima1, Y. Kamide1, R. Sahoo1, E. Benedikt1, A. Markou1, A. Kalache1, R. Cabassi1, F. Albertini1 and C. Felser4 1. Department of Physics, University of Toyama, Toyama, 930-8555, Japan

N5-08. Enhanced magnetic anisotropy in Mn3Ga thin films grown on LSAT. J. Karel1, F. Casoli1, L. Nasi1, P. Lupo1, R. Sahoo1, E. Benedikt1, A. Markou1, A. Kalache1, R. Cabassi1, V. Zviagin1, F. Pelegrini2, P. S. Moscon3, J. R. Proveti1, E. P. Muniz1 and P. S. Porto1 1. IOM-CNR, Perugia, Italy; 2. ECE, NUS, Singapore, Singapore; 3. Physics, University of Ferrara, Ferrara, Italy; 4. Materials Science and Engineering, Monash University, Clayton, VIC, Australia; 5. IMEM-CNR, Parma, Italy

N5-09. Structural, Magnetic and Transport Properties in Epitaxial Thin Films of spin-filter Heusler Alloy CrVTiAl. V. K. Kushwaha1, J. Rani1,3, A. Tulapurkar2 and C. Tomy1 1. Department of Physics, Indian Institute of Technology Bombay, Mumbai, India; 2. Department of Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, India; 3. Department of Physics, Vardhaman College, Bijnor, India; 4. School of Natural Sciences, Shiv Nadar University, Gautam Buddha Nagar, India

N5-10. Temperature evolution of unconventional magnetic domains in multiferroic Sr3Co2Fe24O41. X. Gao1, L. Xiong2, F. Montoncello3, L. Giovannini3 and J. R. Proveti1 1. Materials Science, Institute of Physics ASCR, Prague, Prague, Czechia; 2. IMEM-CNR, Parma, Italy; 3. Materials Science, Institute of Physics ASCR, Prague, Prague, Czechia

N5-11. Spinel Ferrite Bulk and Surface Cation and Defect Contribution to the Ferrimagnetic Response. V. Zviagin1, P. Huth1, C. Sturm1, J. Lenzner1, A. Setzer1, R. Denecke2, P. Esquinazi2, M. Grundmann1 and R. Schmidt-Grund1 1. Felix Bloch Institute for Solid State Physics, University of Leipzig, Leipzig, Germany; 2. Wilhelm-Ostwald-Institute for Physical and Theoretical Chemistry, University of Leipzig, Leipzig, Germany


N5-14. Magnetic anisotropy and martensitic transformation in thin films of Ni-Mn-Ga and Ni-Fe(Co)-Ga ferromagnetic shape memory alloys. I. Rodriguez Aseguinolaza, V. Chernenko, V. Golub and J. Barandiaran. 1. University of the Basque Country (UPV/EHU), Leioa, Spain; 2. Ikerbasque, Bilbao, Spain; 3. Institute of Magnetism, NASU and MESYSU, Kyiv, Ukraine; 4. BCMaterials, Leioa, Spain

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N6-03. Critical Behavior of Quasi-one Dimensional Ferromagnetic CrTe$_{1-x}$Sbx. K.A. Ziqi and M.K. Hamad. 1. Physics, King Fahad University of Petroleum and Minerals, Dhahran, Saudi Arabia

N6-04. High-field TF-μSR study on the ground state of the quantum spin dimer system NH$_4$CuCl$_4$ around the 1/4 plateau. K. Matsui, I. Watanabe, T. Suzuki, M. Fujisawa, H. Tanaka, T. Goko, R. Scheuermann and T. Goto. 1. Physics Division, Sophia University, Tokyo, Japan; 2. Research Fellow Japan Society for the Promotion of Science, Tokyo, Japan; 3. Department of Physics, Tokyo Institute of Technology, Tokyo, Japan; 4. Advanced Meson Science Laboratory, RIKEN, Saitama, Japan; 5. Paul Scherrer Institut, Villigen, Switzerland; 6. Faculty of Engineering, Shibaura Institute of Technology, Saitama, Japan

N6-05. Universality of magnetic-field-induced Bose-Einstein condensation of magnons in the singlet ground state magnet CsFeBr$_3$. K. Shirasawa, N. Kurita and H. Tanaka. 1. Tokyo Institute of Technology, Meguro-ku, Japan

N6-06. Quantum Phases of the S=1 Triangular Bilinear-Biquadratic Model in a Magnetic Field. C. Suzuki, D. Yamamoto and N. Furukawa. 1. Department of Physics and Mathematics, Aoyama-Gakuin University, Kanagawa, Japan


N6-08. Stabilized Higgs Mode in Anisotropic Quantum Magnets near the Quantum Critical Point. Y. Su, W. Zhu, J. Zhu and S. Lin. 1. T4 group, Los Alamos National Laboratory, Los Alamos, NM, United States
N7-05. Metal-insulator Transition in CaVO₃ Thin Films: Interplay between Epitaxial Strain, Dimensional Confinement, and Surface Effects. S. Beck¹ and C. Ederer¹ 1. Materials Theory, ETH Zurich, Zurich, Switzerland

N7-06. Magnetic Excitations in SrIr₂O₇: Linear Spin-Wave or Quantum Dimer? C.D. Dashwood¹, D. Pincini², J.G. Vale¹, L.S. Veiga¹, M. Moretti³, R. Perry¹ and D.F. McMorrow¹ 1. London Centre for Nanotechnology, University College London, London, United Kingdom; 2. Diamond Light Source Ltd, Didcot, United Kingdom; 3. European Synchrotron Radiation Facility, Grenoble, France

N7-07. Putative magnetic quantum critical point in (Sr₁₋ₓLaₓ)₃Ir₂O₇. J.G. Vale¹ 1. London Centre for Nanotechnology, University College London (UCL), London, United Kingdom

N7-08. Mott Transition in the Pyrochlore Oxides. N. Swain¹ and P. Majumdar² 1. School of Physical and Mathematical Sciences, Nanyang Technological University, Jurong West, Singapore; 2. Harish-Chandra Research Institute, Allahabad, India

N7-09. The origin of the metal insulator phase transition of β-type pyrochlore oxide CsW₂O₆. H. Harima¹ 1. Physics, Kobe University, Kobe, Japan

N7-11. Withdrawn


N7-02. Magnetism of Two-dimensional Electron Liquids within SrTiO₃ Quantum Wells. R. Need¹, P. Marshall², B. Isaac², B.J. Kirby¹, J. Borchers¹, E. Kenney¹, A. Suter⁴, M. Graf⁴, S. Stemmer⁴ and S.D. Wilson¹ 1. NIST Center for Neutron Research, Gaithersburg, MD, United States; 2. Materials, University of California, Santa Barbara, Santa Barbara, CA, United States; 3. Physics, Boston College, Chestnut Hill, MA, United States; 4. Paul Scherrer Institut, Villigen - PSI, Switzerland; 5. University of California, Santa Barbara, Santa Barbara, CA, United States

N7-03. Withdrawn

N7-04. Correlation between lattice parameter and critical temperature in V₂O₃ thin films. J. Ha¹ and J. Hong¹,² 1. Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Hyeonpung, The Republic of Korea; 2. Emerging Materials Science, Global Center for Bio Convergence Spin Systems, Daegu, The Republic of Korea

N7-05. Metal-insulator Transition in CaVO₃ Thin Films: Interplay between Epitaxial Strain, Dimensional Confinement, and Surface Effects. S. Beck¹ and C. Ederer¹ 1. Materials Theory, ETH Zurich, Zurich, Switzerland

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N7-11. Withdrawn


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N7-03. Withdrawn

N7-04. Correlation between lattice parameter and critical temperature in V₂O₃ thin films. J. Ha¹ and J. Hong¹,² 1. Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Hyeonpung, The Republic of Korea; 2. Emerging Materials Science, Global Center for Bio Convergence Spin Systems, Daegu, The Republic of Korea
N8-03. The comparison of magnetic properties at room temperature in RCo$_x$ (R = Y, Sm, Gd) nanoflakes synthesized via time-staged HEBM. A. Bajorek$^{1,2}$, P. Lopadczak$^{1,2}$, K. Prusik$^{1,2}$, M. Zubko$^{1,2}$ and G. Chelkowska$^{1,2}$

$^1$ A. Chelkowski Institute of Physics, University of Silesia in Katowice, Chorzów, Poland; $^2$ Silesian Center for Education and Interdisciplinary Research, University of Silesia in Katowice, Chorzów, Poland

N8-04. Coercivity enhancement of Nd-Fe-B sintered magnet by grain boundary diffusion process with Pr$_{0.9}$Tb$_{0.1}$Cu$_3$Al$_{15}$ alloys. K. Lu$^1$, X. Bao$^1$, G. Chen$^1$, X. Mu$^1$, J. Li$^1$ and X. Gao$^1$

$^1$ University of Science and Technology Beijing, Beijing, China

N8-05. Synthesis of NdFeB Nanoparticles and Nano-Flakes by One Step Surfactant-Assisted Planetary Ball Milling. N. Gunduz Akdogan$^{1,2}$ and O. Akdogan$^{1,2}$

$^1$ Pirsi Reis University, Istanbul, Turkey; $^2$ Nanotechnology Research and Application Center, Sabanci University, Istanbul, Turkey

N8-06. Changes in the Magnetic Domain Structure of Nd-Fe-B Sintered Magnets by Applying Compressive Stress and Heat. M. Takezawa$^1$, K. Fukushima$^1$, Y. Morimoto$^1$ and N. Matsumoto$^1$ $^1$ Faculty of Engineering, Kyusyu Institute of Technology, Kitakyushu, Japan

N8-07. Magnetic domain observation of ferrite sintered magnets using MFM images observed from multiple distances and image processing. G. Obara$^1$, T. Sakuragi$^1$ and O. Ono$^1$ $^1$ School of Science and Technology, Meiji University, Kawasaki, Japan

N8-08. Comparative Magnetic Force Microscopy Study on the Sintered Nd-Fe-B Permanent Magnet Prepared by Mechanically Polishing Technique and Focused Ion Beam Technique. H. Chen$^1$, Y. Yao$^2$, Z. ye$^3$, F. Yun$^1$, J. Qu$^1$ and R. Zheng$^1$ $^1$ The University of Sydney, Sydney, NSW, Australia; $^2$ University of New South Wales, Sydney, NSW, Australia; $^3$ Hengdian Group DMEGC Magnetics Co. Ltd, Hengdian, China


N8-10. The Effect of Nd$_3$Cu$_2$ Alloy on the Microstructure and Magnetic Properties of (Nd, MM) FeB Sintered Magnets. Q. Ma$^{1,2}$, Z. Zhang$^1$, Z. Hu$^1$, Y. Liu$^{1,3}$, X. Zhang$^{1,3}$, F. Liu$^1$, X. Ju$^1$ and Y. Li$^{1,3}$ $^1$ Inner Mongolia Key Laboratory for Utilization of Bayan Obo Multi Metallic Resources: Elected State Key Laboratory, Inner Mongolia University of Science and Technology, Baotou 014010, China; $^2$ School of Science, Inner Mongolia University of Science and Technology, Baotou 014010, China

N8-11. Origin of crystalline magnetic anisotropy of Sm$_{10}$Fe$_{77}$N$_3$ permanent magnet material. H. Akai$^1$ $^1$ Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan

WEDNESDAY MORNING

10:00

Session N9

SHIELDING IV

(Poster Session)

Eric Theisen, Chair

Metglas, Conway, SC, United States

N9-01. Effect of Stress Annealing on Domain Structures and noise performance of METGLAS 2714AZ for Fluxgate sensing applications. P. Sarkar$^1$, C. Lu$^1$, J. Jeng$^2$, F. Yuan$^1$, M. Lai$^1$, P. Ripka$^1$, K. Zaveta$^1$ and C. Chang$^1$ $^1$ Department of Mechanical Engineering, National Taipei University of Technology, Taipei, Taiwan; $^2$ Mechanical Engineering, National Kaohsiung University of Applied Sciences, Kaohsiung, Taiwan; $^3$ iSentek Inc., Taipei, Taiwan; $^4$ Faculty of Electrical Engineering, Czech Technical University, Prague, Czechia; $^5$ Institute of Physics, Prague, Czechia; $^6$ Department of Physics, National Taiwan University, Taipei, Taiwan

N9-02. A Steinmetz Equation as a Function of Duty Cycle for Transformer Applications. S.R. Moon$^{1,2}$, K. Byerly$^{1,3}$ and P. Ohodnicki$^1$ $^1$ National Energy Technology Laboratory, Pittsburgh, PA, United States; $^2$ US Department of Energy, Oak Ridge Institute for Science and Education, Oak Ridge, TN, United States; $^3$ Contractor to the US Department of Energy, AECOM, Pittsburgh, PA, United States

N9-03. Study on Vibration of Iron Core of Transformer and Reactor based on Maxwell Stress and Anisotropic Magnetostriction. P. Zhang$^1$, L. Li$^2$, Z. Cheng$^2$ and C. Tian$^1$ $^1$ North China Electric Power University, Beijing, China; $^2$ Baoding Tianwei Group Co. Ltd, Baoding, China

N9-04. Measurement Research on magnetostriction influence of Electrical Sheet Steel under Different DC Bias. D. Chen$^1$, Z. Feng$^1$ and B. Bai$^1$ $^1$ School of Electrical Engineering, Shenyang University of Technology, Shenyang, China

N9-05. Analytical study of magnetic properties of Fe-(6, 6.5, 7) mass% Si alloys prepared by high purity metallurgy. I. Sasaki$^1$, K. Matsuyama$^1$, X. Ren$^1$, Z. LEI$^2$, M. Takezawa$^1$, H. Era$^1$, C. Kaido$^1$ and T. Ogawa$^1$ $^1$ School of Science and Technology, Kitakyushu, Japan; $^2$ Mitsubishi Electric Corporation, Amagasaki, Japan; $^3$ Faculty of Electrical Engineering, National Kaohsiung University of Applied Sciences, Kaohsiung, Taiwan; $^4$ Faculty of Electrical Engineering, National Taiwan University, Taipei, Taiwan; $^5$ Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; $^6$ Institute of Physics, Prague, Czechia; $^7$ Department of Physics, National Taiwan University, Taipei, Taiwan

Eric Theisen, Chair

Metglas, Conway, SC, United States
N9-06. Magnetic Loss Decomposition in Non-Oriented Steels after Loss-Reducing Dynamic/Continuous Heat Processing. S. Dobák¹, J. Fuzer², P. Kollár³, F. Kováč³ and I. Petroshynets³ ¹. Institute of Physics, Faculty of Science, P. J. Safarik University, Kosice, Slovakia; ². Division of Metals Systems, Institute of Materials Research, Slovak Academy of Sciences, Kosice, Slovakia


N9-08. The dependence of magnetic properties on the areal fraction of Goss orientation in Fe-2% Si steel. H. Ko¹, K. Han¹ and J. Park¹ ¹. POSCO, Pohang, The Republic of Korea

N9-09. Magnetic characterization of ARMCO Pure Iron for the HL-LHC magnets. A. Parrella¹, P. Arpaia², M. Buzio³, A. Liccardo², M. Pentella², R. Principe³ and P. Ramos³ ¹. Tecnico, University of Lisbon, Lisbon, Portugal; ². DIETI, University of Naples, Naples, Italy; ³. Institute of telecommunication, Instituto Superior Tecnico, University of Lisbon, Lisbon, Portugal

N10-01. Experimental study of the spin Hall effect in platinum films by using scanning tunneling microscopy. T. Xie¹, M. Dreyer², D. Bowen³, D. Hinkel³, R. Butera³, C. Krafft³ and I. Mayergoyz³ ¹. ECE, University of Maryland, College Park, MD, United States; ². Physics, University of Maryland, College Park, MD, United States; ³. LPS, College Park, MD, United States

N10-02. Low current modifications in anomalous Hall Effect signals in perpendicularly magnetized system. R. Guerrero¹, A. Anadon¹, A. Gudin¹, J. Diez², F. Ajejas³, J. Camarero¹, R. Miranda² and P. Perna³ ¹. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain; ². IMDEA Nanociencia, Madrid, Spain; ³. IMDEA Nanoscience, Madrid, Spain

N10-03. Unidirectional spin Hall magnetoresistance of FM/W bilayers. S. Kim¹, T. Li², W. Ham¹, T. Ikeuchi², H. Mizuno³, K. Kim¹, Y. Shiota¹, T. Moriyama² and T. Ono¹ ¹. Institute for Chemical Research, Kyoto University, Uji, Japan; ². Kyoto University, Kyoto, Japan; ³. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 4. Department of Physics, University of Ulsan, Uji, Japan

N10-04. Universality of anisotropic magnetoresistance in spintronics systems. F. Ajejas¹, P. Perma¹, D. Maccariello¹, J.L. Fernandez Cuñado¹, A. Bollero¹, J.L. Prieto¹, M. Muñoz², J. Camarero³ and R. Miranda³ ¹. IMDEA NANOSCIENCE, Madrid, Spain; ². IMDEA Nanoscience, Madrid, Spain; ³. CNRS, University of Paris-Sud, Paris, France; 4. IMDEA Nanoscience, Madrid, Spain; 5. Física Aplicada, Universidad Politécnica de Madrid, Madrid, Spain; 6. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain; 7. CSIC, Madrid, Spain

N10-05. Electron-phonon and magnetic impurity scatterings in copper oxides. Y. Tazaki¹, Y. Kageyama² and K. Ando³ ¹. Applied Physics and Physico-Informatics, Keio University, Kanagawa, Japan

N10-06. Crystalline-direction dependent spin transport in single crystal Fe/GaAs(110) films. F. Zeng¹, C. Zhou¹, M. Jia¹, Y. Huo¹ and Y. Wu¹ ¹. Physics Department, Fudan University, Shanghai, China

N10-07. Withdrawn

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Wednesday Morning

10:00

**Session N11**

**SUPERCONDUCTORS II**

(Poster Session)

Daniel Braithwaite, Chair

Inac, CEA, Universite Grenoble Alpes, Grenoble, France

N11-01. Field-induced antiferromagnetic order and its quantum critical fluctuations in CeCo(In1-xZnx)5. Y. Oshima¹, K. Suzuki¹, K. Tenya², Y. Shimizu³, A. Nakamura¹, D. Aoki², A. Kondo³, S. Nakamura⁴ and T. Sakakibara⁴ ¹. Physics Department, Ibaraki University, Mito, Japan; ². Department of Education, Shinshu University, Nagano, Japan; ³. Institute for Materials Research, Tohoku University, Sendai, Japan; ⁴. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan

N11-02. Non-linear Meissner response in unconventional superconductors: CeCo(In1-xZnx)5, KFe2As2. J.A. Wilcox¹, D. Kaczorowski² and A. Carrington¹ ¹. Physics Department, Ibaraki University, Mito, Japan; ². Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wroclaw, Poland

N11-03. Thermal Conductivity of Heavy-Fermion Superconductor CeCo(In1-xZnx)5. A. Osawa¹, Y. Oshima¹, K. Suzuki¹, K. Tenya² and M. Yokoyama¹ ¹. Physics Department, Ibaraki University, Mito, Japan; ². Shinshu University, Nagano, Japan

N11-04. Withdrawn
N12-05. Insight into Magnetism of Graphene and Graphene-derivatives from Experiment and Electronic-structure Calculations. P.S. Blonski1, J. Tucek1, Z. Sofer2, M. Pumera3, M. Otyepka1 and R. Zboril1
1. Department of Physical Chemistry, Regional Centre of Advanced Technologies and Materials, Palacky University Olomouc, Olomouc, Czechia; 2. Department of Inorganic Chemistry, University of Chemistry and Technology Prague, Prague, Czechia; 3. Division of Chemistry & Biological Chemistry, School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore

N12-06. The role of faceting and shape on the effective magnetic anisotropy of magnetite nanocrystals. S. Poyser1, R. Moreno Ortega1, A. Meo1, G. Vallejo-Fernandez4, S. Majetich3, V. Lazarov1 and R.F. Evans2
1. Physics, University of York, York, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom; 3. Carnegie Mellon University, Pittsburgh, PA, United States; 4. The University of York, York, United Kingdom

N12-07. Toward Two-Dimensional Dirac Half-metallic MnX3 for Spintronics. Q. Sun1 and N. Kioussis2
1. Physics and Astronomy Department, California State University, Northridge, Northridge, CA, United States; 2. Physics, California State University Northridge, Northridge, CA, United States

N12-08. MonteCarlo calculation of the magnetic properties of (S=3/2)10 rings. F. Bartolome1,2, E. Bartolome3 and J. Bartolomé1,2
1. ICMA, CSIC - Universidad de Zaragoza, Zaragoza, Spain; 2. Física de la Materia Condensada, Universidad de Zaragoza, Zaragoza, Spain; 3. Escola Universitària Salesiana de Sarrià, Barcelona, Spain

N12-09. Free-Energy Landscapes in Magnetic Systems from Metadynamics. J. Tobík1, R. Martonak2 and V. Cambel1
1. Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia; 2. Comenius University, Faculty of Mathematics, Physics and Information Technology, Bratislava, Slovakia

N12-10. Highly efficient energy dissipation in soft magnetic nanoparticles in single-domain state. M. Kim1, J. Sim1, J. Lee1, M. Kim3 and S. Kim1
1. Department of Materials Science and Engineering, Seoul National University, Seoul, The Republic of Korea
Session N13
THEORY AND SIMULATION OF MAGNETIC SYSTEMS II
(Poster Session)
Yoshiyuki Fukumoto, Chair
Tokyo University of Science, Noda, Japan

N13-01. Phase Transitions in the Antiferromagnetic Kagome XY Model with and without Next-Nearest-Neighbor Interactions. S. Okazaki1, D. Yamamoto1 and N. Furukawa1
1. Department of Physics and Mathematics, Aoyama-Gakuin University, Kanagawa, Japan


N13-03. Magnetic transitions in ordered double perovskite Sr₂FeMoO₆ by first principle calculations. A.M. Reyes Usuga1,2, J.A. Montoya Martinez1, Y. Arredondo Leon1 and O. Navarro Chavez1 1. Facultad de Ciencias Exactas y Naturales, Universidad de Cartagena, Cartagena, Colombia; 2. Facultad de Ciencias Físico Matematicas, Universidad Michoacana de San Nicolas de Hidalgo, Morelia, Mexico

N13-04. Variational Monte Carlo simulations on 2D Rectangular Heisenberg Spin 1/2 Lattices using Gutzwiller projected Staggered flux Ansatz. N. Shaik1, B. Dalla Piazza1, D. Ivanov2 and H.M. Ronnow1 1. Physics, Ecole Polytechnique Federale De Lausanne, Lausanne, Switzerland; 2. Physics, ETH Zurich, Zurich, Switzerland


N13-06. A Novel Concentric Circular Ring Structure Applied in AUV’s Inductive Power Transfer System for Resisting the Disturbance of Ocean Current. H. Wen1, K. Zhang1, Z. Yan2 and B. Song1 1. School of Marine Science and Technology, Northwestern Polytechnical University, Xi’an, China; 2. Northwestern Polytechnical University, Xi’an, China; 3. School of Marine Science and Technology, Northwestern Polytechnical University, Xi’an, China

N13-07. Synthetic Electric Field Calculation Method Based on a Three-coils Structure WPT System for Resisting the Seawater Current Vibration. K. Zhang1 and X. Zhang1
1. School of Marine Science and Technology, Northwestern Polytechnical University, Xi’an, China

N13-08. Withdrawn

N13-09. Withdrawn

N13-10. Withdrawn

Session N14
THIN FILM AND HYBRID NANOSTRUCTURES I
(Poster Session)
Robert Streubel, Chair
Lawrence Berkeley National Laboratory, Berkeley, CA, United States

N14-01. Asymmetric relaxation of magnetic frustration observed in freestanding B2-ordered FeRh thin films. J. Massey1, R.C. Temple2, T.P. Almeida1, R. Lamb1, N. Peters1, A. Campion1, D. McGrouther3, S. McVitie6, P. Steadman7 and D.H. Cobden1, D. Xiao6, W. Yao7, P. Jarillo-Herrero3 and B. Huang1 1. School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom; 2. School of Electrical and Electronic Engineering, University Of Leeds, Leeds, United Kingdom; 3. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 4. School of Physics, University of Washington, Seattle, WA, United States; 5. School of Physics and Astronomy, University of Calgary, Calgary, Canada; 6. Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 7. Diamond Light Source Ltd, Didcot, United Kingdom

N14-02. Ferromagnetic Manganese Based Ultra Thin Films: Structural, Spectroscopic and Magnetic Characterization. C. Navio1, M. Villanueva1, E. Céspedes2, F.J. Mompean2, M. Garcia-Hernández2, J. Camarero1,3 and A. Bollero1 1. IMDEA Nanoscience, Madrid, Spain; 2. ICMM CSIC, Madrid, Spain; 3. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain

N14-03. Electrical Control of 2D Magnetism in Bilayer CrI₃. B. Huang1, G. Clark2, D.R. Klein1, D. MacNeill1, E. Navarro-Moratalla1, K.L. Seyler1, N.P. Wilson1, M. McGuire1, D.H. Cobden1, D. Xiao2, W. Yao2, P. Jarillo-Herrero1 and X. Xu1,2 1. Physics, University of Washington, Seattle, WA, United States; 2. Materials Science and Engineering, University of Washington, Seattle, WA, United States; 3. Physics, Massachusetts Institute of Technology, Cambridge, MA, United States; 4. Instituto de Ciencia Molecular, Universidad de Valencia, Paterna, Spain; 5. Oak Ridge National Laboratory, Oak Ridge, TN, United States; 6. Carnegie Mellon University, Pittsburgh, PA, United States; 7. Physics, The University of Hong Kong, Hong Kong, Hong Kong
N14-04. Influence of deposition techniques on the magnetic properties and microstructure of FePd thin films.

N14-05. Data Mining for New Two- and One-Dimensional Weakly Bonded Solids and Assembly-free Heterostructures.
G. Cheon1, K.N. Duerloo2, A.D. Sendek1, C. Porter1, Y. Chen1 and E.J. Reed1 1. Stanford University, Stanford, CA, United States; 2. Boston Consulting Group, Amsterdam, Netherlands

N14-06. Magneto-dielectric behavior of CFO/BTO/CFO composite film. E. López-Moreno1, H. Montiel1, G. Alvarez2 and A. Conde2 1. Instituto de Ciencias Aplicadas y Tecnología, Universidad Nacional Autónoma de México, México City, Mexico; 2. Departamento de Física, CINVESTAV-IPN, México City, Mexico; 3. UACM-Cuautepec, Universidad Autónoma de la Ciudad de México, Mexico City, Mexico

N14-07. Stress-induced Nanoscale Magnetic Domain Configurations Imprinted in Ni Thin Films by Proximity to V2O3. A. Fraile Rodriguez1,2, I. Valmianski1, M. Garcia del Muro12, J. Ramirez1, F. Kronast1, I.K. Schuller1, A. Labarta1,2 and X. Batlle1,2 1. Física Matèria Condensada, Universitat de Barcelona, Barcelona, Spain; 2. Institut de Nanociència i Nanotecnologia, Universitat de Barcelona, Barcelona, Spain; 3. Physics, UCSD, La Jolla, CA, United States; 4. Department of Physics, Universidad de los Andes, Bogotá, Colombia; 5. Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany

N14-08. Electronic and magnetic structure of epitaxial Y(Mn1-xFe)xO3 films studied with X-ray absorption spectroscopy. S. Haw1, J. Lee1, S. Chen1, K. Lu1 and J. Chen1 1. Scientific Research Division, National Synchrotron Radiation Research Center, Hsinchu, Taiwan

N14-09. Structural, Magnetic, and Optical Characterization of Fe/Ag Continuous Films and Nanodot Arrays. D. Marko1,2, W. Chuang3, S. Ciou4, H. Han4, J. Chen4, J. Wu4, B. Alkadour4, P. Manna5, J. van Lierop5, K. Lin3 and D. Schmool1,2 1. GEMaC, CNRS, Versailles, France; 2. Université de Versailles-Saint-Quentin-en-Yvelines, Université Paris-Saclay, Versailles, France; 3. Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan; 4. Physics, National Chung Hua University of Education, Changhua, Taiwan; 5. Physics & Astronomy, University of Manitoba, Winnipeg, MB, Canada


N14-11. Metal-Insulator Transition in (111) LaAlO3/SrTiO3 Superlattices. J. Beltrán1 and C. Muñoz1 1. GFMC, Física de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. Instituto de Ciencia de Materiales de Madrid (ICMM), Consejo Superior de Investigaciones Científicas (CSIC), Madrid, Spain

N14-12. Giant pseudo-magnetic fields, valley polarization and topological channels by nanoscale strain engineering of monolayer graphene. J. Wang1, C. Hsu1, M. Teague1, M. Jao2 and N. Yeh1,2,3 1. Caltech, Pasadena, CA, United States; 2. National Taiwan University, Taipei, Taiwan; 3. Kavli Nanoscience Institute, Caltech, Pasadena, CA, United States

N14-13. Room Temperature Intrinsic Ferromagnetism in Epitaxial Manganese Selenide Films in the Monolayer Limit. D.J. O’Hara1, T. Zhu2, A.H. Trout1, A. Ahmed2, Y. Luo2, C. Lee1, M. Brenner1, S. Rajan1, J. Gupta2, D. McComb3 and R. Kawakami1 1. Materials Science and Engineering, University of California, Riverside, Riverside, CA, United States; 2. Physics, The Ohio State University, Columbus, OH, United States; 3. Materials Science and Engineering, The Ohio State University, Columbus, OH, United States; 4. Electrical and Computer Engineering, The Ohio State University, Columbus, OH, United States

WEDNESDAY MORNING

10:00

Session N15
THREE DIMENSIONAL FRUSTRATED LATTICES
(Poster Session)
Radu Coldea, Co-Chair
University of Oxford, Oxford, United Kingdom
Carley Paulsen, Co-Chair
Institut Néel CNRS, Grenoble, France

N15-01. Magnetization plateaus in Tb,SrFe Ox. H. Cao1, J. Kim2, W. Tian1, Y. Wu1 and S. Cheong2 1. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Physics and Astronomy, Rutgers University, Piscataway, NJ, United States

N15-02. Synthesis and characterization of pyrochlore ruthenate Gd,Ru2,Mn,O via a molten salt method. A. Castro Espinosa1, R. Escamilla Guerrero1, M. Romero Martinez2 and O. Olécón Hernandez1 1. Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, Ciudad de México, Mexico; 2. Facultad de Ciencias, Universidad Nacional Autónoma de México, Ciudad de México, Mexico
N15-03. Physical behavior of the breathing pyrochlore lattice 
\( \text{Ba}_2\text{Yb}_2\text{Zn}_5\text{O}_{11} \) under applied magnetic fields. J.G. Rau\textsuperscript{1,4}, L.S. Wu\textsuperscript{5}, A.F. May\textsuperscript{3}, A.E. Taylor\textsuperscript{2}, I. Liu\textsuperscript{9}, J. Higgin\textsuperscript{5}, N. Butch\textsuperscript{4,4}, H.S. Nair\textsuperscript{2}, K. Ross\textsuperscript{1,5}, M. Lumsden\textsuperscript{2}, M. Gingras\textsuperscript{3,9} and A.D. Christianson\textsuperscript{1,2} 1. Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 3. Department of Physics and Astronomy, University of Waterloo, Waterloo, ON, Canada; 4. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany; 5. Center for Nanophysics and Advanced Materials, Department of Physics, University of Maryland, College Park, MD, United States; 6. National Institute of Standards and Technology, NIST Center for Neutron Research, Gaithersburg, MD, United States; 7. Department of Physics, Colorado State University, Fort Collins, CO, United States; 8. Quantum Materials Program, Canadian Institute for Advanced Research (CIFAR), Toronto, ON, Canada; 9. Perimeter Institute for Theoretical Physics, Waterloo, ON, Canada

N15-04. Simulation of Electron Holography of Pyrochlore Spin Ice. A. Dharr\textsuperscript{1}, L. Jaubert\textsuperscript{2}, N. Shannon\textsuperscript{1} and T. Shintake\textsuperscript{1} 1. Okinawa Institute of Science and Technology, Onna-son, Japan; 2. Laboratoire Ondes et Matière d’Aquitaine (LOMA), Bordeaux, France

N15-05. Local susceptibility of frustrated pyrochlores. Polarized Neutrons and Point Charge model. A. Gukasov\textsuperscript{1} 1. CEA-CNRS, Leon Brillouin Laboratory, Gif sur Yvette, France

N15-06. Magnetisation and far infrared study of chromium spinels \( \text{MCr}_2\text{O}_4 \) \((\text{M} = \text{Co, Ni, Mn})\) with frustrated exchange interactions. D. Kamensky\textsuperscript{1}, A. Bush\textsuperscript{1}, J. Law\textsuperscript{1} and A.V. Pronin\textsuperscript{1} 1. High Field Magnet Laboratory, Radboud University, Nijmegen, Netherlands; 2. Moscow Technological University, Moscow, Russian Federation; 3. 1. Physikalisches Institut, University of Stuttgart, Stuttgart, Germany; 4. Hochfeld Magnet Labor, Helmholtz Zentrum Dresden-Rossendorf, Dresden, Germany

N15-07. Discovery of new magnetic orders on pyrochlore spinels. G. Sim\textsuperscript{1} and S. Lee\textsuperscript{1} 1. Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea

N15-08. Magnetization curves and low-temperature thermodynamics of two spin-1/2 Heisenberg edge-shared tetrahedrons. J. Strecka\textsuperscript{1} and K. Karlova\textsuperscript{2} 1. P. J. Safarik University, Kosice, Slovakia; 2. Department of theoretical physics and astrophysics, P. J. Safarik University in Kosice, Kosice, Slovakia

N15-09. Withdrawn

N15-10. Withdrawn

N15-11. Withdrawn

N15-12. Learning to Discover Loop Algorithm on Spin Ice Model. K. Zhao\textsuperscript{1}, W. Kao\textsuperscript{1} and Y. Kao\textsuperscript{1} 1. Physics, National Taiwan University, Taipei, Taiwan

N15-13. Magnetic frustration in low dimensional substructures of hulsite \( \text{Ni}_{1-x}\text{Sn}_{x}(\text{O}_2\text{BO}_3)_2 \), E.B. Saitovitch\textsuperscript{1}, C.P. Contreras Medrano\textsuperscript{1,2}, D. Freitas\textsuperscript{2}, M. Continin\textsuperscript{2}, E. Passamani Caetano\textsuperscript{1}, M. Alzamora\textsuperscript{4} and D. Sanchez Candela\textsuperscript{2} 1. CONAM, Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil; 2. Instituto de Fisica, Universidade Federal Fluminense, Niteroi, Brazil; 3. Departamento de Fisica, Universidade Federal do Espírito Santo, Vitoria, Brazil; 4. Instituto de Fisica, Universidade Federal do Rio de Janeiro, Xerém, Brazil

WEDNESDAY MORNING

SAN FRANCISCO BALLROOM

Session N16

TOPOLOGICAL SCES IV: TM PNICTIDES, CHALCOGENIDES AND RELATED

(Poster Session)

Alexander Steppke, Chair

Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

N16-01. Impurity dominated weak antilocalization in sputtered polycrystalline topological insulator. P. Sahu\textsuperscript{1}, J. Chen\textsuperscript{1}, J. Myers\textsuperscript{1} and J. Wang\textsuperscript{1} 1. Department of Physics and Astronomy, University of Minnesota, Minneapolis, MN, United States; 2. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States; 3. Electrical and Computer Engineering, School of Physics & Astronomy, Minneapolis, MN, United States; 4. Characterization Facility, University of Minnesota, Minneapolis, MN, United States

N16-02. Withdrawn

N16-03. Gd doping effect in p-type Bi\textsubscript{2}Te\textsubscript{3} single crystals. S. Kim\textsuperscript{1} and M. Jung\textsuperscript{1} 1. Department of Physics, Sogang University, Seoul, The Republic of Korea

N16-04. Charge States of the Eu Impurities in the 3D Topological Semimetal Cd\textsubscript{3}As\textsubscript{2} and Features of their RKKY- Interaction. Y. Goryunov\textsuperscript{1} and A. Nateprov\textsuperscript{2} 1. E.K.Zavoisky Kazan Physical-Technical Institute, Kazan Federal Research Center of the FASO RF, Kazan, Russian Federation; 2. Institute of Applied Physics of the ASM, Chisinau, Moldova (the Republic of)

N16-05. Effects of pressure on the Fermi surface of Cd\textsubscript{3}As\textsubscript{2}. A. Vasiljković\textsuperscript{1}, F. Orbanić\textsuperscript{2}, M. Novak\textsuperscript{2}, M. Grosche\textsuperscript{2} and I. Kokanovic\textsuperscript{1,2} 1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Department of Physics, University of Zagreb, Zagreb, Croatia
N16-06. Features of the electronic transport in the 3D topological semimetal Cd$_3$As$_2$ doped by magnetic impurity.
Y. Goryunov$^1$, A. Nateprov$^2$ and Y. Proshin$^1$. 1. E.K.Zavoisky Kazan Physical-Technical Institute, Kazan Federal Research Center of the FASO RF, Kazan, Russian Federation; 2. Institute of Applied Physics of the ASM, Chisinau, Moldova (the Republic of); 3. Institute of Physics, Kazan Federal University, Kazan, Russian Federation

J. Ferreira de oliveira$^1$, C. Enderlein$^2$, M. Fontes$^1$ and E.B. Saitovitch$^1$. 1. COMAN, Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil; 2. Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil

N16-08. Withdrawn

WEDNESDAY MORNING
SAN FRANCISCO BALLROOM
10:00

Session N17
ULTRAFAST MAGNETISM AND THZ SPINTRONICS II
(POSTER SESSION)
Carl Davies, Chair
Radboud University, Nijmegen, Netherlands

N17-01. THz radiation generated from interfacial Rashba spin-orbit coupling.
M. Jungfleisch$^{1,2}$, Q. Zhang$^3$, W. Zhang$^4$, J.E. Pearson$^1$, H. Wen$^3$ and A. Hoffmann$^1$. 1. Materials Science Division, Argonne National Laboratory, Lemont, IL, United States; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE, United States; 3. Advanced Photon Source, Argonne National Laboratory, Lemont, IL, United States; 4. Department of Physics, Oakland University, Rochester, MI, United States

N17-02. Pulse laser-induced terahertz emission for Ta/CoFeB/MgO structure.
Y. Sasaki$^{1,2}$, K. Suzuki$^3$ and S. Mizukami$^{1,3}$. 1. WPI-AIMR, Tohoku University, Sendai, Japan; 2. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Japan; 3. CSRN, Tohoku University, Sendai, Japan

N17-03. Spin Transfer Torque Generation due to Ultrafast Demagnetization.
K. Carva$^1$, P. Baláz$^2$, P. Maldonado$^3$ and P.M. Oppeneer$^2$. 1. Dept. Condensed Matter Physics, Charles University, Prague, Czechia; 2. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden

N17-04. Giant thermal gradients and depth-dependent domain-wall broadening in response to ultrafast optical pumping of a 50 nm ferromagnetic film.

K. Leckron$^1$ and H. Schneider$^1$. 1. Physics Department and Research Center OPTIMAS, TU Kaiserslautern, Kaiserslautern, Germany

N17-06. Ultrafast dynamics of the Néel vector in aniferromagnetic Mn$_3$Au thin films detected with optical pump probe spectroscopy.
V. Grigoriev$^{1,2}$, A. Sapozhnik$^{1,2}$, J. Demsar$^{1,2}$. 1. Institute of Physics, Johannes Gutenberg University, Mainz, Germany; 2. Graduate School of Excellence, Materials Science in Mainz (MAINZ), Mainz, Germany; 3. Institute of Physics, Johannes Gutenberg University, Mainz, Germany; 4. Physics, Johannes Gutenberg University, Mainz, Germany

N17-07. Selective THz Control of Magnetic Order: Opportunities from the THz userfacility TELBE.
Efficient continuously tunable narrowband spintronic THz Emission from Mn$_3$Ga nanofilms.

M. Awari$^{1,2}$, S. Kovalev$^3$, C. Fowley$^1$, K. Rode$^1$, D. Betto$^1$, N. Thyagarajah$^4$, B. Green$^1$, O. Yildrim$^1$, J. Lindner$^1$, J. Fassbender$^1$, M. Coey$^1$, A.M. Deac$^1$ and M. Gensch$^1$

1. Helmholtz Zentrum Dresden Rossendorf, Dresden, Germany; 2. University of Groningen, Groningen, Netherlands; 3. CRANN, AMBER and School of Physics, Trinity College Dublin, Dublin, Ireland; 4. Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany

Nanosecond Skyrmion Dynamics driven by Spin-orbit Torques observed by Time-resolved X-ray Transmission Microscopy.

K. Song$^{1,2}$, S. Woo$^1$, H. Han$^1$, M. Jung$^1$, M. Im$^1$, K. Lee$^1$, P. Fischer$^1$, J. Hong$^1$, J. Choi$^1$, B. Min$^1$, H. Koo$^1$ and J. Chang$^1$


Time-resolved imaging of the gyration dynamics of n\(\pi\) states in weak PMA systems.

S. Finizio$^1$, S. Wintz$^{1,2}$, S. Gliga$^3$, M. Mruczkiewicz$^4$, E. Kirk$^1$, T. Wessels$^6$, K. Zeissler$^7$, M. Weigand$^8$ and J. Raabe$^1$

1. Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Helmholtz Zentrum Dresden Rossendorf, Dresden, Germany; 3. University of Glasgow, Glasgow, United Kingdom; 4. Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia; 5. ETH Zurich, Zurich, Switzerland; 6. Forschungszentrum Julich, Julich, Germany; 7. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 8. Max Planck Institute for Intelligent Systems, Stuttgart, Germany

Antiferromagnetic spintronics. (Invited) T. Jungwirth$^{1,2}$

1. Spintronics and Nanoelectronics, Institute of Physics, Academy of Sciences of the Czech Republic, Praha 6, Czechia; 2. School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom
Session P2
FUNCTIONAL MULTIFERROICS II
Julia Mundy, Chair
Harvard University, Cambridge, MA, United States

8:30
P2-01. Control the magnetization reversal electrically in ferromagnetic devices at room temperature. (Invited)
K. Wang1,2. 1. Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China; 2. Center for Excellence in Topological Quantum Computation and College of Materials Science & Opto-Electronic Technology, University of Chinese Academy of Science, Beijing, China

9:00
P2-02. Phase Coexistence in Multiferroic BiFeO3. D. Ferenc Segedin1, J. Mundy2 and R. Ramesh3. 1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Harvard University, Cambridge, MA, United States; 3. Physics / MSE, UCBerkeley, Berkeley, CA, United States

9:15
P2-03. The Strain and Temperature dependent Phase Diagram of Multiferroic SrMnO3 from First Principles. A. Edström1 and C. Ederer1. 1. Materials Theory, ETH Zurich, Zurich, Switzerland

9:30
P2-04. Interplay Between Ferroelastic and Ferromagnetic Domain Structures in Magnetic Shape Memory Ni-Mn-Ga Compound. O. Heczko1,2, A. Perevertov1, V. Kopecky1, L. Straka1 and R. Schaefer1. 1. Department of Magnetic Measurements and Materials, Institute of Physics of CAS, Prague, Czechia; 2. Faculty of Mathematics and Physics, Charles University, Prague, Czechia; 3. IFW Dresden, Dresden, Germany

9:45
P2-05. Renormalization of the Spin-Excitations in Multiferroic HoMnO3 from Magnon-Phonon Coupling. T. Kim1,2, J.C. Leiner1,2, K. Park1,2, J. Oh1,2, H. Sim1,2, K. Iida3, K. Kamazawa1 and J. Park1,2. 1. Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 2. Center for Correlated Electron Systems, Institute for Basic Science, Seoul, The Republic of Korea; 3. Neutron Science and Technology Centre, Comprehensive Research Organization for Science and Society (CROSS), Ibaraki, Japan

Session P3
SOFT MAGNETIC MATERIALS AND MAGNETIC SHIELDING V
Arcady Zhukov, Chair
UPV/EHU, San Sebastián, Spain

8:30
P3-01. Rhodium substituted ε-iron oxide (ε-Rh Fe3−xO3) nanomagnets exhibiting high frequency millimeter wave absorption. (Invited) A. Namai1, M. Yoshikiyo1 and S. Ohkoshi1. 1. The University of Tokyo, Tokyo, Japan

9:00

9:15
P3-03. Development of new amorphous and nanocrystalline magnetic materials for use in energy-efficient devices. E. Theisen1. 1. R&D, Metglas, Conway, SC, United States

9:30

9:45
Session P4
SPIN-CHARGE CONVERSION AND SPIN-ORBIT TORQUE IV
Luqiao Liu, Chair
MIT, Cambridge, MA, United States

8:30
P4-01. Spin Current in Quantum Materials. (Invited) W. Han1
1. International Center for Quantum Materials, Peking University, Beijing, China
2016 IUPAP Young Scientist Prize in Magnetism

9:00
P4-02. Inverse Edelstein Effect Induced by Magnon-Phonon Coupling. M. Xu1, J. Puebla2, F. Auvray1, B. Rana2, K. Kondou2
and Y. Otani1,2 1. ISSP, University of Tokyo, Kashiwa, Japan; 2. CEMS, RIKEN, Wako- shi, Japan

9:15
P4-03. Topology for Magnetization Control by Spin-Orbit Torques. J. Hanke1,2, F. Freimuth2, C. Niu2, S. Blügel2 and Y. Mokrousov3
1. Institut für Physik, Johannes Gutenberg University, Mainz, Germany; 2. Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Jülich, Jülich, Germany

9:30
P4-04. Interface-generated spin currents. M.D. Stiles1 and V.P. Amin1,2 1. National Institute of Standards and Technology, Gaithersburg, MD, United States; 2. Maryland NanoCenter, University of Maryland, College Park, MD, United States

9:45
P4-05. Spin pumping at the ferromagnetic/paramagnetic phase transition. E. Papaioannou1, S. Keller1, A. Inglis1, J.F. Gregg1
and B. Hillebrands1 1. Physics, TU Kaiserslautern, Kaiserslautern, Germany; 2. Department of Physics, University of Oxford, Oxford, United Kingdom

Session P5
RARE EARTH TRANSITION METAL PERMANENT MAGNETS III
Jeotikanta Mohapatra, Chair
University of Texas at Arlington, Arlington, TX, United States

8:30
P5-01. Recycling and Valorisation of Rare Earth-based magnets. (Invited) J. Denis1, F. Mandil1 and S. Rivoirard1
1. Institut Néel CNRS, Grenoble, France

9:00
P5-02. Optimizing the recycling process of NdFeB magnets. O. Tosoni1, M. Bailleux1, C. Rado1, M. Dalmasso1, S. Genevrier1
and S. Luca1 1. Univ. Grenoble Alpes, CEA Grenoble, LITEN / DTNM, Grenoble, France

9:15
P5-03. Tailored Metal Injection Moulding Of Isotropic NdFeB Hard Magnets Based On Recycled Powders With And Without Nd-Additions. B. Podmiljsak1, C. Bukhardi2, O. Weber1, J. Gonzalez-Gutierrez2, C. Khukan3, M. Degri1, I.R. Harris1 and A. Walton1 1. Jozef Stefan Institute, Ljubljana, Slovenia; 2. Pforzheim University of Applied Sciences, Pforzheim, Germany; 3. Ohnmacht & Baumgaertner GmbH & Co. KG, Ispringen, Germany; 4. Montanuniversitaet Leoben, Leoben, Austria; 5. University of Birmingham, Birmingham, United Kingdom

9:30
1. Toyota Motor Corporation, Toyota, Japan; 2. KEK, Tsukuba, Japan; 3. Hitachi, Ltd., Tokyo, Japan; 4. NIMS, Tsukuba, Japan; 5. Paul Scherrer Institut, Villigen, Swaziland

9:45
P5-05. Magnetic domain structures and magnetic properties of lightly Nd doped Sm-Co magnets with high squareness and high heat resistance. H. Machida1, T. Fujiwara2, C. Fujimoto3, Y. Kanamori1, J. Tanaka2 and M. Takezawa1 1. TOKIN Corporation, Sendai, Japan; 2. Faculty of Engineering, Kyusyu Institute of Technology, Kitakyushu, Japan
Session P6
EXCHANGE BIAS AND EXCHANGE SPRINGS I
Kai Liu, Chair
University of California, Davis, Davis, CA, United States

8:30
P6-01. Dipole-Induced Exchange Bias. (Invited) M. Kiwi1,2, F. Torres1,2, I.K. Schuller1 and R. Morales3,4
1. Physics, Universidad de Chile, Santiago, Chile; 2. CEDENNA, Santiago, Chile; 3. Department of Chemical-Physics, University of the Basque Country UPV/EHU, IKERBASQUE, Basque Foundation for Science, Bilbao, Spain; 4. BCMaterials, University of the Basque Country UPV/EHU, Bilbao, Spain

8:45
P6-02. Exchange bias setting driven by a spontaneous crystallization of the antiferromagnetic layer. A. Migliorini1,2, B. Kuerbanjiang2, D. Kepaptsoglou1, M. Muñoz2, J. Fernández Cuñado2, J. Camarero2, C. Aroca1, G. Vallejo-Fernández1, V. Lazarov4 and J.L. Prieto1. ISOM - Universidad Politécnica de Madrid, Madrid, Spain; 3. IMN-Instituto de Micro y Nanotecnologia, CNM-CSIC, Madrid, Spain; 4. University of York, York, United Kingdom; 5. SuperSTEM, STFC Daresbury Laboratories, Warrington, United Kingdom; 6. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain

9:00
P6-03. Exchange bias and domain evolution at 10nm scales. H.J. Hug1,2, X. Zhao2, A. Mandru2 and M.A. Marioni2
1. Department of Physics, University of Basel, Basel, Switzerland; 2. Empa, Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland

9:15
P6-04. Interfacial coupling induced chiral symmetry-breaking of spin-orbit interaction in exchange biased systems. P. Perna1, F. Ajejas1, D. Macacelli1, R. Guerrero1, R. Miranda1 and J. Camarero2. IMDEA Nanoscience, Madrid, Spain; 2. Universidad Autonoma de Madrid & IMDEA Nanoscience, Madrid, Spain

9:30
P6-05. Investigation into the Origin of the Athermal Training Effect in Exchange Bias Multilayers. S. Jenkins1, R.F. Evans1 and R. Chantrell1. Physics, University of York, York, United Kingdom
P7-04. Extraordinary ferromagnetic coupling and magnetodielectric phenomena in NiO nanoparticles. S. Roy¹, R. Katoch¹ and A. Subramanian¹ 1. Centre for Nano and Soft Matter Sciences, Bangalore, India

P8-01. Quantum criticality in a magnetically ordered stacked triangular lattice. J. Schmehr¹, C. O’Neill¹, L.P. Cairns¹, H. Keen¹, D. Wermeille², P. Manuel³, A. Hermann³ and A. Huxley³ 1. Materials Department, University of California, Santa Barbara, Santa Barbara, CA, United States; 2. ESRF, Grenoble, France; 3. ISIS Pulsed Neutron Facility, Rutherford Appleton Laboratory, Chilton, United Kingdom.

P8-02. Entanglement of Long-Range and Short-Range Magnetic Order in the Frustrated Compound Yb₂Fe₁₂P₇ images

P9-01. Fermi surfaces in Kondo Insulators. (Invited) S. Sebastian¹, M. Hartstein¹, H. Liu¹, A. Davies¹, M. Ciomaga Hatnean³, M. Johannes³, N. Shitsevalova³, W. Toews³, Y. Hsu¹, X. Chen¹, Y. Takano¹, L. Balicas¹, N. Harrison¹, G. Lonzarich³, R. Hill¹ and M. Sutherland¹ 1. University of Cambridge, Cambridge, United Kingdom; 2. ISIS Pulsed Neutron Facility, Rutherford Appleton Laboratory, Chilton, United Kingdom; 3. Institute for Solid State Physics, University of Technology Vienna, Vienna, Austria; 4. National High Field Laboratory, Tallahassee, FL, United States; 5. Department of Physics, University of Florida, Gainesville, FL, United States; 6. Department of Physics, University California San Diego, La Jolla, CA, United States; 7. NIST Center for Neutron Research, Gaithersburg, MD, United States
P9-02. Quantum Oscillations in Electrical Resistivity in Kondo Insulators. (Invited) L. Li 1. University of Michigan, Ann Arbor, MI, United States

P9-03. Fermi surface of the topological Kondo insulator SmB6 from various aspects. Y. Ohitubo, Y. Yamashita, R. Yukaawa, K. Horiba, H. Kumigashira, K. Miyamoto, T. Okuda, W. Hirano, F. Iga and S. Kimura 1. Osaka University, Suita, Japan; 2. IMSS, KEK, Tsukuba, Japan; 3. HiSOR, Hiroshima University, Higashi-Hiroshima, Japan; 4. Department of Physics, Ibaraki University, Mito, Japan


P10-01. Experimental Insights into Ground-State Selection of Quantum XY Pyrochlores. (Invited) A. Hallas 1. Physics & Astronomy Department, Rice University, Houston, TX, United States; 2. Rice Center for Quantum Materials (RCQM), Rice University, Houston, TX, United States

P10-02. Beyond conventional magnetic order in the Shastry-Sutherland frustrated magnet TmB6. D. Lançon 1,2, V. Scagnoli 1,2, E. Canèvet 1, R. Sibille 1, M. Ciomaga Hatnean 1, G. Balakrishnan 1, O. Petrenko 1, U. Staub 1, C. Rüegg 1, L. Heyderman 1,2 and T. Fennell 1. Paul Scherrer Institut, Villigen-PSI, Switzerland; 2. Mesoscopic Systems, ETH Zurich, Zurich, Switzerland; 3. Department of Physics, University of Warwick, Coventry, United Kingdom


P10-04. Light Enhanced Anomalous Hall Effect on Magnetic Topological Insulator Cr-(Bi,Sb)2Te3. C. Chen 1, A.R. Llanos 1, M. Teague 1, N. Yeh 1,2, L. Pan 3, K. Murata 3 and K.L. Wang 3 1. Physics, Caltech, Pasadena, CA, United States; 2. Kavli Nanoscience Institute, Caltech, Pasadena, CA, United States; 3. Electrical Engineering, UCLA, Los Angeles, CA, United States

P10-05. Phase Transitions in Skyrmion host Cu2OSeO3. H.C. Chauhan, J. Tiwari and S. Ghosh 1. School of Physical Sciences, Jawaharlal Nehru University, New Delhi, India

1. Instituto de Ciencia de Materiales de Aragon, Universidad de Zaragoza, Zaragoza, Spain; 2. Centro Universitario de la Defensa, Zaragoza, Spain; 3. Instituto de Ciencia de Materiales de Aragon, Consejo Superior de Investigaciones Científicas, Zaragoza, Spain; 4. ICMA, CSIC, Zaragoza, Spain; 5. School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom; 6. Fisica, Universidad de Oviedo, Oviedo, Spain; 7. Universidad de Oviedo, Oviedo, Spain; 8. Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany; 9. Universidad de Zaragoza, Zaragoza, Spain


1. Instituto de Ciencia de Materiales de Aragon, Universidad de Zaragoza, Zaragoza, Spain; 9. Universidad de Zaragoza, Zaragoza, Spain


1. Toyota Technological Institute, Nagoya, Japan; 2. Institute of Materials Science, Vietnam Academy of Science and Technology, Ha Noi, Vietnam


1. Nanyang Technological University, Singapore, Singapore

Q1-08. Domain propagation controlled by homogeneous external magnetic fields in an ultrathin magnetic layer with the Dzyaloshinskii-Moriya interaction. P. Kasvik, M. Matczak, M. Kowaczk, K. Szuba-Jablonski, B. Anastaziak and F. Stobiecki.

1. Institute of Molecular Physics Polish Academy of Sciences, Poznan, Poland; 2. Faculty of Technical Physics, Poznan University of Technology, Poznan, Poland; 3. Department of Physics, College of Science, Swansea University, Swansea, United Kingdom

Q1-09. Elliptical expansion of magnetic domain walls in samples with tilted anisotropy. A. K G Elliptical expansion of magnetic domain walls in samples with tilted anisotropy. A. K G.

1. Department of Physics, College of Science, Swansea University, Swansea, United Kingdom; 2. Manufacturing Technology Department, Hyogo Prefectural Institute of Technology, Kobe, Japan; 3. Faculty of Engineering, Gifu University, Gifu, Japan; 4. RIKEN, Wako, Japan; 5. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan


1. Resona Laboratory, Ina, Japan; 2. Physics, Okayama University, Okayama, Japan; 3. Fisica, Universidad Tecnica Federico Santa Maria, Valparaiso, Chile; 4. Center for Spintronics Research Network, Osaka University, Toyonaka, Japan; 5. Department of Electrical and Electronics Engineering, Numazu National College of Technology, Numazu, Japan

Q1-11. Tailoring magnetization reversal modes by curvature in thin magnetic slabs. R.M. Corona, S. Castillo-Sepulveda, P. Landeros and D. Altbi.

1. Departamento de Fisica, Universidad de Santiago de Chile, Region Metropolitana, Chile; 2. Universidad Autónoma de Chile, Santiago, Chile; 3. Fisica, Universidad Tecnica Federico Santa Maria, Valparaiso, Chile; 4. Center for the Development of Nanoscience and Nanotechnology, Santiago, Chile

Q1-12. Racetrack Memory with Continuous Loop Built from Ferromagnets of Metal and Insulator. S. Honda, T. Yae and T. Ohawa.

1. Department of Pure and Applied Physics, Kansai University, Suita, Japan; 2. Center for Spintronics Research Network, Osaka University, Toyonaka, Japan; 3. Department of Electrical and Electronics Engineering, Numazu National College of Technology, Numazu, Japan

THURSDAY MORNING

10:00

Session Q2

FERROMAGNETIC RESONANCE AND MAGNON HYBRIDIZATION (Poster Session)

Christoph Adelmann, Chair

Imec, Leuven, Belgium

Q2-01. Ferromagnetic resonance equation expressed by anisotropy fields and its application to an axis in hexagonal-crystal c-plane. O. Kohimoto and Y. Matsuhashi.

1. Resona Laboratory, Ina, Japan; 2. Physics, Okayama University, Okayama, Japan


1. AMRI/Physics, University of New Orleans, New Orleans, LA, United States


1. Solid State Chemistry, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. TU Dresden, Dresden, Germany; 3. Technical University of Munich, Munich, Germany; 4. Walther Meißner Institute, Munich, Germany


1. Physics, TU Kaiserslautern, Kaiserslautern, Germany; 2. Physics, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 3. Fachbereich Physik and Landesforschungszentrum OPTIMAS, Technische Universität Kaiserslautern, Germany, Kaiserslautern, Germany; 4. Faculty of Radiophysics, Taras Shevchenko Nat. University of Kyiv, Kyiv, Ukraine; 5. Technische Universität Kaiserslautern, Kaiserslautern, Germany
Q2-05. Thermal control of the magnon-photon coupling in a notch filter coupled to a yttrium iron garnet/platinum system. V.M. Castel1,2, J. Ben Youssef1,2, N. Vukadinovic1, A. Manchee4, F. Kidane Dejene1 and G. Bauer1,2 1. IMT Atlantique, Brest, France; 2. Lab-STICC (UMR 6285), CNRS, Brest, France; 3. Université de Bretagne Occidentale, Brest, France; 4. Dassault Aviation, St-Cloud, France; 5. Institute for Materials Research, WPI-ALMR, and Center for Spintronics Research Network, Sendai, Japan; 6. Elliptika (GTID), Brest, France; 7. Max Planck Institute of Microstructure Physics, Halle, Germany; 8. Zernike Institute for Advanced Materials, University of Groningen, Groningen, Netherlands

Q2-06. Ferromagnetic Resonance Study on Two-dimensional van der Waals Crystals. X. Shen1 and Y. Wu1 1. Department of Physics and State Key Laboratory of Surface Physics, Fudan University, Shanghai, China

Q2-07. Hybridizing Ferromagnetic Magnons to Microwave Photons in planar hybrid inverted split-ring resonator/YIG film system. B. Bhoi1, B. Kim1, J. Kim1, Y. Cho1 and S. Kim1 1. Department of Materials Science and Engineering, Seoul National University, Seoul, The Republic of Korea

Q2-08. Level Attraction and Synchronization in Hybridized Magnon-Photon Systems. M. Harder1, Y. Yang2, B. Yao3, C. Yu4, Y. Gui1 and C. Hu1 1. Department of Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada; 2. State Key Laboratory of Infrared Physics, Chinese Academy of Sciences, Shanghai, China; 3. Nantong University, Nantong, China

Q2-09. Pulsed Versus Forced Excitation Of Magnetization Dynamics by Laser Pulses or Surface Acoustic Waves. P. Kuszewski1,2, L. Thevenard2,3, S. Shihab3, M. Kraimia1, L. Becerra1, A. Lemaitre4, J. Duquesne5,6 and C. Gourdon1,2 1. Institut des NanoSciences de Paris, Sorbonne Université, Paris, France; 2. CNRS, Paris, France; 3. Laboratoire de Physique des Matériaux: Structure et Propriétés, Faculté des Sciences de Bizeerte, Bizerte, Tunisia; 4. Centre de Nanoscience et Nanotechnologie, CNRS, Université Paris-Saclay, Marcoussis, France

Q2-10. Stroboscopic imaging of spin waves induced by SAW. B. Casals1, N. Statuto2, J. Hernandez Ferras3, R. Cicheler1, A. Hernández-Minguez1, L. Aballe4, M. Foerster4 and F. Macià4 1. Laboratory for Solid State Physics, ETH Zurich, Zurich, Switzerland; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain

Q2-11. Microwave resonance of micrometer sized uniaxial chiral helimagnetic crystals. F. Goncalves1,2, Y. Shimamoto1, T. Sogo1, Y. Kousaka2, K. Inoue1,2 and Y. Togawa2,1 1. Department of Physics and Electronics, Osaka Prefecture University, Osaka, Japan; 2. Chirality Research Centre, Hiroshima University, Hiroshima, Japan; 3. Chemistry, Hiroshima University, Higashihiroshima, Japan; 4. School of Science, Okayama University, Okayama, Japan

Q3-01. Weak ferromagnetism of Fe65Ni35Si with B20 Structure. T. Tsuataoka1, K. Ueda1 and K. Kaneshige1 1. Graduate School of Education, Hiroshima University, Higashihiroshima, Japan

Q3-02. Transport Properties of Heusler Compounds Fe65Mn35Si (x=1.6, 1.7, and 1.8) under the Magnetic fields. R. Kato1, T. Nonoyama1, R. Ooka1, I. Shigeta1 and M. Hiroi1 1. Department of Physics and Astronomy, Graduate School of Science and Engineering, Kagoshima University, Kagoshima, Japan

Q3-03. Fe doping effects on the anomalous specific heat and XAFS oscillation in antiferromagnetic metal of Mn2Si. H. Hiraka1, K. Ohoyama1, M. Kosaka1 and D. Matsumura1 1. Radiation Science, Korea Atomic Energy Research Institute, Daejeon, The Republic of Korea; 2. Ibaraki University, Hitachi, Japan; 3. Saitama University, Saitama, Japan; 4. Japan Atomic Energy Agency, Hyogo, Japan

Q3-04. Magnetic properties of perovskite Ca1−xSr2FeO3. H. Kawanaka1, E. Kawawa2, F. Iga1, A. Kondo1, K. Kindo1 and Y. Matsuda1 1. Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. Graduate School of Science and Engineering, Ibaraki University, Mito, Japan; 3. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 4. Faculty of Science, Ibaraki University, Mito, Japan

Q3-05. Magnetic Fluctuations and the Origin of Antiferromagnetism in RENiO, Perovskites. L. Korosec1, D. Gawryluk1, M. Pikulski1, K. Conder2, T. Shiroko2, M. Medarde1, J. Alonso1, H.R. Ott1 and J. Mesot1 1. Laboratory for Solid State Physics, ETH Zurich, Zurich, Switzerland; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain

Q3-06. The substitution effect on itinerant ferromagnetism in CrAlGe with an orthorhombic TiSi2-type structure. H. Masumitsu1, S. Yoshinaga2, Y. Miyata3, R.Y. Umetsu3, M. Hiroi1, Y. Uwatoko3 and K. Koyama1 1. Kagoshima University, Kagoshima, Japan; 2. Tohoku University, Sendai, Japan; 3. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan
Session Q4
MAGNETOELASTIC AND MAGNETOMECHANICAL I
(Poster Session)
Victorino Franco, Chair
Sevilla University, Sevilla, Spain

Q4-01. Withdrawn


Q4-03. Comparative Study on the Characteristics of Magnetic-gear PMSM for Electric Vehicles according to Gear Ratio Variation. C. Park1 and H. Lee1 1. Korea National University of Transportation, Uiwang-si, The Republic of Korea

Q4-04. Influence of DC-Biased Magnetic Induction on Magnetic Property of Silicon Steel. J. Chen1, D. Wang1, Y. Jiang1, X. Teng1 and S. Cheng1 1. National Key Laboratory of Science and Technology on Vessel Integrated Power System, Naval Engineering, Hanyang University, Seoul, The Republic of Korea

Q4-05. Analysis of Magnetization and Demagnetization Characteristics for Spoke-type Permanent Magnet Machine with Rotor Overhang and Non-rare Earth Magnet. J. Seo1 and A. Ro1 1. Korea National University of Transportation, Uiwang-si, The Republic of Korea

THURSDAY
MORNING
10:00

Session Q5
MULTIFERROICS I
(Poster Session)
Davide Bossini, Chair
TU Dortmund, Dortmund, Germany

Q5-01. Magnetic and Structural Characterization in the Multiferroic Bi2(Pr0.1La0.9)Fe2O12 Compounds of the Aurivillius Family Towards their use as Ferroelectric Capacitors. C.E. Moreno Crespo1, D. Ramirez Rosales1, S. Arellano Ahumada1 and A. Peláiz Barranco2 1. Departamento de Física y Matemáticas, Instituto Politécnico Nacional, Mexico City, Mexico; 2. Facultad de Física, Universidad de La Habana, La Habana, Cuba

Q5-02. Strong magnetoelectric effect in pulse laser deposited [Ba(Zr0.2Ti0.8)O3-0.5(Ba0.7Ca0.3)TiO3]/CoFe2O4 bilayer thin film. J. Rani1, V. Kushwaha1 and C. Tomy2 1. Physics, Vardhaman College, Bijnor, Bijnor, India; 2. Physics, IIT Bombay, Mumbai, India

Q5-03. Strong magnetoelectric effect in pulse laser deposited [Ba(Zr0.2Ti0.8)O3-0.5(Ba0.7Ca0.3)TiO3]/CoFe2O4 bilayer thin film. J. Rani1, V. Kushwaha1 and C. Tomy2 1. Physics, Vardhaman College, Bijnor, Bijnor, India; 2. Physics, IIT Bombay, Mumbai, India

Q5-04. Vibration and Acoustic Noise Analysis of Iron-core Reactor under Sinusoidal and PWM Excitations. H. Gao1, S. Wang2, Y. Li3 and J. Li4 1. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China; 2. State Key Laboratory of Control and Simulation of Power System and Generation Equipments, Tsinghua University, Beijing, China

Q5-07. Performance enhancement of Q Factor and inductance of Integrated RF Inductors. X. Wang1, H. Chen1 and N.X. Sun1 1. Electrical and Computer Engineering, Northeastern University, Boston, MA, United States

Q5-08. Comparative Study of Novel Dual Stator Machines Having Different Biased PM Configurations. H. Yang1, Z. Zhu2, H. Lin1 and S. Lyu1 1. School of Electrical Engineering, Southeast University, Nanjing, China; 2. Department of Electronic and Electrical Engineering, The University of Sheffield, Sheffield, United Kingdom

Q5-09. Optimized Design of High Speed, High Power Motor for Four-Legged Robot Actuator Using the Weighted Sum Method and Response Surface Method. T. Lee1, J. Mo1, D. Hong1, B. Woo1 and B. Lee1 1. Energy and Power Conversion Engineering, University of Science and Technology, Tianjin, China; 2. Department of Electronic and Electrical Engineering, The University of Sheffield, Sheffield, United Kingdom

Q5-10. Fe/C-Decorated FeB/C Nanocapsule Hybrid with Improved Gigahertz Electromagnetic Absorption Properties. S. Or1 and X. Liu1 1. Electrical Engineering, Hong Kong Polytechnic University, Hong Kong, Hong Kong
Q5-03. Flexible multiferroic laminate composites with giant zero-biased magnetoelectric characteristics for wearable magnetic sensor. J. Qiu1, X. He1, Y. Long1, Q. Chang1 and H. Liu1. 1. College of Optoelectronic Engineering, Chongqing University, Chongqing, China

Q5-04. Withdrawn

Q5-05. Magnetic-field-sensitive dielectric anomaly of the electron-doped manganite CaMn$_{1-x}$Sb$_x$O$_3$. H. Taniguchi1, H. Takahashi1, A. Terui1, S. Kobayashi1, M. Matsukawa1 and R. Suryanarayanan2. 1. Department of Physical Science and Materials Engineering, Iwate University, Morioka, Japan; 2. Université Paris-Sud, Orsay, France

Q5-06. Magnetic excitations of multiferroic Ca$_3$CoSi$_2$O$_7$ studied by high-field ESR. M. Akaki1 and M. Hagiwara1. 1. Center for Advanced High Magnetic Field Science, Graduate School of Science, Osaka University, Toyonaka, Japan

Q5-07. Nonreciprocal spin-wave damping in multiferroic GaFeO$_3$. T. Omi1, M. Akaki2, N. Abe1, Y. Tokunaga1, S. Kimura1, M. Hagiwara2 and T. Arima1. 1. Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 2. Center for Advanced High Magnetic Field Science, Osaka University, Toyonaka, Japan; 3. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 4. Tohoku University, Sendai, Japan

Q5-08. Codopant driven ferromagnetism in K$_{0.65}$Na$_{0.35}$NbO$_3$, ferroelectric solid solution. K. Shalini1 and N. Giridharan1. 1. Physics, National Institute of Technology, Tiruchirappalli, India

Q5-09. Low temperature structural properties of multiferroic compounds: YBa$_2$Sr$_{1-x}$CuFeO$_x$ (x = 0, 0.5). S. LAL1, K. Mukherjee1 and C. Yadav1. 1. School of Basic Sciences, Indian Institute of Technology Mandi, Mandi, India

Q5-10. Withdrawn

Q5-11. Withdrawn

Q6-01. 5f Ferromagnetism Approaching Ambient Temperatures: High Pressure Study of UCu$_2$P$_2$. L. Havela1, J. Prchal1, J. Valenta1, M. Divis1, I. Turek1, M. Henriques2, F. Honda3 and D. Kaczorowski4. 1. Department of Condensed Matter Physics, Charles University, Prague, Czechia; 2. Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czechia; 3. Institute for Materials Research, Tohoku University, Oarai, Ibaraki, Japan; 4. Polish Academy of Sciences, Institute of Low Temperature and Structure Research, Wroclaw, Poland


Q6-03. Metal-insulator transition in Mott-insulator FePS$_3$. M. Tsurubayashi1, K. Kodama1, M. Kano1, K. Ishigaki1, Y. Uwatoko2, T. Watanabe2, K. Takase2 and Y. Takano1. 1. Department of Physics, Nihon University, Tokyo, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 3. Human Science and Common Education, Nippon Institute of Technology, Saitama, Japan

Q6-04. Withdrawn

Q6-05. Magnetic excitations of multiferroic Ca$_3$CoSi$_2$O$_7$ studied by high-field ESR. M. Akaki1 and M. Hagiwara1. 1. Center for Advanced High Magnetic Field Science, Graduate School of Science, Osaka University, Toyonaka, Japan

Q6-06. Magnetic excitations of multiferroic Ca$_3$CoSi$_2$O$_7$ studied by high-field ESR. M. Akaki1 and M. Hagiwara1. 1. Center for Advanced High Magnetic Field Science, Graduate School of Science, Osaka University, Toyonaka, Japan

Q6-07. Nonreciprocal spin-wave damping in multiferroic GaFeO$_3$. T. Omi1, M. Akaki2, N. Abe1, Y. Tokunaga1, S. Kimura1, M. Hagiwara2 and T. Arima1. 1. Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 2. Center for Advanced High Magnetic Field Science, Osaka University, Toyonaka, Japan; 3. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 4. Tohoku University, Sendai, Japan

Q6-08. Codopant driven ferromagnetism in K$_{0.65}$Na$_{0.35}$NbO$_3$, ferroelectric solid solution. K. Shalini1 and N. Giridharan1. 1. Physics, National Institute of Technology, Tiruchirappalli, India

Q6-09. Low temperature structural properties of multiferroic compounds: YBa$_2$Sr$_{1-x}$CuFeO$_x$ (x = 0, 0.5). S. LAL1, K. Mukherjee1 and C. Yadav1. 1. School of Basic Sciences, Indian Institute of Technology Mandi, Mandi, India

Q6-10. Withdrawn

Q6-11. Withdrawn

Q6-06. Magnetic-field driven Pr-valence change in (PrₓSm₋ₓ)ₓCa₂CoO₅₋ₓ, T. Naito and H. Fujishiro. 1. Iwate University, Morioka, Japan

Q6-07. Co-site substitution effects on the simultaneous metal-insulator and spin-state transition in (PrₓGdx)ₓCa₂CoO₅₋ₓ, T. Naito and H. Fujishiro. 1. Iwate University, Morioka, Japan

Q6-08. Resistive switching kinetics probed from crosshatch surface of LaₓSr₃MnO₅ films, Z. Liang, Z. Wang and P. Wu. 1. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Department of Physics, University of Science and Technology Beijing, Beijing, China

Q7-02. Flexible Hall-Effect Devices Fabricated via Recursive Transfer Print of Graphene onto Polymeric Lamination Film. U.Y. Inkaya, K. Çelik and A. Oral. 1. Physics, Middle East Technical University, Ankara, Turkey; 2. Fırat University, Elazığ, Turkey; 3. Orta Doğu Teknik Üniversitesi, Ankara, Turkey

Q7-03. Electric Field Control of Interfacial Magnetism through Ionic Liquid Gating. Z. Hu, Z. Zhou and M. Liu. 1. Electronic Materials Research Laboratory, Key Laboratory of the Ministry of Education & International Center for Dielectric Research, Xi'an Jiaotong University, Xi'an, China

Q7-04. External Loading Effects on Guided Wave Magnetostriective Sensor Using a Surface-bonded Nickel Patch. B. Yoo and D.J. Pines. 1. Aerospace Engineering, University of Maryland, College Park, MD, United States

Q7-05. Reversibly switching the phases of SrCoO₃ film at room temperature using a flexible solid-state electrolyte gate. Y. Chen, D. Wang, L. Wei and S. Yan. 1. School of Physics, Shandong University, Jinan, China; 2. School of Microelectronics, Shandong University, Jinan, China


Q7-07. Dual Beam Modulated Magneto-Optical Measurement setup. S.C. Acharya, W.J. Geerts, B.D. Collier and M. Talukder. 1. Physics, Texas State University, San Marcos, TX, United States

Q7-08. Mössbauer Studies of Ferrite Based MRI Temperature Contrast Agents. N.A. Alghamdi, M. Przybylski, J. Zukrowski, J.H. Hankiewicz, R.E. Camley and Z. Celinski. 1. Academic Centre for Materials and Nanotechnology, AGH University of Science and Technology., Krakow, Poland; 2. BioFrontiers, University Colorado Colorado Springs, Colorado Springs, CO, United States; 3. Physics, University of Colorado, Colorado Springs, CO, United States; 4. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland

Q7-09. Antiferromagnetic spintronics based on Mn₂Au: switching and read-out. S. Bodnar, L. Śmejkal, T. Jungwirth, O. Gomonay, A. Sapozhnik, H. Elmers, M. Kläu, M. Jourdan and J. Zumsteg. 1. Institute of Physics, Johannes Gutenberg University, Mainz, Germany; 2. School of Physics & Astronomy, University of Nottingham, Nottingham, United Kingdom; 3. Department of Physics, Academy of Sciences of the Czech Republic, Praha, Czechia

Q7-11. Barkhausen noise analysis for monitoring stress and damage accumulation in Fe-Co magnetostriuctive alloy wire. T. Yamazaki¹, Y. Furuya² and W. Nakao¹ ¹. Materials Science and Engineering, Yokohama National University, Yokohama, Japan; ². Tohoku University, Sendai, Japan

Q7-12. Nanoscale engineering of Large Anisotropic Magnetoresistance in La₄Sr₄MnO, Films at Room Temperature. P. Perina¹, F. Ajejas¹², J. Diez¹, V. Muñoz¹, R. Guerrero¹, J. Santamaria¹, S. Flamenc³, L. Méchin¹, L. Perce⁴¹, T. González¹, R. Miranda³² and J. Camarero³¹ ¹. IMDEA Nanociencia, Madrid, Spain; ². Universidad Autónoma de Madrid, Madrid, Spain; ³. Normandie Univ, UNICAEN, ENSICAEN, CNRS, GREYC, Caen, France; ⁴. U. Complutense Madrid, Madrid, Spain

Q7-13. Asymmetric MI effect in exchange-biased multilayered FeNi. U. Kılıç¹², C. A. González-Fuentes³, C. Ross⁴ and C. García¹ ¹. Physics, North Campus KB 331-O, Bogazici University, Istanbul, Turkey; ². Electrical Engineering Department, Nebraska University at Lincoln, Lincoln, NE, United States; ³. Physics, UTFSM, Valparaiso, Chile; ⁴. Dept. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States

Q7-14. Pressure effects on martensitic transformation and magnetic properties in magnetic shape memory alloy Pd₄Mn₁Sn₁-x. H. Okada¹, Y. Yamazaki¹ and T. Kanomata¹ ¹. Tohoku Gakuen University, Tagajo, Japan

Q8-03. The Effect of Stray Fields and Interlayer Exchange Coupling in Patterned Fe₈₈Cu₁₂/MgO Superlattices. T. Warnatz³², B. Skovdal²¹, F. Magnus³, H. Stopfel¹, I. Chioar¹ and B. Hjörvarsson¹ ¹. Physics and Astronomy, Uppsala University, Uppsala, Sweden; ². Science Institute, University of Iceland, Reykjavik, Iceland

Q8-04. X-Ray Magnetic Circular Dichroism of Boron Substituted Ni-Mn-In Thin Films. S. Pandey¹, A.T. N'Diaye², I. Dubenko¹, A. Aryal¹, D. Mazumdar¹, S. Roy², S. Stadler³ and N. Ali¹ ¹. Physics, Southern Illinois University Carbondale, Carbondale, IL, United States; ². Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; ³. Louisiana State University, Baton Rouge, LA, United States

Q8-05. Electrical detection of artificial skyrmion in synthetic antiferromagnetic nanostructures at room temperature. F. Ma¹², Q. Feng³, S. Li¹, P. Pan², Y. Li², X. Jin², Q. Lu³ and W. Lew¹ ¹. School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore; ². School of Physics and Technology, Nanjing Normal University, Nanjing, China; ³. High Magnetic Field Laboratory, Chinese Academy of Sciences, University of Science and Technology of China, Hefei, China

Q8-06. Withdrawn

Q8-07. Withdrawn

Q8-08. Magnetic Properties of Nickel Films on Surface Acoustic Wave Devices. S.A. Mathews¹, N.S. Bingham², R. Suess¹, K. Charipar¹, R. Auyeung¹ and N. Charipar¹ ¹. Materials Science and Technology Division, Naval Research Laboratory, Washington, DC, United States; ². National Research Council Fellow, Naval Research Laboratory, Washington, DC, United States

THURSDAY MORNING

SAN FRANCISCO BALLROOM

10:00

Session Q8
NOVEL APPLICATIONS OF MAGNETIC THIN FILMS AND MULTILAYERS I
(Poster Session)
Katharina Zeissler, Chair
University of Leeds, Leeds, United Kingdom

Q8-01. Magnetic Tracking of Cardiac Catheters Using Flexible Magnetic Tunnel Junction Sensors. M. Hawsawi¹, S. Amara¹, A. Afmansouri¹, H. Mohammed¹, G. Torres Sevilla¹, G. Jakob², S. Jaiswal¹, M. Kläui³, A. Haneef³, A. Saoudi³, M. Hussain³ and J. Kosel¹ ¹. Computer, Electrical and Mathematical Science and Engineering Division, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia; ². Physics, Johannes Gutenberg - University Mainz, Mainz, Germany; ³. King Abdullah International Medical Research Center, Riyadh, Saudi Arabia; ⁴. Singulus Technologies AG, Kahl am Main, Germany

Q8-02. Improved Magnetic Field Sensitivity for FeCuNbSiB and Micro Planar Coil Laminate with Different Layer Structures. Y. Wang¹, Y. Wen¹ and P. Li¹ ¹. School of Electronic Information and Electrical Engineering, Shanghai Jiaotong University, Shanghai, China
MORNING
10:00
THURSDAY
SAN FRANCISCO BALLROOM

Session Q10
QUANTUM CRITICAL SCES II: OTHER SYSTEMS
(Poster Session)
Steffen Wirth, Chair
Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

Q10-01
First Principles Description of Correlation Driven Lattice Energetics in RNO3 Compounds by DFT+DMFT.
A. Hampel1 and C. Ederer1 1. Materials Theory, ETH Zurich, Zurich, Switzerland

Q10-02
Site-selective Probe of Magnetic Excitations in Rare-earth Nickelates using Resonant Inelastic X-ray Scattering.
D. Betto1, Y. Lu2, K. Fursich3, H. Suzuki2, H. Kim2, G. Cristiani2, G. Logvenov2, N.B. Brookes1, E. Benckiser1, M. Haverkort1, G. Khalilullin1, M. Le Tacon1, M. Minola2 and B. Keimer1 1. ESRF, Grenoble, France; 2. Max Planck Institute for the Structure and Dynamics of Matter, Stuttgart, Germany; 3. Karlsruhe Institute of Technology, Karlsruhe, Germany; 4. Institute for Theoretical Physics, Heidelberg University, Heidelberg, Germany

Q10-03
Relation between magnetic ordering and crystal structure during Mott transition in NiI2 and NiBr2.
V. Potapkin1, G. Konstantin2, V. Cerantola3, A. Kurnosov4 and A. Pakhomova2 1. Institute for Materials Science, NIMS, Tsukuba, Japan; 2. Paul Scherrer Institut, Villigen PSI, Switzerland; 3. Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut, Villigen PSI, Switzerland; 4. Bayerisches Geoinstitut, Universität Bayreuth, Bayreuth, Germany

Q10-04
Doping-Induced States near the Mott Transition in the Presence of Antiferromagnetic Order.
M. Kohno1 1. National Institute for Materials Science (NIMS), Tsukuba, Japan

Q10-05
Muon spin spectroscopy study of the magnetic field and pressure-induced quantum phase transition in CsFeCl3.
A.M. Nikitin1, Z. Shermadini1, R. Scheuermann1, G. Simutis1, R. Khasanov1, N. Kurita2, H. Tanaka2, C. Rüegg1, B. Keimer2 and H. Luetkens1 1. Laboratory for Muon-Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Tokyo Institute of Technology, Meguro-ku, Japan; 3. Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut, Villigen PSI, Switzerland; 4. Department of Quantum Matter Physics, University of Geneva, Geneva, Switzerland

Q10-06
Pressure-induced quantum critical phenomena and magnetic order in the chiral compound YbNi4Ga12.
AC calorimetric measurements up to 12 GPa.
T. Otaki1, K. Umeo2, Y. Arai3, T. Takabatake1 and S. Obara1 1. Graduate School of Advanced Sciences of Matter, Hiroshima University, Higashi, Japan; 2. N-BARD, Hiroshima University, Higashi, Japan; 3. Science, Hiroshima University, Higashi, Japan; 4. Department of Physical Science and Engineering, Nagoya Institute of Technology, Nagoya, Japan

Q9-02
J. Inoue1, T. Yoshioka1 and H. Tsuchiura1 1. Department of Applied Physics, University of Tsukuba, Tsukuba, Japan; 2. Department of Applied Physics, Tohoku University, Sendai, Japan

Q9-03
Surface magnetic anisotropy in SmFe12 and NdFe12 systems.
T. Yoshioka1, D. Suzuki1 and H. Tsuchiura1 1. Department of Applied Physics, Tohoku University, Sendai, Japan; 2. ESICMM, National Institute for Materials Science, Tsukuba, Japan

Q9-04
Magnetic Properties of 1:12 Alloys: An Ab Initio Study.
O. Vekilova1, O. Eriksson1 and H.C. Herper1 1. Physics and Astronomy, Uppsala University, Uppsala, Sweden

Q9-05
The effect of interstitial dopings on magnetic properties of the rare-earth intermetallic TmFe12-Ti compound.
N. Kostyuchenko1, I. Tereshina1, E. Tereshina-Chitrova1, Y. Skourski1, M. Doerr1, O. Pelevin1, A. Zvezdin1, M. Paulov9,10, L. Havela1 and H. Drulis11 1. Moscow Institute of Physics and Technology (State University), Moscow, Russian Federation; 2. Institut für Festkörperphysik, Technische Universität Wien, Vienna, Austria; 3. Faculty of Physics, Lomonosov Moscow State University, Moscow, Russian Federation; 4. Institute of Physics CAS, Prague, Czechia; 5. Hochfeld-Magnetlabor Dresden (HLD-EMFL), Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; 6. Institut für Festkörper- und Materialphysik, Technische Universität Dresden, Dresden, Germany; 7. Baikov Institute of Metallurgy and Materials Science RAS, Moscow, Russian Federation; 8. A. M. Prokhorov General Physics Institute RAS, Moscow, Russian Federation; 9. Faculty of Mathematics and Physics, Charles University, Prague, Czechia; 10. Laboratory of Novel Magnetic Material, Immanuel Kant Baltic Federal University, Science and Technology Park “Fabrica”, Kaliningrad, Russian Federation; 11. Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wroclaw, Poland

Q9-06
Meso-scale crystalline RFe12-type bulk magnets using solid-state reaction.
K. Chung1, K.P. Shinde1, M. Ranot2, J. Park1, J. Kim1 and C. Choi1 1. Functional Nano-Materials Research, Faculty of Advanced Science and Technology, Hiroshima University, Higashi, Japan; 2. N-BARD, Hiroshima University, Higashi, Japan; 3. School of Advanced Sciences of Matter, Hiroshima University, Higashi, Japan; 4. Laboratory for Muon-Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland; 5. Laboratory for Low Temperature Physics and Technology Park “Fabrica”, Kaliningrad, Russian Federation; 6. Institute of Physics CAS, Prague, Czechia; 7. University of Geneva, Geneva, Switzerland; 8. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 9. Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 10. European Synchrotron Radiation Facility, Grenoble, France; 11. Institute of Physics, Heidelberg University, Heidelberg, Germany

Q9-07
Is There a Magnetic Moment of Ti in Sm(Fe1-xCox)12-Ti (x = 0 and 0.2)?

Q9-08
Improving the properties of NdFe12-Ti for permanent magnet applications by Y substitution and nitrogenation.
A. Martín-Cid1, O. Tosun1, A. Gabay1, D. Salazar1, J.M. Barandiarán1 and G. Hadjipanayis1 1. BC Materials, Leioa, Spain; 2. University of the Basque Country (UPV/EHU), Bilbao, Spain; 3. Physics and Astronomy, University of Delaware, Newark, DE, United States

Q11-05. Microwave Absorption Properties of NdCoSi / Paraffin Composite. G. Qiao, W. Yang, C. Wang, S. Liu and J. Yang. 1. School of Physics, Peking University, Beijing, China


Q11-07. Proportions of reversible and irreversible magnetization processes along hysteresis loops of selected soft magnetic composites. Z. Bircakova, P. Kollar, M. Jakubcin, J. Fuzer, R. Bures and M. Faberova. 1. Institute of Physics, Faculty of Science, P.J. Šafárik University, Kosice, Slovakia; 2. Institute of Materials Research, Slovak Academy of Sciences, Košice, Slovakia


Q11-10. Engineering Nanocomposites Graphene Quantum Dots and Magnetic Nanoparticles; Synthesis, Optical and Magnetic Properties. M. Sajjad, V. Makarov, M. Sultan, W. Jadwisienczak, B. Weiner and G. Morell. 1. Department of Physics and Astronomy, Western Kentucky University, Bowling Green, KY, United States; 2. Department of Physics, University of Puerto Rico, San Juan, PR, United States; 3. School of Electrical Engineering and Computer Science, Ohio University, Athens, OH, United States
Q12-01. Experimental Observation of $J_{eff}=1/2$ state in Cuprate System $\text{CuAl}_2\text{O}_4$

H. Cho$^{1,2}$, S. Kim$^{1,2}$, C. Kim$^{1,2}$ and J. Park$^{1,2}$
1. Department of Physics, Seoul National University, Seoul, The Republic of Korea; 2. Department of Physics, IBS-CCES, Seoul, The Republic of Korea

Q12-02. Magnetic properties and structure as a function of hole doping and disorder in $\text{Pr}_3\text{Sr}_2\text{NiO}_6$

M. Frontzek$^1$, J. Schefer$^2$, L. Keller$^2$, S. Mishra$^1$, W. Paulus$^1$ and M. Ceretti$^4$
1. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Laboratory for Neutron Scattering, Paul Scherrer Institut, Villigen, Switzerland; 3. EMPA, Dübendorf, Switzerland; 4. Institut Charles Gerhardt, Université de Montpellier, Montpellier, France

Q12-03. Magnetic frustration in the intermetallic Dy$_2$Co$_3$Al$_9$

M. Henriques$^1$, D. Gorbunov$^2$, B. Ouladdiaf$^3$, N. Qureshi$^3$, C. Alarcon$^1$, K. Gautam$^2$, A. Ahad$^1$, Y. Skourski$^2$, V. Petricek$^1$ and J. Wosnitza$^2,4$
1. Institute of Physics, Aligarh Muslim University, Aligarh, Aligarh, India; 2. Hochfeld-Magnetolabor (HLD-EMFL), Dresden, Germany; 3. Institute for Solid State Physics, Okayama University, Okayama, Japan; 4. Neutrons and Muons, Paul Scherrer Institute, Villigen PSI, Switzerland; 5. DTU Technical University of Denmark, Copenhagen, Denmark; 6. Neutrons and Muons, Paul Scherrer Institute, Villigen PSI, Switzerland; 7. European Spallation Source, Lund, Sweden; 8. Diamond Light Source, Didcot, United Kingdom; 9. MISiS, National University of Science and Technology, Moscow, Russian Federation

Q12-04. Magnetic correlations and hopping conduction in mixed valent single layered La$_{12}$Sr$_{10}$Co$_{18}$

A. Ahad$^1$, K. Gautam$^2$, K. Dey$^3$, S. Majid$^1$, F. Rahman$^1$, R. Choudhary$^2$ and D. Shukla$^2$
1. Physics, Aligarh Muslim University, Aligarh, Aligarh, India; 2. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 3. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 4. Department of Physics, IBS-CCES, Seoul, the Republic of Korea; 5. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 6. Nanny Branch, Academy of Sciences of Uzbekistan, Navoiy, Uzbekistan; 7. Institut Laue Langevin, Grenoble, France; 8. Diamond Light Source, Didcot, United Kingdom; 9. MISiS, National University of Science and Technology, Moscow, Russian Federation

Q12-05. Insulator-metal and structural transitions through applied pressure in 2D hexagonal antiferromagnet FePS$_3$

C.R. Haines$^{1,4}$, M.J. Cook$^{1,5}$, G.I. Lampanoti$^6$, C. Liu$^{1,4}$, H. Hamidov$^{1,4}$, A.R. Wildes$^1$, D. Daisenberger$^1$, P. Nahai-Williamson$^1$ and S.S. Saxena$^{1,4}$

Q12-06. $J_{eff}=1/2$ Exciton Fano Resonances in Pyrochlore Iridates with All-in/All-out Magnetic Order.

A. Boris$^1$, A. Yaresko$^1$, T. Larkin$^1$, K. Rabino$^1$, A. Krajewska$^1,2$, T. Takagi$^1,2$ and B. Keimer$^1$
1. Max Planck Institute for Solid State Research, Stuttgart, Germany; 2. Institute for Functional Materials and Quantum Technology, University of Stuttgart, Stuttgart, Germany

Q12-07. Electronic structures and magnetic properties of metal-doped WS monolayer in ab initio calculations.

J. Hyun$^1$ and M. Kim$^2$
1. Institute of Advanced Materials and Systems, Sookmyung Women’s University, Seoul, The Republic of Korea; 2. Department of Applied Physics, Sookmyung Women’s University, Seoul, The Republic of Korea

Q12-08. Fundamental mechanisms of spin depolarization in half-metallic ferromagnet CrO$_2$ revealed by high-resolution spin-resolved photoemission spectroscopy.

H. Fujiwara$^1$, K. Terashima$^2$, M. Sunagawa$^2$, Y. Yano$^1$, T. Nagayama$^1$, T. Fukura$^1$, F. Yoshii$^1$, Y. Matsuura$^1$, M. Ogata$^1$, T. Wakiita$^2$, K. Yaji$^1$, A. Harasawa$^1$, K. Kuroda$^2$, S. Shim$^1$, Y. Murao$^{1,2}$ and T. Yokoya$^{1,2}$
1. Graduate School of Natural Science and Technology, Okayama University, Okayama, Japan; 2. Research Institute for Interdisciplinary Science, Okayama University, Okayama, Japan; 3. Institute for Solid State Physics, The University of Tokyo, Tokyo, Japan

Q12-09. Withdrawn

Q12-10. Neutron Investigations of the Multiferroic Skyrmion GaV$_4$S$_8$

W.D. Ratcliff$^1$, J.W. Lynn$^1$, M. Bleuel$^1$, L. Zhang$^{1,3}$ and S. Cheong$^1$
1. NCNR, NIST, Gaithersburg, MD, United States; 2. Materials, Max Planck POSTECH, Pohang, The Republic of Korea; 3. POSTECH, Pohang, The Republic of Korea; 4. Physics and Astronomy, Rutgers University, Piscataway, NJ, United States

Q12-11. The Swedish QuEST for BIFROST and Novel Quantum Materials.

J. Hellsvik$^{1,2}$, Y. Sassa$^3$, E. Nocerino$^3$, R. Toft-Petersen$^3$, M. Geilhufe$^1$, S. Borysov$^{1,5}$, A. Balatsky$^1$, O. Eriksson$^1$, C. Rüegg$^6$ and M. Månsson$^4$
1. Nordita, Stockholm, Sweden; 2. KTH Royal Institute of Technology, Stockholm, Sweden; 3. Uppsala University, Uppsala, Sweden; 4. Applied Physics, KTH Royal Institute of Technology, Stockholm, Sweden; 5. DTU Technical University of Denmark, Copenhagen, Denmark; 6. Neutrons and Muons, Paul Scherrer Institute, Villigen PSI, Switzerland; 7. European Spallation Source (ESS), Lund, Sweden

Q12-12. Coupled spin dimers driven by charge and p-orbital ordering in an open-shell p-electron Rb$_2$O$_6$ compound.

D. Arcon$^{1,3}$
1. Instituto “Jozef Stefan”, Ljubljana, Slovenia; 2. Faculty of Mathematics and Physics, University of Ljubljana, Ljubljana, Slovenia
Q13-01. Spin-orbit torques in silicene zigzag nanoribbons. S. Chen1
1. Department of Applied Physics and Chemistry, University of Taipei, Taipei, Taiwan

Q13-02. Detection of spin-orbit torques generated from interfacial spin-orbit scattering at Pt/Co interface. Y. Hibino1
T. Koyama1 and D. Chiba1
1. Department of Applied Physics, The University of Tokyo, Tokyo, Japan

Q13-03. Spin orbit torque switching in Co/Pt/Co multilayer with mixed magnetic anisotropies. W. Skowronska1, S. Lazarski1, S. Zietek1, J. Kanak1, T. Stobiecki1,3, M. Schmidt2, J. Aleksiejew2 and F. Stobiecki1
1. Department of Electronics, AGH University of Science and Technology, Krakow, Poland; 2. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland; 3. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland

Q13-04. Role of dimensional crossover on spin-orbit torque efficiency in magnetic insulator thin films. Q. Shao1, C. Tang2, G. Yu1, A. Navabi1, C. He1, J. Li1, P. Upadhyaya1, Y. Liu2, S. Kim1, S. Razavi1, Q. He1, Y. Tserkovnyak1, J. Shi2 and K.L. Wang1
1. Electrical and Computer Engineering, UCLA, Los Angeles, CA, United States; 2. Physics and Astronomy, UCR, Riverside, CA, United States; 3. Physics and Astronomy, UCLA, Los Angeles, CA, United States

Q13-05. Spin-orbit torque in [Co/W/Pt] superlattices. W. Ham1
S. Kim2, Y. Shiotai1, T. Moriyama3 and T. Ono1,4
1. Institute for Chemical Research, Kyoto University, Uji, Japan; 2. Department of Physics, University of Ulsan, Ulsan, The Republic of Korea; 3. Kyoto University, Uji, Japan; 4. Graduate Institute of Applied Physics and Department of Physics, National Taiwan University, Taipei, Taiwan

Q13-06. Withdrawn

Q13-07. Spin-Orbit Torque Ferromagnetic Resonance in Transferred-Topological Insulator/Normal Metal/Ferromagnetic Metal Heterostructure. Y. Liu1, C. Chen1, S. Yang1, L. Chang1, S. Lee2, M. Hong2 and J. Kwo1
1. Physics, National Tsing Hua University, Hsinchu, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan; 4. Graduate Institute of Applied Physics and Department of Physics, National Taiwan University, Taipei, Taiwan

Q13-08. Anomalous Spin-Orbit-Torque Switching In Co/Pt Multilayer-based Synthetic Antiferromagnets. L. Zhu1, X. Xu1, K. Meng1, Y. Wu1, J. Miao1 and Y. Jiang1
1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China

Q13-09. Dynamical Role of the Orbital Degree of Freedom in the Intrinsic Spin and Orbital Hall Effects. D. Go1, C. Kim2 and H. Lee1
1. Department of Physics, Pohang University of Science and Technology, Pohang, The Republic of Korea; 2. Department of Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea

Q13-10. Interfacial Oxygen induced enhancement of Spin-Orbit Torques. J. Nath1,2, A. Trifu1,2, S. Auffret1,2, G. Gaudin1,2 and I. Miron1,2
1. SPINTEC (CEA/CNRS), Grenoble, France; 2. Université Grenoble Alpes, Grenoble, France

1. Keio University, Yokohama, Japan

Q13-12. Non-local spin transport in ferromagnetic nanowires subject to spin-orbit torques. E. Iacocca1, T. Silva1 and M. Hoefer2
1. NIST, Boulder, CO, United States; 2. Applied Mathematics, University of Colorado, Boulder, Boulder, CO, United States

Q13-13. Thermally Driven Anomalous Hall Effect Transitions in FeRh for Spin Current Detection. A. Popescu1, P. Rodriguez-Lopez1,2, P.M. Haney1 and L. Woods1
1. Department of Physics, University of South Florida, Tampa, FL, United States; 2. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 3. GISC-Grupo Interdisciplinar de Sistemas Complejos, Madrid, Spain; 4. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD, United States

Q13-08. Anomalous Spin-Orbit-Torque Switching In Co/Pt Multilayer-based Synthetic Antiferromagnets. L. Zhu1, X. Xu1, K. Meng1, Y. Wu1, J. Miao1 and Y. Jiang1
1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China

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1. Department of Physics, Pohang University of Science and Technology, Pohang, The Republic of Korea; 2. Department of Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea

Q13-10. Interfacial Oxygen induced enhancement of Spin-Orbit Torques. J. Nath1,2, A. Trifu1,2, S. Auffret1,2, G. Gaudin1,2 and I. Miron1,2
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1. Keio University, Yokohama, Japan

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Q13-13. Thermally Driven Anomalous Hall Effect Transitions in FeRh for Spin Current Detection. A. Popescu1, P. Rodriguez-Lopez1,2, P.M. Haney1 and L. Woods1
1. Department of Physics, University of South Florida, Tampa, FL, United States; 2. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 3. GISC-Grupo Interdisciplinar de Sistemas Complejos, Madrid, Spain; 4. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD, United States

Q14-01. Interface proximity effects near a domain wall in antiferromagnet/superconductor heterostructures. G. Forestieri1, O. Gladici2, R.L. Seeger1, S. Aufray1, I. Journard1, C. Gomez2, A. Buzdin3,4 and V. Balz1
1. SPINTEC, Univ. Grenoble Alpes / CNRS / INAC-CEN / GINP, Grenoble, France; 2. G-INP / CIME Nanotech, Grenoble, France; 3. Univ Bordeaux, CNRS, UMR 5798, LOMA, Bordeaux, France; 4. Univ Cambridge, Dept Mat Sci & Met, Cambridge, France
Q14-02. Effect Of Buffer Layers On The Magnetic Behaviour And Thermal Stability Of CoFeB Film. J. Dwivedi, M. Gupta, V.R. Reddy, A. Mishra, V. Srivari, K.K. Pandey and A. Gupta 1. School of Physics, Devi Ahilya University, INDORE, India; 2. UGC-DAE CSR, Indore, India; 3. High Pressure & Synchrotron Radiation Physics Division, Bhabha Atomic Research Centre, Mumbai, India; 4. Amity Center for Spintronic Materials, Amity University, Noida, India

Q14-03. Giant magnetic anisotropy in two dimensional honeycomb hafnene monolayer. A. Hashmi and J. Hong 1. Physics, Pukyong National Univ, Busan, The Republic of Korea; 2. University of Tsukuba, Tsukuba, Japan

Q14-04. Effects of Imprinting on Topological Structures in Thin Multilayers with DMI. N. Kent, R. Streubel, C.A. Lambert, S. Dhuevo, M. Im and P. Fischer 1. Physics, University of California, Santa Cruz, CA, United States; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 4. Department of Electrical Engineering and Computer Science, University of California, Berkeley, CA, United States; 5. Lawrence Berkeley National Laboratory, Berkeley, CA, United States


Q14-06. Long-range Magnetic Proximity Effects in Amorphous Exchange-spring Magnets. F. Magnus, K.A. Thorarinsdottir, T.P. Hase, G. Andersson and B. Hjörvarsson 1. Science Institute, University of Iceland, Reykjavik, Iceland; 2. Physics, University of Warwick, Coventry, United Kingdom; 3. Dept of Physics and Astronomy, Uppsala University, Uppsala, Sweden

Q14-07. Withdrawn

Q14-08. Withdrawn

Q14-09. Withdrawn


Q15-04. Field dependence of the blocking temperature at increasing size: An empirical approach for cobalt ferrite nanoparticles. C.R. Stein, M.S. Almeida, M.E. Gusmão, M.N. Borges and P.C. Morais 1. Physics, Federal Institute of Rondônia, Porto Velho, Brazil; 2. Physics, University of Brasilia, Brasilia, Brazil; 3. School of Chemistry and Chemical Engineering, Anhui University, Hefei, China

Q15-05. NARMAX Model-based Hysteresis Modeling of Magnetic Shape Memory Alloy Actuator. Y. Yu, P. Yang and M. Zhou 1. Jilin University, Changchun, China

Q15-06. Quantum Torque of a Torsional Oscillator Coupled to Molecular Magnets. G. Kim 1. Physics and Astronomy, Sejong University, Seoul, The Republic of Korea

Q15-07. Micromagnetic Modelling of Switching and Spin Relaxation in Rectangular Magnetic Nanostructures under 1 GHz AC Microwave Magnetic Field. F. Sahbaz and M.C. Onhasli 1. Electrical and Electronics Engineering, Koc University, Istanbul, Turkey

Q15-08. Atomistic Modelling of Granular Exchange Bias Systems. S. Jenkins, R. Chantrell and R.F. Evans 1. Physics, University of York, York, United Kingdom

Q15-09. Withdrawn
Q16-06. Electron Spin Resonance in Gd$^{3+}$ doped Kondo insulator SmB$_6$. J.C. Souza$^1$, P. Rosa$^2$, R.R. Urbano$^3$, C. Rettori$^{1,3}$, Z. Fisk$^4$ and P. Pagliuso$^1$. $^1$ DEQ, Instituto de Fisica Gleb Wataghin - Unicamp, Campinas, Brazil; $^2$ Condensed Matter and Magnet Science, Los Alamos National Laboratory, Los Alamos, NM, United States; $^3$ Natural and Humans Science Center, UFABC, Santo André, Brazil; $^4$ Department of Physics and Astronomy, University of California, Irvine, Irvine, CA, United States

Q16-07. The role of Sm vacancies in partially transforming SmB$_6$ into a nodal semimetal. N. Harrison$^1$. $^1$ MPA-MAG, Los Alamos National Laboratory, Los Alamos, NM, United States

Q16-08. Edge Magnetic Quantum Phase Transition in a Kane-Mele-Anderson Lattice Model for Topological Kondo Insulators. J. Zhu$^1$ and J. Julien$^2$. $^1$ Theoretical Division and Center for Integrated Nanotechnologies, Los Alamos National Laboratory, Los Alamos, NM, United States; $^2$ Institut Neel CNRS & Universite de Grenoble Alpes, Grenoble, France

Q16-09. Withdrawn

Q16-01. Topological mirror Kondo semi-metals and half-metals in two-dimensional magnetic systems. K. Kimura$^1$, T. Yoshida$^1$ and N. Kawakami$^2$. $^1$ Department of Physics, Kyoto University, Kyoto, Japan; $^2$ Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan

Q16-02. Weyl-Kondo Semimetal and Proximate Phases in Heavy Fermion Systems. S.E. Grefe$^1$, H. Lai$^2$, S. Paschen$^2$ and Q. Si$^2$. $^1$ Physics and Astronomy, Rice University, Houston, TX, United States; $^2$ Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; $^3$ Rice University, Houston, TX, United States

Q16-03. ARPES study of the Möbius Kondo Insulator candidate CeRhSb. S. Seong$^1$, E. Lee$^1$, J. Denlinger$^2$, K. Kim$^1$, T. Nam$^1$, B. Min$^1$, T. Takabatake$^1$ and J. Kang$^1$. $^1$ Physics, The Catholic University of Korea, Bucheon, The Republic of Korea; $^2$ Lawrence Berkeley Laboratory, Advanced Light Source, Berkeley, CA, United States; $^3$ Physics, Pohang University of Science and Technology, Pohang, The Republic of Korea; $^4$ Hiroshima University, Higashi-Hiroshima, Japan

Q16-04. Non-magnetic element substitution effect in Kondo insulator YbB$_4$, and exotic surface effect in this alloy system. F. Iga$^{1,2}$, W. Matsumura$^1$, H. Nakayama$^1$, W. Hirano$^2$, K. Yokomichi$^2$, A. Kondo$^5$, K. Kindo$^5$ and H. Yoshizawa$^5$. $^1$ College of Science, Ibaraki University, Mito, Japan; $^2$ Institute of Quantum Beam Science, Ibaraki University, Mito, Japan; $^3$ ISSP, The University of Tokyo, Mito, Japan

Q16-05. Photoemission spectroscopy in 2-dimensional Topological Kondo Insulators. E. Ramos Rodriguez$^2$. $^1$ Departamento de Fisica, Universidad Nacional de Colombia, Bogotá D. C., Colombia
Session S1
NEW ROUTES AND MATERIALS TOWARD QUANTUM CRITICALITY
Stephen Julian, Chair
University of Toronto, Toronto, ON, Canada

1:30
S1-01. A Local Quantum Phase Transition in YFe$_2$Al$_{10}$ (Invited)
M.C. Aronson$^1$. Department of Physics and Astronomy, Texas A&M University, College Station, TX, United States

S1-02. New Methods and New Materials to Study Nematic Quantum Phase Transitions. (Invited) I.R. Fisher$^1$. 1. Applied Physics, Stanford University, Stanford, CA, United States

S1-03. Multidimensional entropy landscape of quantum criticality. (Invited) K. Grube$^1$, S. Kantz$^2$, D.A. Zocco$^2$, O. Stockert$^1$, Q. Si$^4$ and H. von Löhneysen$^1$. 1. Institute for Solid State Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany; 2. Institute of Solid State Physics, Vienna University of Technology, Wien, Austria; 3. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 4. Rice University, Houston, TX, United States

2:00
S1-04. Neutron Diffraction Study of Co doping effect in the Magnetic Interactions in Ni-Mn-In Metamagnetic Shape Memory Alloys. J. López-Garcia$^{1,2}$, V. Recarte$^1$, I. Unzueta Solozabal$^1$, J. Rodríguez-Velamazán$^1$, I. Pérez-Landázabal$^6$, V. Sánchez-Alarcos$^1$ and F. Plazaola$^1$. 1. Institut Laue-Langevin, Fontaine, France; 2. Universidad Publica de Navarra, Pamplona, Spain; 3. Universidad Publica de Navarra, Pamplona, Spain; 4. Electricity & Electronics, University of the Basque Country (UPV/EHU), Leioa, Spain; 5. Institut Laue-Langevin, Grenoble, France; 6. Universidad Publica de Navarra, Pamplona, Spain; 7. Universidad Publica de Navarra, Pamplona, Spain; 8. Universidad del Pais Vasco, Bilbao, Spain

2:30
S1-05. Evidence for Dicke Cooperativity in Magnetic Interactions. X. Li$^5$, M. Bamba$^5$, N. Yuan$^4$, Q. Zhang$^5$, Y. Zhao$^4$, M. Xiang$^5$, K. Xu$^1$, Z. Jin$^1$, W. Ren$^1$, G. Ma$^1$, S. Cao$^3$, D. Turchinovich$^6$ and J. Kono$^1$. 1. Rice University, Houston, TX, United States; 2. Osaka University, Osaka, Japan; 3. Shanghai University, Shanghai, China; 4. Argonne National Laboratory, Lemont, IL, United States; 5. Peking University, Beijing, China; 6. University of Duisburg-Essen, Duisburg, Germany

Session S2
MULTIFERROIC AND FUNCTIONAL MATERIALS I
Yoshinori Onose, Chair
Tohoku University, Sendai, Japan

1:30
S2-01. The Final Chapter in the Saga of YIG. (Invited) A. Princep$^{1,2}$, R. Ewings$^3$, A. Boothroyd$^4$, S. Toth$^1$, S. Ward$^4$ and C. Dubs$^5$. 1. ISIS Neutron and Muon Source, Rutherford Appleton Laboratory, Oxford, United Kingdom; 2. University of Oxford, Oxford, United Kingdom; 3. ISIS, Rutherford Appleton Laboratory, Didcot, United Kingdom; 4. Paul Scherrer Institut, Villigen, Switzerland; 5. INNOVENT e.V., Technologieentwicklung, Jena, Germany

S2-02. The effect of hydrostatic pressure on magnetostructural transition in ferromagnetic cobalites: Pr$_x$Sr$_{1-x}$Co$_3$O$_y$ ($x = 0.4 - 0.6$). A. Chanda$^1$, M. Kumari$^2$ and R. Mahendiran$^1$. 1. Physics Dept, National University of Singapore, West Singapore, Singapore

2:00
S2-03. Nonreciprocal magnons and magnetic properties of the noncentrosymmetric antiferromagnet α-Cu$_2$V$_2$O$_7$. K. Matan$^1$. 1. Physics, Mahidol University, Bangkok, Thailand

2:30
S2-04. Neutron Diffraction Study of Co doping effect in the Magnetic Interactions in Ni-Mn-In Metamagnetic Shape Memory Alloys. J. López-Garcia$^{1,2}$, V. Recarte$^1$, I. Unzueta Solozabal$^1$, J. Rodríguez-Velamazán$^1$, I. Pérez-Landázabal$^6$, V. Sánchez-Alarcos$^1$ and F. Plazaola$^1$. 1. Institut Laue-Langevin, Fontaine, France; 2. Universidad Publica de Navarra, Pamplona, Spain; 3. Universidad Publica de Navarra, Pamplona, Spain; 4. Electricity & Electronics, University of the Basque Country (UPV/EHU), Leioa, Spain; 5. Institut Laue-Langevin, Grenoble, France; 6. Universidad Publica de Navarra, Pamplona, Spain; 7. Universidad Publica de Navarra, Pamplona, Spain; 8. Universidad del Pais Vasco, Bilbao, Spain

2:45
S2-05. Evidence for Dicke Cooperativity in Magnetic Interactions. X. Li$^5$, M. Bamba$^5$, N. Yuan$^4$, Q. Zhang$^5$, Y. Zhao$^4$, M. Xiang$^5$, K. Xu$^1$, Z. Jin$^1$, W. Ren$^1$, G. Ma$^1$, S. Cao$^3$, D. Turchinovich$^6$ and J. Kono$^1$. 1. Rice University, Houston, TX, United States; 2. Osaka University, Osaka, Japan; 3. Shanghai University, Shanghai, China; 4. Argonne National Laboratory, Lemont, IL, United States; 5. Peking University, Beijing, China; 6. University of Duisburg-Essen, Duisburg, Germany
S3-02. TMR sensors: challenges and applications. (Invited)  
P. Freitas1,2, S. Cardoso2 and R. Ferreira1 1. International Iberian Nanotechnology Laboratory, Braga, Portugal; 2. INESC MN, Lisbon, Portugal

S3-03. Magnetic field sensors based on Surface Acoustic Wave resonators. K. Dumesnil1, V. Polewczynski1, M. Moutaouekkil1, H. Mishra1, S. Petit-Watelot1, S. Hage-Ali1, H. Mjahed1, O. Elmaizra1, F. Montaigne1, D. Lacour1, M. Hehn1, N. Tiercelin1, Y. Dusch1, A. Talbi2 and O. Bou Matar1 1. Institut Jean Lamour, CNRS - Université de Lorraine, Nancy, France; 2. IEMN, Université de Lille, Lille, France

S3-04. The Control of Non-Collinear Antiferromagnetic Mn$_x$X (X = Ga, Sn) Thin Film Growth Using a Twinned Ruthenium Buffer Layer. S. Kurdi1, J. Koo1, P. Zilske2, M. Vickers1, L.A. Greer1, Z.H. Barber1 and G. Reiss1 1. Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 2. Center for Spin-electronic Materials and Devices, Bielefeld University, Bielefeld, Germany

S4-01. Control emergent magnetic properties in Iridate-based superlattices. (Invited) D. Yi1,2 1. The Geballe Laboratory for Advanced Materials, Stanford University, Stanford, CA, United States; 2. Applied Physics, Stanford University, Stanford, CA, United States


S4-03. Switching of Co magnetization driven by antiferromagnetic-ferromagnetic phase transition of FeRh alloy in Co/FeRh bilayers. T. Slezak1, P. Drozdz1, M. Slezak1, K. Matlak1, B. Matlak1, K. Freindl2, D. Wilgocka-Slezak2, N. Spiridis3 and J. Korecki1,2 1. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Cracow, Poland; 2. Jerzy Haber Institute of Catalysis and Surface Chemistry PAS, Cracow, Poland

S4-04. Anisotropic Field Control of Antiferromagnetic Spin Axis through Interface Magnetism in (111)-oriented La$_{0.7}$Sr$_{0.3}$MnO$_3$/LaFeO$_3$ Heterostructures. I. Hallsteinsen1,2, K. Kjærnes1, A.J. Grutter3, D. Gilbert3, B.J. Kirby3, E. Arenholz2 and T. Tybell1 1. Dept. of Electronic Systems, Norwegian University of Science and Technology, Berkeley, CA, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States

S4-05. Graphene-Ferromagnet Thin-Film Structures with Field-Cool Controllable Perpendicular Magnetization and Coercive Field Asymmetries. M. Valvidares1, P. Gargiani1, L. Melo Costa1,2, P. Perna2, R. Miranda2 and J. Camarero2 1. ALBA Synchrotron Light Source, Cerdanyola del Valles, Spain; 2. IMDEA Nanociencia, Madrid, Spain

Session S4
ANISOTROPY ENGINEERING OF MAGNETIC THIN FILMS AND MULTILAYERS II
Oscar Iglesias, Chair  
University of Barcelona, Barcelona, Spain

1:30

S4-01. Control emergent magnetic properties in Iridate-based superlattices. (Invited) D. Yi1,2 1. The Geballe Laboratory for Advanced Materials, Stanford University, Stanford, CA, United States; 2. Applied Physics, Stanford University, Stanford, CA, United States

2:00


2:15

S4-03. Switching of Co magnetization driven by antiferromagnetic-ferromagnetic phase transition of FeRh alloy in Co/FeRh bilayers. T. Slezak1, P. Drozdz1, M. Slezak1, K. Matlak1, B. Matlak1, K. Freindl2, D. Wilgocka-Slezak2, N. Spiridis3 and J. Korecki1,2 1. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Cracow, Poland; 2. Jerzy Haber Institute of Catalysis and Surface Chemistry PAS, Cracow, Poland

2:30

S4-04. Anisotropic Field Control of Antiferromagnetic Spin Axis through Interface Magnetism in (111)-oriented La$_{0.7}$Sr$_{0.3}$MnO$_3$/LaFeO$_3$ Heterostructures. I. Hallsteinsen1,2, K. Kjærnes1, A.J. Grutter3, D. Gilbert3, B.J. Kirby3, E. Arenholz2 and T. Tybell1 1. Dept. of Electronic Systems, Norwegian University of Science and Technology, Berkeley, CA, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States

2:45

S4-05. Graphene-Ferromagnet Thin-Film Structures with Field-Cool Controllable Perpendicular Magnetization and Coercive Field Asymmetries. M. Valvidares1, P. Gargiani1, L. Melo Costa1,2, P. Perna2, R. Miranda2 and J. Camarero2 1. ALBA Synchrotron Light Source, Cerdanyola del Valles, Spain; 2. IMDEA Nanociencia, Madrid, Spain
2:00

S5-03. Investigation of Electromagnetic Torque Capability Reduction of Electric Machine due to Magnetic Property Deterioration of Laminations. A. Mollaeian1, M. Mehdi2, E. Ghosh1, A. Edrisy2, S. Kim1, J. Tjong1 and N.C. Kar1
1. Electrical and Computer Engineering, University of Windsor, Windsor, ON, Canada; 2. Material Engineering, University of Windsor, Windsor, ON, Canada

2:15

S5-04. Tailoring the Microstructure of Soft Magnetic Composites for Electric Motor Applications. D. Schuller1, D. Hohs1, S.L. Schweizer1, D. Goll1 and G. Schneider1 1. Materials Research Institute, Aalen University, Aalen, Germany

2:30

S5-05. A Novel Iron Core Structure Design for Power Transformers Considering Joints and MagnetostriCTION. J. Li1, S. Wang1, H. Gao2, J. Hong1 and M. Liu2 1. State Key Laboratory of Control and Simulation of Power System and Generation Equipments, Tsinghua University, Beijing, China; 2. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China

2:45

S5-06. A Novel Wound Field Switched Flux Machine with Zero-Sequence Field Current Excitation. S. Lyu1, H. Yang1, H. Lin1 and Z. Zhu1 1. School of Electrical Engineering, Southeast University, Nanjing, China; 2. Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield, United Kingdom

THURSDAY AFTERNOON ROOM 104

1:30

Session S6
DOMAIN WALL DYNAMICS IV
Mi-Young Im, Chair
Lawrence Berkeley National Laboratory, Berkeley, CA, United States

1:30


THURSDAY AFTERNOON ROOM 105

1:30

Session S7
ULTRAFAST MAGNETISM AND THZ SPINTRONICS III
Yuriy Mokrousov, Chair
Forschungszentrum Julich, Julich, Germany

1:30

S7-01. Femtomagnetics: Critical Behavior within 20 fs Drives Laser-induced Non-equilibrium Spin Dynamics in Ni. (Invited) Z. Tao1, P. Tengdin1, W. You1, C. Chen1, X. Shi1, D. Zisin1, Y. Zhang1, C. Gentry1, A. Blonsky1, M. Keller2, P.M. Oppeneer1, H. Kapteyn1 and M. Murnane1 1. JILA, University of Colorado Boulder, Boulder, CO, United States; 2. National Institute of Standards and Technology (NIST), Boulder, CO, United States; 3. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden
2:00

**S7-02.** Ultrafast demagnetization dynamics observed at M_{2,3} edges of hcp Co - first-principles calculations. D. Legut\(^1\), K. Carva\(^2\) and P.M. Oppeneer\(^3\) 1. IT4Innovations, VŠB-Technical University of Ostrava, Ostrava, Czechia; 2. Department of Condensed Matter Physics, Charles University, Prague, Czechia; 3. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden

2:15

**S7-03.** Understanding magnetostriction at femtosecond timescales via FePt nanoparticles. A. Reid\(^1\), X. Shen\(^1\), P. Maldonado\(^2\), T. Chase\(^1\), K. Carva\(^2\), Y. Takahashi\(^2\), O. Hellwig\(^2\), P.M. Oppeneer\(^3\), X. Wang\(^3\) and H. Dürr\(^1\) 1. SLAC National Accelerator Laboratory, Menlo Park, CA, United States; 2. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden; 3. Dept. Condensed Matter Physics, Charles University, Prague, Czechia; 4. NIMS, Tsukuba, Japan; 5. Physics, Chemnitz University of Technology, Chemnitz, Germany

2:30

**S7-04.** Quantum many-body dynamics of the Einstein-de Haas effect. J. Mentink\(^1\), M. Katsnelson\(^1\) and M. Lemeshko\(^2\) 1. Radboud University, Nijmegen, Netherlands; 2. Institute for Science and Technology Austria, Klosterneuburg, Austria

2:45

**S7-05.** Multi-level single shot all-optical magnetization switching mediated by spin-polarized hot electron transport. S. Iihama\(^2\)\(^,\) Y. Xu\(^1\), M. Deb\(^3\), G. Malinowski\(^1\), M. Hehn\(^1\), J. Gorchon\(^1\), E.E. Fullerton\(^1\)\(^,\) and S. Mangin\(^1\) 1. Institut Jean Lamour, Université de Lorraine, Vandoeuvre-lès-Nancy, France; 2. Spintronics Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Ibaraki, Japan; 3. Center for Memory and Recording Research, University of California San Diego, La Jolla, CA, United States

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THURSDAY ROOM 306

AFTERNOON

1:30

**Session S8**

**NON-CENTRO-SYMMETRIC SUPERCONDUCTORS**

Hiroshi Amitsuka, Chair
Hokkaido University, Sapporo, Japan

1:30

**S8-01.** Superconductivity in pressurized CeRhGe\(_3\) and related noncentrosymmetric compounds. (Invited) L. Sun\(^1\), H. Wang\(^1\), J. Guo\(^1\), E. Bauer\(^1\), V. Sidorov\(^1\), P. Sun\(^1\), Y. Yang\(^1\), Q. Wu\(^1\), T. Xiang\(^1\) and J.D. Thompson\(^1\) 1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Institute for High Pressure Physics, Russian Academy of Sciences, Moscow, Russian Federation

2:00

**S8-02.** Superconductivity Without Inversion and Time-Reversal Symmetries. (Invited) M.H. Fischer\(^1\), M. Sigrist\(^1\) and D.F. Agterberg\(^2\) 1. Institute for Theoretical Physics, ETH Zürich, Zürich, Switzerland; 2. Department of Physics, University of Wisconsin-Milwaukee, Milwaukee, WI, United States

2:30

**S8-03.** Magnetic Multipole Fluctuation and Superconductivity in Locally Noncentrosymmetric crystalline. J. Ishizuka\(^1\) and Y. Yanase\(^1\) 1. Department of Physics, Kyoto University, Kyoto, Japan

2:45

**S8-04.** Single crystal growth and unusual magnetic properties of non-centrosymmetric compound UIrSi\(_3\). F. Honda\(^1\), J. Valenta\(^2\), J. Pospisil\(^2\), M. Vališka\(^2\), P. Opletal\(^2\), J. Kastil\(^3\), M. Míšek\(^3\), M. Divis\(^2\), L. Sandratski\(^4\), J. Prchal\(^2\) and V. Sechovský\(^2\) 1. Institute for Materials Research, Tohoku University, Oarai, Japan; 2. Faculty of Mathematics and Physics, Charles University, Prague 2, Czechia; 3. Institute of Physics, AS CR, Praha, Czechia; 4. Max-Planck-Institute of Microstructure Physics, Halle, Germany
2:30

S9-03. Pressure and strain dependent control of structure and band topology in the superconducting type-II Weyl semimetal candidate MoTe$_2$. C. Heikes$^1$, I. Liu$^1$, W.D. Ratcliff$^2$, N. Butch$^{1,3}$, I. Paglione$^1$, T. Yildirim$^1$, T. Metz$^1$, C. Eckberg$^1$, H. Cao$^4$ and Y. Wu$^4$. 1. NIST Center for Neutron Research, Gaithersburg, MD, United States; 2. NCNR, NIST, Gaithersburg, MD, United States; 3. University of Maryland, College Park, MD, United States; 4. Oak Ridge National Laboratory, Oak Ridge, TN, United States

S9-04. Type-I superconductivity with an unusual surface state in the Dirac semimetal PdTe$_2$. H. Leng$^1$, C. Paulsen$^{1,3}$, Y. Huang$^1$ and A. de Visser$^1$. 1. Institute of Physics, University of Amsterdam, Amsterdam, Netherlands; 2. Institut Néel CNRS, Grenoble, France; 3. Université Grenoble Alpes, Grenoble, France

THURSDAY AFTERNOON

1:30

Session S10
THEORY AND SIMULATION OF MAGNETIC SYSTEMS III
Tsuyoshi Okubo, Chair
The University of Tokyo, Tokyo, Japan

1:30

S10-01. Symmetry enhanced first-order phase transition in a two-dimensional quantum antiferromagnet. (Invited) A.W. Sandvik$^{1,2}$. 1. Physics, Boston University, Boston, MA, United States; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China

2:00

S10-02. Investigation of Magnetic Dipole-dipole Interaction using Magnetic Density on Solid Oxygen Based on First-principles Approach. M. Obata$^1$, M. Christivana$^2$ and T. Oda$^1$. 1. Institute of Science and Engineering, Kanazawa University, Kanazawa, Japan; 2. Graduate School of Natural Science and Technology, Kanazawa University, Kanazawa, Japan

2:15

S10-03. Spin-orbit coupling and magnetic long-range dipolar interaction for coupled spin-lattice dynamics. J. Tranchida$^1$, A. Thompson$^1$, S. Plimpton$^1$, P. Thibaudeau$^1$, S. Moore$^1$ and M. Wood$^1$. 1. Sandia National Laboratories, Albuquerque, NM, United States; 2. DAM, Commissariat à l’Energie Atomique, Monts, France

2:30

S10-04. Parallel Computational Techniques for the Dipole-Dipole Interaction. R.A. Pepper$^1$, M. Beg$^2$, D. Cortes-Ortuño$^3$, O. Hovorka$^1$ and H. Fangohr$^2$. 1. Faculty of Engineering and the Environment, University of Southampton, Southampton, United Kingdom; 2. European XFEL GmbH, Schenefeld, Germany

2:45

S10-05. Phase diagram of dipolar-coupled XY moments on disordered square lattices. D. Schildknecht$^{1,2}$, L. Heyderman$^{1,2}$ and P. Derlet$^1$. 1. Paul Scherrer Institut, Villigen-PSI, Switzerland; 2. D-MATL, ETH Zurich, Zurich, Switzerland

THURSDAY AFTERNOON

3:30

Session T1
MAGNON WAVEGUIDES AND DEVICES III
Hans Nembach, Chair
NIST, Boulder, CO, United States

3:30

T1-01. How to Generate Whispering Gallery Magnons. (Invited) K. Schultheiss$^2$, R.V. Verba$^1$, K. Wagner$^{2,3}$, F. Wehrmann$^2$, L. Körber$^{2,3}$, A. Kákay$^2$, T. Hache$^{2,4}$, J. Fassbender$^{2,3}$, V. Tyberkevych$^5$, A.N. Slavin$^5$ and H. Schultheiss$^{2,3}$. 1. Institute of Magnetism, National Academy of Sciences of Ukraine, Kyiv 03142, Ukraine; 2. Helmholtz-Zentrum Dresden - Rossendorf, Institute of Ion Beam Physics and Materials Research, D-01328 Dresden, Germany; 3. Technische Universität Dresden, D-01062 Dresden, Germany; 4. Institut für Physik, Technische Universität Chemnitz, D-09107 Chemnitz, Germany; 5. Department of Physics, Oakland University, Rochester, MI, United States

4:00

T1-02. Magnonic band structure in a thin Permalloy film induced by dynamical coupling with a two dimensional array of Permalloy ellipses. G. Gubbiotti$^1$, W. Yang$^2$, P. Graczyk$^3$, S. Dhuey$^4$, M. Krawczyk$^3$ and H. Schmidt$^2$. 1. IOM-CNR, Perugia, Italy; 2. University of California, Santa Cruz, Santa Cruz, CA, United States; 3. Faculty of Physics, Adam Mickiewicz University in Poznan, Poznan, Poland; 4. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA, United States

4:15

T1-03. Direct observation of sub-100 nm spin wave propagation in magnonic wave-guides. N. Träger$^1$, P. Gruszczyk$^2$, F. Lisiecki$^1$, J. Förster$^1$, F. Grob$^1$, M. Weigand$^1$, P. Kuswik$^{1,4}$, J. Dubowik$^1$, G.A. Schütz$^1$, M. Krawczyk$^1$ and J. Gräfe$^1$. 1. Max Planck Institute for Intelligent Systems, Stuttgart, Germany; 2. Faculty of Physics, Adam Mickiewicz University in Poznan, Poznan, Poland; 3. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland; 4. Centre of Advanced Technology, Adam Mickiewicz University, Poznan, Poland
4:30
T1-04. Computing with spin waves: from magnetoelectric transducers to majority gates. (Invited) F. Ciubotaru1, D. Tierno1,2, G. Talmelli1,2, H. Ahmad1,2, J.D. Costa1,2, I.P. Radu1, T. Devolder1 and C. Adelmann1. 1. imec, Leuven, Belgium; 2. KU Leuven, Leuven, Belgium; 3. C2N, CNRS, Université Paris-Sud, Orsay, France

THURSDAY
AFTERNOON
3:30

Session T2
ANOMALOUS HALL EFFECT AND ITINERANT MAGNETS
Valerio Scagnoli, Chair
ETH Zurich/ Paul Scherrer Institute, Zurich, Switzerland

3:30
T2-01. Multiple-q Helimagnetism in an Itinerant Hexagonal Magnet. (Invited) R. Takagi1, J. White2, S. Hayami1, D. Honecker3, H.M. Romnow4, Y. Tokura5 and S. Seki6 1. RIKEN Center for Emergent Matter Science, Wako, Japan; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Hokkaido University, Sapporo, Japan; 4. Large Scale Structures, Institut Laue-Langevin, Grenoble, France; 5. Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; 6. Department of Applied Physics, The University of Tokyo, Tokyo, Japan

3:45
T2-02. Anomalous Hall effect in disordered Co2FeSi Heusler-alloy thin films. B.K. Hazra1, M. Raja2, R. Rawat3, A. Lakhani4, S. Kaul1 and S. Srinath1 1. School of Physics, University of Hyderabad, Hyderabad, India; 2. Defence Metallurgical Research Laboratory, Hyderabad, India; 3. UGC-DAE Consortium for Scientific Research, Indore, India

4:00
T2-03. Manipulating Anomalous Hall Antiferromagnets with Magnetic Fields. H. Chen1, T. Wang2, D. Xiao3, G. Guo4, Q. Niu5 and A.H. MacDonald6 1. Physics, Colorado State University, Fort Collins, CO, United States; 2. National Taiwan University, Taipei, Taiwan; 3. Carnegie Mellon University, Pittsburgh, PA, United States; 4. Physics, The University of Texas at Austin, Austin, TX, United States

4:15
T2-04. Anomalous Hall effect in magnetic topological semimetals. Y. Sun1 1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

4:30

Session T3
NEW INSTRUMENTS AND NEW TECHNIQUES
Christoph Klewe, Chair
Lawrence Berkeley National Laboratory, Berkeley, CA, United States

3:30
T3-01. Small-Angle Electron Diffraction and its application to Magnetic Materials. S. Mori1 1. Materials Science, Osaka Prefecture University, Osaka, Japan

3:45
T3-02. Taiwan’s new cold neutron triple-axis spectrometer SIKA. S. Yano1, J. Peng1, G. Deng2 and C. Wu1 1. Neutron Group, NSRRC, Hsinchu, Taiwan; 2. ACNS, ANSTO, Sydney, NSW, Australia

4:00
T3-03. Probing anisotropy with vectorial FORC-based measurement. L. Stoleriu1 and A. Stancu1 1. Department of Physics, Alexandru Ioan Cuza University of Iasi, Iasi, Romania

4:15
T3-04. Multifunctional Oblique Incidence Deposition Devices for Science and Industry. K. Schlage1, A. Siemens1, S. Willing1,3, L. Bocklage1,2, C. Adolff2, T. Gurieva1 and R. Rohlsberger1,2 1. Photon Science, DESY, Hamburg, Germany; 2. The Hamburg Centre for Ultrafast Imaging, Hamburg, Germany; 3. PIER Helmholtz Graduate School, Hamburg, Germany

4:30
T3-05. Analysis of Magneto-Elastic Hybridized Effects due to the CEF. P. Cermak1,2, B. Liu3, A. Schneiderwind3, C. Franz3, P. Javorsky1 and C. Pfleiderer1 1. Department of Condensed Matter Physics, Charles University in Prague, Prague, Czechia; 2. JCNS, Forschungszentrum Jülich, Garching, Germany; 3. Technical University of Munich, Garching, Germany
T3-06. Efficiency Improvement of X-Ray Spectroscopy using Machine Learning. T. Ueno\textsuperscript{1}, H. Hino\textsuperscript{2} and K. Ono\textsuperscript{3}
1. Quantum Beam Science Research Directorate, National Institutes for Quantum and Radiological Science and Technology, Sayo, Japan; 2. Department of Computer Science, University of Tsukuba, Tsukuba, Japan; 3. Institute of Materials Structure Science, High Energy Accelerator Research Organization, Tsukuba, Japan

THURSDAY
AFTERNOON
3:30

Session T4
TOPOLOGICAL INSULATORS AND SPIN-MAGNETORESISTANCE
Andrew Kent, Chair
New York University, New York, NY, United States

3:30

T4-01. Manipulating Spin using Topological Insulator Heterostructures. (Invited) N. Samarth\textsuperscript{1} 1. Department of Physics & Materials Research Institute, Penn State University, University Park, PA, United States

4:00

T4-02. Origin of threshold current density for asymmetric magnetoresistance in Py/Pt bilayer. T. Li\textsuperscript{2}, S. Kim\textsuperscript{2}, S. Lee\textsuperscript{3}, S. Lee\textsuperscript{4}, T. Koyama\textsuperscript{1}, D. Chiba\textsuperscript{1}, T. Moriya\textsuperscript{2,3}, K. Kim\textsuperscript{2,4} and T. Ono\textsuperscript{2,5} 1. Kyoto University, Kyoto, Japan; 2. Institute for Chemical Research, Kyoto University, Uji, Japan; 3. KU-KIST Graduate School of Converging Science and Technology, Korea University, Seoul, The Republic of Korea; 4. Korea University, Gung-gi, The Republic of Korea; 5. Department of Applied Physics, The University of Tokyo, Tokyo, Japan; 6. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 7. CSRN, Osaka University, Osaka, Japan

4:15

T4-03. Unidirectional Magnetoresistance in CoGd/Pt Bilayers. S. Lee\textsuperscript{1}, J. Lee\textsuperscript{2}, J. Kim\textsuperscript{2}, S. Kim\textsuperscript{1}, N. Lee\textsuperscript{1}, S. Park\textsuperscript{2}, B. Park\textsuperscript{2} and K. Kim\textsuperscript{1} 1. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 2. Materials Science and Engineering, KAIST, Daejeon, The Republic of Korea; 3. Department of Physics, University of Ulsan, Ulsan, The Republic of Korea; 4. Spin Engineering Physics Team, Division of Scientific Instrumentation, Korea Basic Science Institute, Daejeon, The Republic of Korea

THURSDAY
AFTERNOON
3:30

Session T5
NEW MAGNETIC MATERIALS V
Ko-Wei Lin, Chair
National Chung Hsing University, Taichung, Taiwan

3:30

T5-01. Low Temperature Magnetic Properties of MnFe2O4 Nanofibers. I.P. Rodriguez\textsuperscript{3}, R. Farias\textsuperscript{3}, C.O. Gutierrez\textsuperscript{4}, J.T. Elizalde Galindo\textsuperscript{2}, K. Carva\textsuperscript{1} and I. Turek\textsuperscript{1,2} 1. Faculty of Mathematics and Physics, Charles University, Prague, Czechia; 2. Institute of Physics of Materials, Czech Academy of Sciences, Prague, Czechia; 3. Institute of Physic, Czech Academy of Sciences, Prague, Czechia; 4. INSPIRE Group, Johannes-Gutenberg Universität at Mainz, Mainz, Germany

3:45

T5-02. Crystal Structure and Magnetism of Colossal Dielectric Oxides Dy\textsubscript{2}Sr\textsubscript{2}TiMnO\textsubscript{6} (x=0, 0.5). R. Mondal\textsuperscript{1}, K. Biswas\textsuperscript{1}, T. Ghosh\textsuperscript{1}, F. K\textsuperscript{1}, R. Rao MS\textsuperscript{1}, A. Morozkin\textsuperscript{2}, S. Quezado\textsuperscript{3}, S.K. Malik\textsuperscript{4}, A.K. Nigam\textsuperscript{5} and R. Nirmala\textsuperscript{1} 1. Physics, Indian Institute of Technology Madras, Chennai, India; 2. Moscow Lomonosov State University, Moscow, Russian Federation; 3. Universidade Federal do Rio Grande do Norte, Natal, Brazil; 4. DTFE, Universidade Federal do Rio Grande do Norte, Natal, Brazil; 5. Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai, Mumbai, India
4:00  
T5-03. Impact of Epitaxial Strain on Electronic Structure of \( \text{La}_{0.95}\text{Sr}_{0.05}\text{MnO}_3 \) Ultrathin Films. \(^{1}\)M. Zahradnik\(^{1,2}\), T. Maroutian\(^{2}\), G. Kurjį, G. Aguns\(^{2}\), P. Lecoeur\(^{1}\), L. Beran\(^{1}\) and M. Veis\(^{1}\) 1. Charles University in Prague, Prague, Czechia; 2. Centre de Nanosciences et de Nanotechnologies, Université Paris-Sud, Orsay Cedex, France

4:15  
T5-04. Temperature dependence of optical and magneto-optical properties of Tb\(_2\)Fe\(_{12}\) thin films. L. Beran\(^{1,3}\), E.R. Rosenberg\(^{1}\), J. Setina\(^{1}\), L. Nowak\(^{1}\), A. Quindeau\(^{4}\), C. Ross\(^{4}\) and M. Veis\(^{1}\) 1. Institute of Physics, Charles University, Prague, Czechia; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; 3. Massachusetts Institute of Technology, Cambridge, MA, United States; 4. Dept. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States

4:30  
T5-05. Amorphous Magnetic Photonic Crystals Based on Fe\(_3\)O\(_4\) @ SiO\(_2\) Nanospheres with Non-iridescent Structural Colors. A. Zheng\(^{1}\), L. Zhuang\(^{1}\), W. Wang\(^{1}\), J. Zhong\(^{1}\), T. Wang\(^{1}\) and L. Ye\(^{1}\) 1. Sun Yat-sen University, Guangzhou, China

4:45  
T5-06. Evolution of Griffiths phase and critical exponents by site dilution of Ga\(^{3+}\) in SrRuO\(_3\). R. Gupta\(^{1}\) 1. School of Physical Sciences, Jawaharlal Nehru University, New Delhi, India

THURSDAY AFTERNOON

ROOM 105

3:30  
Session T6

NOVEL APPLICATIONS OF MAGNETIC THIN FILMS AND MULTILAYERS II

Jose Maria Porro Azpiazu, Chair
BCMaterials, Leioa, Spain

3:30  
T6-01. Noise in Mesoscale Magnetic Dots from Random telegraph Noise to 1/f Noise. \(^{(Invited)}\) B. Costanzi\(^{2}\), D.E. Endean\(^{3}\) and D. Dahlberg\(^{3}\) 1. Physics, University of Minnesota, Minneapolis, MN, United States; 2. Physics, Carleton College, Minneapolis, MN, United States; 3. Aerospace, Honeywell International, Plymouth, MN, United States

THURSDAY ROOM 104

3:30  
Session T7

SURFACE AND INTERFACE EFFECTS III

Josep Fontcuberta, Chair
Institut de Ciència de Materials de Barcelona, Bellaterra, Spain

3:30  
T7-01. Interface and confinement driven spin correlations in titanate quantum well heterostructures. \(^{(Invited)}\) S.D. Wilson\(^{1}\), R. Need\(^{2}\), S. Stemmer\(^{1}\), M. Graf\(^{2}\), P. Marshall\(^{1}\), B. Isaac\(^{1}\), B.J. Kirby\(^{1}\) and J. Borchers\(^{1}\) 1. Materials, University of California, Santa Barbara, Santa Barbara, CA, United States; 2. NIST Center for Neutron Research, Gaithersburg, MD, United States; 3. Boston College, Chestnut Hill, MA, United States
T8-01. The electronic structure of nematic phase from detwinned ARPES measurements of FeSe and NaFeAs. M. Watson1,2, S. Aswartham3, B. Parrett1,5, H. Iwasawa1, M. Hoesch1, I. Morozov3,6, B. Büchner3 and T. Kim1 1. Diamond Light Source Ltd, Didcot, United Kingdom; 2. School of Physics and Astronomy, University of Saint Andrews, St. Andrews, United Kingdom; 3. IFW Dresden, Dresden, Germany; 4. Department of Physics, Royal Holloway, University of London, Egham, United Kingdom; 5. London Centre for Nanotechnology, London, United Kingdom; 6. Inorganic Chemistry Division, Lomonosov Moscow State University, Moscow, Russian Federation

T8-02. Superconducting Gap Anisotropy Sensitive to Nematic Domains in FeSe. T. Hashimoto1, Y. Ota1, H.Q. Yamamoto1, Y. Suzuki2, T. Shimojima2, S. Kasahara3, Y. Matsuda3, T. Shibauchi4, K. Okazaki1 and S. Shin1 1. Institute for Solid State Physics (ISSP), University of Tokyo, Kashiwa, Japan; 2. Quantum-Phase Electronics Center (QPEC) and Department of Applied Physics, University of Tokyo, Bunkyo, Japan; 3. Department of Physics, Kyoto University, Kyoto, Japan; 4. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan

T8-03. FeSe under uniaxial strain: influence on structural and superconducting transitions. A. Steppke1, J. Bartlett1, S. Hosoi2, T. Shibauchi2, A. Mackenzie1 and C. Hicks1 1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Department of Advanced Materials Science, The University of Tokyo, Tokyo, Japan

T8-04. High-resolution bandstructure and momentum dependent nematic splitting of BaFe2As2 observed by angle-resolved photoemission spectroscopy. H. Pfau1,2, C.R. Rotundu1, J. Palmstrom4,1, M. Hashimoto3, D. Lu3, I.R. Fisher4,1 and Z. Shen1,2 1. SIMES, SLAC National Accelerator Laboratory, Menlo Park, CA, United States; 2. Physics, Stanford University, Stanford, CA, United States; 3. SSRL, SLAC National Accelerator Laboratory, Menlo Park, CA, United States; 4. Applied Physics, Stanford University, Stanford, CA, United States

T8-05. Tuning the interplay between nematicity and spin fluctuations in Na1-xLi_xFeAs superconductors. S. Baek1, D. Bhoi2, W. Nam2, B. Lee3, D. Efremov4, B. Büchner1 and K. Kim3 1. IFW Dresden, Dresden, Germany; 2. Seoul National University, Seoul, The Republic of Korea
Session T9
HEAVY FERMIONS V: EXPERIMENT AND THEORY
Hilbert von Löhneysen, Chair
Karlsruhe Institute of Technology, Karlsruhe, Germany

3:30
T9-01. Fermi surface instabilities in Kondo lattices: Ce, Yb, and U. (Invited) G. Knebel1, A. Pourret1, D. Aoki2 and J. Flouquet1
1. CEA / INAC / Phelqs, Univ. Grenoble Alpes, Grenoble, France; 2. IMR, Tohoku University, Oarai, Japan

4:00
T9-02. Effective Mass Enhancement in CeRhIn5 at High Magnetic Fields. L. Jiao1,2, M. Smidman1, Y. Kohama1, D. Graf2, E. Bauer2, H. Lee1, S. Kirchner1, J. Singleton2, J. Wosnitza2, F. Steglich1,2, J. Thompson2 and H. Yuan1
1. Zhejiang University, Hangzhou, China; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

4:15
T9-03. Kondo-lattice ferromagnets and their order along the magnetically hard axis. D. Hafner1, B.K. Rai2, J. Banda3, K. Kliment3, C. Krellner4, J. Sichelschmidt1, C. Geibel1, E. Morosan2 and M. Brando1
1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Physics and Astronomy, Rice University, Houston, TX, United States; 3. Physics of Quantum Materials, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 4. Physics, Goethe-University Frankfurt, Frankfurt, Germany

4:30
T9-04. CeCuMg: a novel ternary member of the CeCu6 family. M. Giovannini2, H. Michor1, H. Ueda1, N. Acker1
K. Yoshimura1 and E. Bauer1
1. Institute of Solid State Physics, Technische Universität Wien, Wien, Austria; 2. Department of Physics, University of Genova, Genova, Italy; 3. Department of Chemistry, Graduate School of Science, Kyoto University, Kyoto, Japan

4:45
1. Physics, Rice University, Houston, TX, United States; 2. Department of Physics and Astronomy, Northwestern University, Evanston, IL, United States; 3. Rice University, Houston, TX, United States

Session T10
MAGNETISM OF 4d/5d AND SPIN-ORBITAL SYSTEMS
Natalia Perkins, Chair
University of Minnesota, Minneapolis, MN, United States

3:30
T10-01. Hidden order in hyper-honeycomb $\beta$-Li$_2$IrO$_3$. (Invited) J. Analytis1
1. University of California, Berkeley, Berkeley, CA, United States

4:00
1. Argonne National Laboratory, Lemont, IL, United States; 2. Stanford University, Palo Alto, CA, United States; 3. Stockholm University, Stockholm, Sweden; 4. Halmstad University, Halmstad, Sweden

4:15
1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, United States; 2. London Centre for Nanotechnology, University College London, London, United Kingdom; 3. Petra III, Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 4. Center for High Pressure Science & Technology Advanced Research (HPSTAR), Shanghai, China; 5. Beijing National Laboratory for Condensed Matter Physics and Institute of Physics, Chinese Academy of Sciences, Beijing, China; 6. Brazilian Synchrotron Light Laboratory, Brazilian Center for Research in Energy and Materials, Campinas, Brazil; 7. Argonne National Laboratory, Argonne, IL, United States; 8. Department of Physics, Washington University, St Louis, MO, United States; 9. Department of Physics and Center for Quantum Materials, University of Toronto, Toronto, ON, Canada; 10. Physics, University of Toronto, Toronto, ON, Canada; 11. High Pressure Synergistic Consortium (HPSynC), Carnegie Institution of Washington, Argonne, IL, United States; 12. Department of Physics, Northern Illinois University, De Kalb, IL, United States; 13. Max Planck Institute for Solid State Research, Stuttgart, Germany; 14. Department of Physics and Department of Advanced Materials, The University of Tokyo, Tokyo, Japan
T10-04. Direct observation of electron density reconstruction at the metal-insulator transition in NaOsO₃. N. Gurić1, N. Leo2, S. Collins3, G. Nisbet4, G. Smolentsev5, M. Garcia-Fernandez6, K. Yamamura7, L. Heyderman8,9, U. Staub9, Y. Joly9, D. Khalyavin9, S. Lovesey3,9 and V. Scagnoli6,10. 1. Mesoscopic Systems, ETH Zurich, Zurich, Switzerland; 2. Paul Scherrer Institute, Villigen PSI, Switzerland; 3. Diamond Light Source Ltd, Oxfordshire, United Kingdom; 4. Physical Science, Diamond Light Source Ltd, Didcot, United Kingdom; 5. National Institute for Materials Science (NIMS), Ibaraki, Japan; 6. Paul Scherrer Institut, Villigen PSI, Switzerland; 7. Swiss Light Source, Paul Scherrer Institut, Villigen PSI, Switzerland; 8. Institut Néel CNRS, Grenoble, France; 9. ISIS Facility, Oxfordshire, United Kingdom; 10. ETH Zurich, Zurich, Switzerland.


U1-03. Manipulating magnetic textures using dynamical strain. A. Rushforth1, R.P. Beardsley1, R.M. Rowan-Robinson1, S. Bowe1, D. Parkes1, R. Campion1, K. Edmonds1, C. Reardon1, J. Zemen1, S.A. Cavill2 and B. Gallagher1. 1. School of Physics & Astronomy, University of Nottingham, Nottingham, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom; 3. Faculty of Electrical Engineering, Czech Technical University, Prague, Czechia.


U1-05. Inverse generalized Preisach model of hysteresis. P. Andrei1,2 and M. Dimian1. 1. Electrical and Computer Engineering, Florida State University, Tallahassee, FL, United States; 2. Electrical and Computer Engineering, Florida A&M University, Tallahassee, FL, United States; 3. Department of Electrical Engineering and Computer Science, Stefan cel Mare University, Suceava, Romania.

U1-06. Waiting time and relaxation effects on FORC-type measurement of magnetic wires. D. Cimpoesu1, I. Dumitru1, A. Domocos1 and A. Stancu1. 1. Department of Physics, Alexandru Ioan Cuza University of Iasi, Iasi, Romania.


U1-08. Channeled spin-wave Transport and Higher Harmonic Generation in (interconnected) Néel Walls. K. Wagner1,2, O. Gladi1, D. Halley1, Y. Henry1, M. Bailleul1, A. Kákay1, T. Hula1,4 and H. Schultheiss1,2. 1. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden Rossendorf, Dresden, Germany; 2. TU Dresden, Dresden, Germany; 3. Institut de physique et chimie des matériaux de Strasbourg, Strasbourg, France; 4. Leupold Institute for Applied Natural Sciences, Westsächsische Hochschule Zwickau, Zwickau, Germany.

U1-09. Correlation between compensation temperatures of magnetization and angular momentum in GdFeCo ferrimagnets. Y. Hirata1, D. Kim1, T. Okuno1, T. Nishimura1, D. Kim2, Y. Futakawa1, H. Yoshikawa1, A. Tsukamoto3, K. Kim4, S. Choel5 and T. Ono1. 1. Institute for Chemical Research, Kyoto University, Uji-City, Japan; 2. Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 3. Nihon University, Funabashi, Japan; 4. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea; 5. Seoul National University, Seoul, The Republic of Korea.
U2-04. Theoretical analysis of write error rate in bias-magnetic-field-free voltage-torque MRAM. R. Matsumoto, T. Nozaki, S. Yuasa and H. Imamura. Spintronics Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan

U2-05. Theory of ferromagnetic resonance driven by the combined action of spin-transfer torque and voltage controlled magnetic anisotropy. C.A. Gonzalez-Fuentes. Physics, UTFSM, Valparaiso, Chile

U2-06. Withdrawn

U2-07. Voltage control of RKKY exchange coupling in magnetoelectric heterostructures. X. Wang, H. Chen, C. Dong, H. Lin, X. Liang and N. Sun. ECE, Northeastern University, Boston, MA, United States

U2-08. Zero-field magnetization switching by an acoustic wave. I. Camara, L. Becerra, A. Lemaître, J. Duquesne, C. Gourdon and L. Thevenard. CNRS, UPMC, Institut des Nanosciences de Paris, Paris, France; Centre de Nanosciences et de Nanotechnologies, Marcoussis, France

U2-09. Spin-current-less spin Hall effect in magnetic insulators. H. Chen, Q. Niu and A.H. MacDonald. Physics, Colorado State University, Fort Collins, CO, United States; School of Advanced Materials Discovery, Colorado State University, Fort Collins, CO, United States; Physics, The University of Texas at Austin, Austin, TX, United States

U2-10. Withdrawn

THURSDAY SAN FRANCISCO BALLROOM
EVENING
5:00

Session U2
ELECTRIC FIELD EFFECTS AND MAGNETIC SWITCHING II
(Poster Session)
Des McMorrow, Chair
London Centre for Nanotechnology, London, United Kingdom

U2-01. Spin Wave Field Effect Transistor. Y. Chen, H. Lee, A.A. Jara, A. Khan, E. Yang, P.M. Braganca and I. Krivorotov. Physics and Astronomy, University of California, Irvine, Irvine, CA, United States; HGST, a Western Digital Company, San Jose, CA, United States

U2-02. Strain Mediated Current-induced Magnetization Switching in PMN-PT/Ta/Pt/Co/Pt Heterostructures. M. Wang, X. Xie, Y. Wu, K. Meng, J. Miao and Y. Jiang. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China


THURSDAY SAN FRANCISCO BALLROOM
EVENING
5:00

Session U3
EXCHANGE BIAS AND EXCHANGE SPRINGS II
(Poster Session)
Dustin Gilbert, Chair
National Institute of Standards and Technology, Gaithersburg, MD, United States
U3-03. Exchange Bias Effect in the Multiphase FM and AFM Mixture. M. Jung\textsuperscript{1,3}, M. Im\textsuperscript{1,4} and J. Hong\textsuperscript{1,5} 1. Emerging Materials Science, DGIST, Daegu, The Republic of Korea; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Global Center for Bio Convergence Spin Systems, Daegu, The Republic of Korea; 4. Research Center for Emerging Materials, Daegu, The Republic of Korea

U3-04. Exchange bias in antiferromagnetic NaNiF\textsubscript{3} thin films. S.A. Morley\textsuperscript{4}, H. Marquez\textsuperscript{1}, A. KC\textsuperscript{1} and D. Lederman\textsuperscript{1} 1. Department of Physics, University of California, Santa Cruz, Santa Cruz, CA, United States

U3-05. The Azimuthal Dependence of Exchange Bias Effect and Its Analyses by Spin Glass Model in Ni\textsubscript{81}Fe\textsubscript{19}/Co\textsubscript{83}Ni\textsubscript{17}O\textsubscript{4} Bilayers. W. Yoo\textsuperscript{1}, K. Lee\textsuperscript{2}, C. You\textsuperscript{1}, J. Hong\textsuperscript{1} and M. Jung\textsuperscript{1} 1. Department of Physics, Sogang University, Seoul, The Republic of Korea; 2. Johannes Gutenberg University Mainz, Mainz, Germany; 3. Emerging Materials Science, Daegu Gyeongbuk Institute of Science and Technology, Daegu, The Republic of Korea

U3-06. Exchange Bias in CoO/Fe(110) Bilayers: a Ferromagnet Drives an Antiferromagnet. M. Slezak\textsuperscript{1}, T. Slezak\textsuperscript{1}, P. Drozdz\textsuperscript{1}, K. Matlak\textsuperscript{1}, B. Matlak\textsuperscript{1} and J. Korecki\textsuperscript{1,2} 1. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Cracow, Poland; 2. Jerzy Haber Institute of Catalysis and Surface Chemistry PAS, Krakow, Poland

U3-07. Exchange-Spring Behavior of Flake-like BaFe\textsubscript{12}O\textsubscript{19}@Fe\textsubscript{3}O\textsubscript{4} Core-Shell Nanocomposite. F. Mohseni\textsuperscript{1,2}, R. Pullar\textsuperscript{1}, J. Vieira\textsuperscript{1,2} and J.S. Amaral\textsuperscript{1,2} 1. Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. LSPM, University Paris 13, Villetaneuse, France; 3. Nonlinear Physics, Saratov State University, Saratov, Russian Academy of Sciences, Vladivostok, Russian Federation; 2. Institute of Chemistry, Far East Branch, Natural Sciences, Far Eastern Federal University, Vladivostok, Russian Federation; 3. School of Science, Far Eastern Federal University, Vladivostok, Russian Federation; 4. Nonlinear Physics, Saratov State University, Saratov, Russian Federation; 4. IRE RAS, Moscow, Russian Federation

U3-08. Unexpected new insights to the nature of exchange bias in Co/FeMn using detailed XMCD. E.J. Goering\textsuperscript{1}, P. Audehm\textsuperscript{1}, M. Schmidt\textsuperscript{1} and G.A. Schütz\textsuperscript{1} 1. Modern Magnetic Systems, Max-Planck-Institute for Intelligent Systems, Stuttgart, Germany

U3-09. Withdrawn

U3-10. Training effect of exchange bias in Co/CoO core-shell nanowire films. J. Mohapatra\textsuperscript{1}, M. Xing\textsuperscript{1} and P. Liu\textsuperscript{1} 1. Physics, University of Texas at Arlington, Arlington, TX, United States; 2. University of Texas-Arlington, Arlington, TX, United States

U4-01. Mallinson-Halbach effect in chiral thin-film magnetic structures. M.A. Marion\textsuperscript{1}, M. Penedo\textsuperscript{1}, M. Bacani\textsuperscript{1} and H.J. Hug\textsuperscript{1,2} 1. Empa - Swiss Federal Labs for Materials Science and Technology, Dübendorf, Switzerland; 2. Physics, University of Basel, Basel, Switzerland

U4-02. Chiral domain walls induced by interface modification. A. Mascaraque\textsuperscript{1}, S. Ruiz-Gomez\textsuperscript{3}, M. Gonzalez Barrio\textsuperscript{1}, L. Perez\textsuperscript{1}, S. Gallego\textsuperscript{3}, G. Chen\textsuperscript{2}, A.K. Schmid\textsuperscript{1} and E.G. Michel\textsuperscript{1} 1. Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 2. University of California, Davis, Davis, CA, United States; 3. Molecular Foundry, Lawrence Berkeley National Lab, Berkeley, CA, United States; 4. Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain; 5. Fisica de la Materia Condensada, Universidad Autónoma de Madrid, Madrid, Spain

U4-03. Shape magnetic anisotropy from spin density in nanoscale slab systems. T. Oda\textsuperscript{1,2}, I. Pardede\textsuperscript{1}, T. Kanagawa\textsuperscript{3}, N. Ikhsan\textsuperscript{1} and M. Obata\textsuperscript{1,3} 1. Institute of Science and Engineering, Kanazawa University, Kanazawa, Japan; 2. Center for Spintronics Research Network (CSRN), Osaka University, Toyonaka, Japan; 3. Graduate School of Natural Science and Technology, Kanazawa University, Kanazawa, Japan

U4-04. Spatially resolved modification of ultrathin magnetic films for nucleation and stabilization of the skyrmion-like bubbles. A. Ognev\textsuperscript{1}, A. Samardak\textsuperscript{1}, A.G. Kolesnikov\textsuperscript{1}, M.E. Stebliy\textsuperscript{1}, A.S. Samardak\textsuperscript{1}, A. Gerasimenko\textsuperscript{2}, A. Sadovnikov\textsuperscript{3}, S. Nikitov\textsuperscript{4} and L. Chebotkevich\textsuperscript{1} 1. School of Natural Sciences, Far Eastern Federal University, Vladivostok, Russian Federation; 2. Institute of Chemistry, Far East Branch Russian Academy of Sciences, Vladivostok, Russian Federation; 3. Nonlinear Physics, Saratov State University, Saratov, Russian Federation; 4. IRE RAS, Moscow, Russian Federation

U4-05. Effect of MgO capping layer on perpendicular magnetic anisotropy and Dzyaloshinskii–Moriya interaction in Pt/CoFeSiB/MgO films. A.S. Samardak\textsuperscript{1}, T. Kim\textsuperscript{1}, A. Stashkevich\textsuperscript{2}, Y. Roussigné\textsuperscript{2}, M. Belmeguenai\textsuperscript{2}, S.M. Chérif\textsuperscript{2}, A. Ognev\textsuperscript{1} and Y. Kim\textsuperscript{3} 1. School of Natural Sciences, Far Eastern Federal University, Vladivostok, Russian Federation; 2. LSPM, University Paris 13, Villetaneuse, France; 3. Department of Materials Science & Engineering, Korea University, Seoul, The Republic of Korea
U4-06. Interfacial control of chiral magnetism in iridate-manganite superlattices. E. Skoropada1, J. Nichols2, R. Ankur3, C. Sohn4, R.D. Desautels1 and H. Lee5. 1. Materials Sciences and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Department of Physics and Astronomy, University of Arkansas at Little Rock, Little Rock, AR, United States; 3. Quantum Condensed Matter Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States

U4-07. Evolution of Subband Structure with Gate-Tuning at LaAlO3/SrTiO3 Interfaces. L. Tang1, S. Smink2, J. Geessinck3, L. van Heeringen1, J. Maan2, A. Brinkman2, U. Zeitler1, A. Fasolino3, H. Hilgenkamp2 and A. McCollam1. 1. High Field Magnet Laboratory, Radboud University, Nijmegen, Netherlands; 2. MESA+ Institute for Technology, University of Twente, Enschede, Netherlands; 3. Theory of Condensed Matter, Radboud University, Nijmegen, Netherlands

U4-08. Electronic structures and magnetic properties of Fe/MgO interfaces studied by hard x-ray photoelectron spectroscopy. S. Ueda1,2, M. Mizuguchi3,4, M. Tsujikawa4,5 and M. Shirai4,5. 1. RCAMC, National Institute for Materials Science, Tsukuba, Japan; 2. Synchrotron X-ray Station at SPring-8, National Institute for Materials Science, Hyogo, Japan; 3. IMR, Tohoku University, Sendai, Japan; 4. CSRN, Tohoku University, Sendai, Japan; 5. RIEC, Tohoku University, Sendai, Japan

U4-09. Study of Boron diffusion in CoFeB/MgO using Polarized Neutron Reflectivity and Soft X-ray Reflectivity. P. Vishwakarma1, G. Sharma1, M. Gupta2, M. Modi3, A. Gupta4 and J. Stahn4. 1. Amity Centre for Spintronic Materials, Amity University, Noida, India; 2. UGC-DAE Consortium for Scientific Research, Indore, India; 3. Raja Ramanna Centre for Advanced Technology, Indore, India; 4. Paul Scherrer Institute, Villigen, Switzerland

U4-10. Wire width dependence of ferromagnetic resonance in Ni wires on ferroelectric LiNbO3 substrate for studying heterojunction-induced magnetic characteristics. A. Yamaguchi1, A. Nakao1, T. Saiki3, Y. Utsumi1, T. Ogasawara4 and K. Yamada5. 1. Laboratory of Advanced Science and Technology for Industry, University of Hyogo, Ako-gun, Japan; 2. RIKEN, Wako, Japan; 3. Hyogo Prefectural Institute of Technology, Kobe, Japan; 4. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 5. Gifu University, Gifu, Japan

U5-01. Observation of changes in static domain structures of thin-film magnetoimpedance element with dc bias current. H. Kikuchi1 and C. Sumida1. 1. Iwate University, Morioka, Japan

U5-02. Superparamagnetic Tunnel Junctions for Probabilistic Computing. B. Parks1, M. Babna2 and S. Majetich1. 1. Physics, Carnegie Mellon University, Pittsburgh, PA, United States

U5-03. Recording resolution of granular exchange-coupled composite media for microwave-assisted magnetic recording. T. Tanaka1, Y. Kanai1 and K. Matsuyama1. 1. Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan; 2. IEI, Niigata Institute of Technology, Kashiwazaki, Japan; 3. Dept. of Electronics, Kyushu Univ., Fukuoka, Japan


U5-05. Spintronic memristor in chained MTJs. E. Raymenants1,2, A. Vaysset1, O. Zografos1,2, D. Mocuta2, I.P. Radu2, M. Heyns1,2 and T. Devolder3. 1. KU Leuven, Leuven, Belgium; 2. Imec, Leuven, Belgium; 3. IEF, Orsay, France

U5-06. Demonstration of Pavlov associative memory using magnetic tunnel junctions. Y. Hwang1. 1. Department of Electronic Engineering, Hanyang University, Seoul, The Republic of Korea

U5-07. Optimization of Spin-Torque Majority Gate shape via domain-wall pinning. A. Vaysset1, O. Zografos1,2, M. Manfrini1, E. Raymenants1,2 and I.P. Radu1. 1. Imec, Leuven, Belgium; 2. KU Leuven, Leuven, Belgium

U5-08. Modulation of Voltage-Controlled Magnetic Anisotropy through Interface Engineering Alloying in FeCo/MgO Heterostructures. M.A. Jackson1, N. Kioussis1 and F. Mahfouzi1. 1. Physics & Astronomy, California State University, Northridge, Los Angeles, CA, United States

U5-09. Non-Volatile Spin Logic-Memory Device. X. Zhang1 and Z. Luo1. 1. School of Materials Science and Engineering, Tsinghua University, Beijing, China
U6-08. Dual Resonant Mode Magnetic Composite Energy Harvester. M. Khan and J. Kosei. 1. CEMSE, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia; 2. CEMSE, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia

U7-06. Magnetic properties of Bis-Lanthanoates. K. Esien¹, E. McCourt², P. Nockemann³ and S. Felton¹ 1. School of Mathematics and Physics, Queen’s University Belfast, Belfast, United Kingdom; 2. School of Chemistry and Chemical Engineering, Queen’s University Belfast, Belfast, United Kingdom

U7-07. Eddy Current Loss Analysis of Underwater Wireless Power Transfer Systems with Misalignments. Z. Yan¹, Y. Zhang², K. Zhang¹, H. Wen¹, Z. Mao¹ and B. Song¹ 1. School of Marine Science and Technology, Northwestern Polytechnical University, Xi’an, China; 2. Department of Electrical and Computer Engineering, San Diego State University, San Diego, CA, United States

U7-08. Magnetoelastic Spin Transition(s) in Pure and Disordered BiFeO₃. A. Kumar¹ and D. Pandey¹ 1. School of Materials Science and Technology, Indian Institute of Technology (BHU), Varanasi, India

U7-09. Relaxation Mechanisms in the Néel Skyrmion Lattice Host GaV₄S₈ Probed by AC Magnetic Response. E. Clements¹, R. Das¹, G. Pokharel¹, D. Mandrus³,⁴, M. Osofsky², H. Srikanth¹ and M. Phan¹ 1. Department of Physics, University of South Florida, Tampa, FL, United States; 2. Naval Research Laboratory, Washington, DC, United States; 3. Department of Physics & Astronomy, University of Tennessee, Knoxville, TN, United States; 4. Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States

U7-10. Magnetic properties of mixed sodium-lithium iron fluorophosphate NaLiFePO₄ cathode material. J. Seo¹, H. Choi¹ and C. Kim¹ 1. Department of Physics, Kookmin University, Seoul, The Republic of Korea

U7-11. Investigation of spin-orientation in antiferromagnetic ordering for LiFeₓZn₁₋ₓPO₄ with Mössbauer spectroscopy. H. Choi¹, M. Kim¹ and C. Kim¹ 1. Department of Physics, Kookmin University, Seoul, The Republic of Korea

THURSDAY EVENING
SAN FRANCISCO BALLROOM

Session U8
MULTIFERROICS II
(Poster Session)
Evan Constable, Chair
Technical University Vienna, Vienna, Austria

U8-01. Multiferroic behavior of Tb₃BaCoO₅₊δ with an exceptionally large magneto-dielectric coupling. S.K. Upadhyay¹ and E. Sampathkumaran¹ 1. Tata Institute of Fundamental Research, Mumbai, India

U8-02. Magnetic Field in Triangular Ising System LuFe₃O₅₋ₓ⁺ₓ. L. Ding¹, F. Orlandi¹, P. Manuel¹, D. Khalyavin¹, A. Boothroyd², D. Prabhakaran³ and G. Balakrishnan¹ 1. ISIS Facility, Rutherford Appleton Laboratory, Science and Technology Facilities Council, Oxford, United Kingdom; 2. University of Oxford, Oxford, United Kingdom; 3. University of Warwick, Coventry, United Kingdom

U8-03. Fabrication of highly qualified (Biₓ₋ₓBaₓ)FeO₃ multiferroic thin films by using a pulsed DC reactive sputtering method and demonstration of magnetization reversal by electric field. S. Yoshimura¹,² and M. Kuppan¹ 1. Research Center for Engineering Science, Akita University, Akita, Japan; 2. JST-PRESTO, Saitama, Japan; 3. Regional Innovation Center, Akita University, Akita, Japan

U8-04. Magnetization curves in magnetoelastic layered structures. M. Auslender¹ 1. Electrical and Computer Engineering, Ben-Gurion University of the Negev, Beer Sheba, Israel

U8-05. Giant magnetic Kerr effect of (Biₓ₋ₓLaₓ)(Fe₀.75Co₀.25)O₃ multiferroic thin films with perpendicular magnetic anisotropy fabricated by a pulsed DC reactive sputtering technique. M. Kuppan¹ and S. Yoshimura¹,² 1. Regional Innovation Center, Akita University, Akita, Japan; 2. Research Center for Engineering Science, Akita University, Akita, Japan; 3. JST-PRESTO, Saitama, Japan

U8-06. A New Type II Multiferroic HoFe₂O₅. M. Adnani¹, N. Poudel¹, M.J. Gooch¹, Z. Wu¹, L. Deng¹ and C. Chu¹,² 1. Texas Center for Superconductivity and Department of Physics, University of Houston, Houston, TX, United States; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, United States

U8-07. Magnetoelastic effect in Eu²⁺ doped BaTiO₃. K. Rubi¹ and R. Mahendiran¹ 1. Physics Dept, National University of Singapore, West Singapore, Singapore

U8-08. Multiferroic Characterization of Single Crystal Samples of Quadruple Perovskite Manganite LaMn₃Mn₄O₁₂. V. Pascotto Gastaldo¹,², F. Milton¹, A. Gualdi¹, D. Garcia¹, A. Gauzzi² and A.J. de Oliveira¹ 1. Physics Department, Federal University of São Carlos, São Carlos, Brazil; 2. Institut de Minéralogie, de Physique des Matériaux et de Cosmochimie, Université Pierre et Marie Curie, Paris, France

U8-09. Magnetodielectric response and dielectric relaxation mechanism in LiNiO₂ cathode. S. Dash¹, M. Pradhana¹ and L. Tangi¹ 1. Dept. of Physics and Astronomy, National Institute of Technology, Rourkela, Rourkela, India

U8-10. Withdrawn

U8-11. Withdrawn
Session U9
NOVEL APPLICATIONS OF MAGNETIC THIN FILMS AND MULTILAYERS III
(Panel Session)
Francisco Goncalves, Chair
Oxford, UK

U9-01. Enhanced field sensitivity by the strong mutual coupling and magneto-induction in amorphous film/planar coil multilayers. F. Song1, Y. Wen1, P. Li2, Y. Wang1, T. Han1 and X. Ji1. School of Electronic Information and Electric Engineering, Shanghai Jiao Tong University, Shanghai, China

U9-02. Electrical Transport Signature of Skyrmions in Pt/Co/Ir Multilayer Disc. K. Zeissler1, S. Finizio2, K. Shahbazi1, J. Massey1, F. Al Ma’Mari2, M. Rosamond3, E. Linfield4, T.A. Moore5, G. Burnell1 and Z.H. Barber1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. School of Electronic and Electrical Engineering, University of Leeds, Leeds, United Kingdom


U9-04. Toward single pulse All Optical - Helicity dependent switching in Co/Pt multilayer systems. G. Kichin1, M. Hehn1, G. Malinowski1 and S. Mangin1. Institut Jean Lamour, Nancy, France

U9-05. An Integrated and Highly-Sensitive Magnetic Tunnel Junction Cytometer. R. Bu1,2, S. Amara1, M. Alawein1, N. Alsharif1, M. Khan1, Y. Wen1, X. Zhang1, J. Kose1 and H. Fariborzi1. Electrical Engineering, King Abdullah University of Science and Technology (KAUST), Jeddah, Saudi Arabia; 2. School of Physics, Shandong University, Jinan, China; 3. King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia; 4. Physical Sciences and Engineering, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia

U9-06. Stabilizing skyrmion lattices in multilayered magnetic stacks. W. Legrand1, D. Maccariello1, J. Chauleau1, N. Reyren1, S. Collin1, K. Bouzehouane1, N. Jaouen1, V. Cros1 and A. Fert1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Experimental division, Synchrotron SOLEIL, Gif sur Yvette, France; 3. SEXTANTS, Synchrotron SOLEIL, Gif sur Yvette, France

Session U10
NEW MAGNETIC MEASUREMENT METHODS
(Panel Session)
Gonzalo Vallejo-Fernandez, Chair
The University of York, York, United Kingdom

U10-01. Development of sensitive 3D vector VSM on a cryo-free low temperature and high field platform. J. Lu1, C. Guo1, L. Meng1 and B. Shen1. State Key Laboratory of Magnetism, Institute of Physics, CAS, Beijing, China

U10-02. doFORC tool for calculating first-order reversal curve diagrams of noisy scattered data. D. Cimpoesu1, I. Dumitru1 and A. Stancu1. Physics, Alexandru Ioan Cuza University of Iasi, Iasi, Romania


U10-05. DC Drift Error Mitigation Method for Three-Phase Current Reconstruction with Single Hall Current Sensor. H. Yan1, Y. Xu2, H. Zhang1, W. Zhao1 and C. Gerada1. International Academy of the Marine Economy and Technology, University of Nottingham Ningbo China, Ningbo, China; 2. Department of Electrical Engineering, Harbin Institute of Technology, Harbin, China

U10-07. Study on Broadband Impedance Matching for Three-Dimensional Magnetic Properties Testing. B. Qui1,2, Q. Yang1, Y. Li1 and C. Zhang1. 1. Hebei University of Technology, Zibo, China; 2. Shandong University of Technology, Zibo, China; 3. Tianjin Polytechnic University, Tianjin, China

U10-08. Research on the squeeze flow effect of the Foil-type Excitation windings in high frequency. Y. Li1,2, M. Yang1,4, C. Zhang1,2 and Q. Yang1,4 1. School of Electrical Engineering, Hebei University of Technology, Tianjin, China; 2. Hebei University of Technology, Tianjin, China; 3. Tianjin Polytechnic University, Tianjin, China; 4. State Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China

U10-09. A Improved Method of Feedback Control Based on Perception Neural Network for Three Dimensional Magnetic Properties Testing. B. Qui1,2, Q. Yang1, Y. Li1 and C. Zhang1 1. Hebei University of Technology, Zibo, China; 2. Shandong University of Technology, Zibo, China; 3. Tianjin Polytechnic University, Tianjin, China

U10-10. ELF stimulations Reveals Definite Subliminal Effects to Visual Perceptions: Human Reliability Measurements on ELF-Inducing Flickering Light Sensation. H. Nakagawa1 and S. Ueno1 1. Department of Electrical and Electronic Engineering, Tokyo Denki University, Adachi-ku, Japan; 2. Department of Applied Quantum Physics, Kyushu University, Fukuoka, Japan

U10-11. Novel Electromagnetic Applicator for Magnetic Hypertermia Experiments. I. Rodrigo Arrizabalaga1,2, J. Alonso-Valdesueiro1, E. Garcia1, J. Perez1, I. Orue1, J. Collantes1, J. Garcia1,4 and F. Plazaola1 1. BCMaterials, Basque Center for Materials, Applications and Nanostructures, Leioa, Spain; 2. Department of Electricity and Electronics, University of the Basque Country (UPV/EHU), Leioa, Spain; 3. Department of Physics, Public University of Navarre (UPNA), Pamplona, Spain; 4. SGIker Magnetic Measurements, University of the Basque Country (UPV/EHU), Leioa, Spain; 5. Department of Applied Physics II, University of the Basque Country (UPV/EHU), Leioa, Spain


U11-01. Anisotropic H-T quadrupole phase diagrams PrTi2Al20: AL-NMR and Magnetization studies. T. Taniguchi1,2, H. Takeda2, M. Takigawa1, S. Nakamura1, T. Sakakibara1, K. Hattori1, M. Tsujimoto1,2, Y. Matsumoto1, A. Sakai2 and S. Nakatsuji2 1. Science, Kyoto University, Kyoto, Japan; 2. The University of Tokyo, Kashiwa, Japan; 3. Tokyo Metropolitan University, Hachioji, Japan

U11-02. Simultaneous suppression of the antiferroquadrupolar and superconducting transitions in PrIr2Zn20 by non-hydrostatic pressure. M. Adachi1, K. Umeo1, K. Matsumoto1, T. Onimaru1 and T. Takabatake1 1. Graduate School of Advanced Sciences of Matter, Hiroshima University, Higashi-Hiroshima, Japan; 2. Graduate School of Science and Engineering, Ehime University, Matsuyama, Japan; 3. N-BARD, Hiroshima University, Higashi-Hiroshima, Japan

U11-03. Effect of Sn- and In-substitution on the structural and magnetic properties of PrRu2Zn20. K. Wakiya1, Y. Sugiyama1, J. Gouchi2, Y. Uwatoko2, M. Kishimoto1, T. Matsuda1, Y. Aoki1, M. Uehara1 and I. Umehara1 1. Department of Physics, Kyoto University, Kyoto, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 3. Department of Physics, Tokyo Metropolitan University, Hachioji, Japan

U11-04. Elastic hardening at the structural phase transition in the cage compound LaRu2Zn18. T. Suzuki1, Y. Suetomi1, T. Mizuno1, S. Kumano1, T. Onimaru1, K. Matsumoto1, T. Takabatake1 and I. Ishii1 1. Department of Quantum Matter, AdSM, Hiroshima University, Higashi-Hiroshima, Japan; 2. Graduate School of Science and Engineering, Ehime University, Matsuyama, Japan

U11-05. Magnetic properties of new compound SmTr2Sn2Zn18. (Tr = Co, Rh, and Ir). Y. Matsumoto1 and T. Kuwai1 1. Graduate School of Science and Engineering, University of Toyama, Toyama, Japan

U11-06. Elastic properties of SmPt2Cd20 probed by ultrasound measurements. Y. Nakanishi1, M. Nakamura1, M. Taniguchi1, M. Nakamura1, M. Yoshizawa1, A. Yamada2, R. Higashinaka2 and Y. Aoki2 1. Physical Science and Materials Engineering, Iwate University, Morioka, Japan; 2. Department of Physics, Tokyo Metropolitan University, Tokyo, Japan
U11-07. **Unusual Magnetic-Field-Insensitive Heavy Electron State in Sm$_{1-x}$Tr$_x$Al$_n$ (Tr = Ti, V, Cr, and Ta),** R. Higashinaka$^1$, A. Yamada$^1$, T. Matsuda$^1$, Y. Aoki$^1$, M. Mizumaki$^1$, S. Tsutsui$^2$, T. Uruga$^3$, K. Nitta$^4$ and T. Ina$^4$. 1. Department of Physics, Tokyo Metropolitan Univ., Hachioji, Japan; 2. Japan Synchrotron Radiation Research Institute (JASRI), Sayo, Japan

U11-08. **Electronic states of CeT$_x$X$_{10}$ (T:transition metal, X=Zn and Cd),** Y. Hirose$^1$, Y. Suzuki$^2$, T. Kawano$^3$, F. Honda$^1$, R. Kulkarni$^1$, A. Thamizhavel$^4$, N. Kawamura$^2$, M. Mizumaki$^2$, H. Doto$^2$ and R. Settai$^1$. 1. Department of Physics, Niigata University, Niigata, Japan; 2. Graduate School of Advanced Sciences of Matter, Hiroshima University, Higashi-Hiroshima, Japan; 2. Natural Science Center for Basic Research and Development, Hiroshima University, Higashi-Hiroshima, Japan

U11-09. **Antiferromagnetic transitions of Kramers doublets in caged cubic compounds Nd$_7$Zn$_{23}$ (T = Co, Rh, and Ir),** R. Yamamoto$^1$, T. Onimaru$^1$, R.J. Yamamura$^1$, Y. Yamane$^1$, K. Umeo$^2$, Y. Shimura$^1$ and T. Takabatake$^1$. 1. Graduate School of Advanced Sciences of Matter, Hiroshima University, Higashi-Hiroshima, Japan; 2. Natural Science Center for Basic Research and Development, Hiroshima University, Higashi-Hiroshima, Japan

U12-01. **Quantum critical behavior in the correlated Weyl semimetal candidate material CeRu$_2$Sn$_2$,** A. Sidorenko$^1$, F. Wesley$^2$, J. Haenel$^1$, H. Winkler$^1$, J. Rodriguez-Rivera$^1$, Y. Qu$^1$, A. Prokofiev$^1$, Q. Si$^2$, C.L. Broholm$^2$ and S. Paschen$^1$. 1. Institute of Solid State Physics, Vienna University of Technology, Wien, Austria; 2. Institute for Quantum Matter and Department of Physics and Astronomy, The Johns Hopkins University, Baltimore, MD, United States; 3. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 4. Department of Physics and Astronomy, Rice University, Houston, TX, United States

U12-02. **Characterization of substituted YbNi$_4$P$_2$ and YbRh$_2$Si$_2$ single crystals,** K. Kliemt$^1$, P. Denck$^1$, C. Butzke$^2$, J. Band$^2$, M. Brando$^2$ and C. Krellner$^1$. 1. Institute of Physics, Goethe-University Frankfurt, Frankfurt, Germany; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

U12-03. **Non-Fermi-liquid behavior in heavy-fermion compound CeCo$_{1-x}$Ni$_x$In$_5$,** K. Sasaki$^1$, M. Yokoyama$^2$, Y. Oshima$^3$, T. Hasegawa$^1$, K. Tenya$^1$, S. Nakamura$^2$, S. Kitta$^2$, T. Sakakibara$^3$, I. Kawasuki$^4$, W. Higemoto$^3$ and I. Watanabe$^6$. 1. Ibaraki University, Mito, Japan; 2. Shinsyu University, Nagano, Japan; 3. The University of Tokyo, Kashiwa, Japan; 4. University of Hyogo, Kamigori, Japan; 5. Japan Atomic Energy Agency, Tokai, Japan; 6. RIKEN, Wako, Japan

U12-04. **Non-Fermi-liquid behavior at anti-ferromagnetic quantum critical point in heavy fermion system Ce(Cu$_{1-x}$Co$_x$)$_3$Ge$_2$,** R. Tripathi$^1$, D. Das$^{1,2}$, C. Geibel$^1$, S.K. Dhar$^1$ and Z. Hossain$^1$. 1. Physics, Indian Institute of Technology, Kanpur, India; 2. Physics, Indian Institute of Technology, Kanpur Nagar, India; 3. Physics of Quantum Materials, Max-Planck-Institute for Chemical Physics of Solids, Dresden, Germany; 4. Condensed Matter Physics & Materials Science, Tata Institute of Fundamental Research, Mumbai, India

U12-05. **Quantum criticality of antiferromagnet Mn$_2$P under pressure,** H. Koteegawa$^1$, K. Uda$^1$, Y. Kuwata$^1$, H. Tou$^1$, H. Sugawara$^1$, T. Sakurai$^1$, H. Ohta$^1$ and H. Harima$^1$. 1. Kobe University, Kobe, Japan

U12-06. **Pressure evolution of magnetism in CePd$_2$Ga$_3, J. Volny$^1$, M. Vališka$^1$, M. Mišek$^2$, P. Prokschek$^1$, A. Barth$^1$ and J. Prokleska$^1. 1. Department of Condensed Matter Physics, Charles University in Prague, Prague, Czechia; 2. Department of Magnetics and Superconductors, Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czechia

U12-07. **Composition and pressure tuning of magnetic states in the proximity of UC$_3$Al, P. Opletal$^1$, D. Sun$^1$, R. Perry$^1$, A. Mackenzie$^{1,2}$ and S.R. Julian$^1$. 1. Department of Physics, University of Toronto, Toronto, ON, Canada; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 3. University of St. Andrews, St. Andrews, United Kingdom; 4. University College London, London, United Kingdom; 5. Los Alamos National Laboratory Pulsed Field Facility, Los Alamos, NM, United States

U12-08. **Suppression of the Anisotropic Phase of Sr$_2$Ru$_2$O$_7$ by Hydrostatic Pressure,** L. He$^1$, M. Fu$^1$, D. Sun$^1$, R. Perry$^1$, A. Mackenzie$^{1,3}$ and S.R. Julian$^1$. 1. Department of Physics, University of Toronto, Toronto, ON, Canada; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 3. University of St. Andrews, St. Andrews, United Kingdom; 4. University College London, London, United Kingdom; 5. Los Alamos National Laboratory Pulsed Field Facility, Los Alamos, NM, United States

U12-09. **Pressure Evolution of Magnetism in UC$_3$Ga and URhGa,** M. Mišek$^1$, P. Prokschek$^1$, P. Opletal$^1$, J. Prokleska$^1$, J. Kaštíl$^1$, J. Kamarád$^1$, M. Divíš$^1$ and V. Sechovský$^1$. 1. Department of Magnetics and Superconductors, Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czechia; 2. DCMP, Charles University in Prague, Prague, Czechia

U12-10. **Withdrawn**

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**Thursday Evening**

**SAN FRANCISCO BALLROOM**

**Session U12**

**QUANTUM CRITICAL SCES III: HEAVY FERMION AND TM COMPOUNDS**

(POSTER SESSION)

Sven Friedemann, Chair

University of Bristol, Bristol, United Kingdom

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**Thurs**
Session U13
SUPERCONDUCTING SCES VI: FeSe AND OTHER IRON-BASED SUPERCONDUCTORS
(Poster Session)
Yunkyu Bang, Chair
POSTECH, Pohang, The Republic of Korea

U13-01. Anisotropic pressure effects on superconductivity in S-substituted Fe\textsubscript{1+y}Te\textsubscript{1-x}, T. Yamanaka\textsuperscript{1,}, K. Yamamoto\textsuperscript{1,}, N. Umezawa\textsuperscript{1,}, T. Yamazaki\textsuperscript{1,2,}, D. Ueta\textsuperscript{1,}, H. Yoshizawa\textsuperscript{1,} and H. Yaguchi\textsuperscript{1}. Physics, Tokyo University of Science, Noda, Japan; 2. Physics, Waseda University, Shinjuku, Japan; 3. ISSP, The University of Tokyo, Tokyo, Japan

U13-02. Pressure-induced Quantum Critical Behavior in LaFeAsO\textsubscript{1−y}, T. Kuwayama\textsuperscript{1,}, S. Nakagawa\textsuperscript{1,}, S. Imura\textsuperscript{2,}, S. Matsuishi\textsuperscript{3} and H. Hosono\textsuperscript{2,3}. 1. Graduate School of Human & Environmental Studies, Kyoto University, Kyoto, Japan; 2. Institute for Innovative Research, Tokyo Institute of Technology, Yokohama, Japan; 3. Material Research Center for Element Strategy, Innovative Research, Tokyo Institute of Technology, Yokohama, Japan

U13-03. Hydrostatic Pressure Effects on the Superconductivity of Ca\textsubscript{x}La\textsubscript{1−x}FeAs\textsubscript{2} Single Crystals, D. Bhoi\textsuperscript{1,}, B. Min\textsuperscript{1,}, Y. Sur\textsuperscript{1,}, D. Jang\textsuperscript{1,}, C. Kim\textsuperscript{1,}, D. Kim\textsuperscript{1,}, J. Shin\textsuperscript{2,}, K. Murata\textsuperscript{1,} and K. Kim\textsuperscript{1,}. 1. CENSCMR, Department of Physics and Astronomy, Seoul National University, Seoul, The Republic of Korea; 2. Department of Chemistry & Physics, POSTECH, Pohang, The Republic of Korea; 3. Center for High Pressure Science and Technology Advanced Research (HPSTAR), Shanghai, China

U13-04. Multigap superconductivity in RbCa\textsubscript{2}Fe\textsubscript{As}F\textsubscript{2} investigated using \textmu SR measurements, D. Adroja\textsuperscript{1,2,}, F. Kirschner\textsuperscript{1,}, F. Lang\textsuperscript{1,}, M. Smidman\textsuperscript{4,}, A. Hillier\textsuperscript{1,}, Z. Wang\textsuperscript{5,}, G. Stenning\textsuperscript{1,} and H. Yaguchi\textsuperscript{1,}. 1. ISIS Facility, Rutherford Appleton Laboratory, Chilton, United Kingdom; 2. Highly Correlated Matter Research Group, Physics Department, University of Johannesburg, Johannesburg, South Africa; 3. Department of Physics, Clarendon Laboratory, University of Oxford, Oxford, United Kingdom; 4. Center for Correlated Matter and Department of Physics, Zhejiang University, Hangzhou, China; 5. Department of Physics and State Key Lab of Silicon Materials, Zhejiang University, Hangzhou, China

U13-05. Jahn-Teller distortion in two-band model for iron pnictide superconductors, B. Pradhan\textsuperscript{1,}. Physics, BJB College, Bhubaneswar, India

U13-06. Phase Separation in C\textsubscript{3}Y\textsubscript{2.}Fe\textsubscript{3−y}Se\textsubscript{y} Superconductor, M.I. Sturza\textsuperscript{1,2,}, K. Taddei\textsuperscript{1,3,}, O. Chmaissem\textsuperscript{1,}, S. Rosenkranz\textsuperscript{2,}, S. Wurmeil\textsuperscript{1,}, B. Büchner\textsuperscript{1} and M. Kanatzidis\textsuperscript{2,3}. 1. Department “Synthesis and Crystal Growth”, IFW - Leibniz Institute for Solid State and Materials Research Dresden, Dresden, Germany; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 3. Quantum Condensed Matter Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 4. Institute for Solid State Research, IFW-Dresden, Dresden, Germany; 5. Department of Chemistry, Northwestern University, Evanston, IL, United States

U13-07. Antiferromagnetic order in epitaxial FeSe films on SrTiO\textsubscript{3}, D. Wu\textsuperscript{1}. Nanjing University, Nanjing, China

U13-08. Interplay of structural properties and magnetic disorder in FeSe: Density-functional theory calculations, F. Loehner\textsuperscript{1,2}, I. Eremin\textsuperscript{1,}, J. Neugebauer\textsuperscript{1,} and T. Hickel\textsuperscript{1}. 1. Computational Materials Design, Max-Planck-Institut für Eisenforschung, Düsseldorf, Germany; 2. Theoretische Physik III, Ruhr-Universität Bochum, Bochum, Germany

U13-09. Temperature vs Pressure Phase Diagram of FeSe\textsubscript{1−x}S\textsubscript{x} investigated by \textmu SR, S. Holenstein\textsuperscript{3,2,}, J. Stahl\textsuperscript{1,}, Z. Shermadini\textsuperscript{1,}, R. Khasanov\textsuperscript{1,}, J. Orain\textsuperscript{1,}, A. Amato\textsuperscript{1,}, E. Morenzoni\textsuperscript{1,}, D. Johrendt\textsuperscript{1} and H. Luetkens\textsuperscript{1}. 1. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland; 2. Physik-Institut, Universität Zürich, Zürich, Switzerland; 3. Department Chemie, Ludwig-Maximilians-Universität München, München, Germany

U13-10. Magnetic fluctuations under pressure on S-doped FeSe studied via \textsuperscript{77}Se NMR, T. Kuwayama\textsuperscript{1,}, K. Matsuura\textsuperscript{2,}, Y. Mizukami\textsuperscript{2,}, S. Kasahara\textsuperscript{2,}, Y. Matsuda\textsuperscript{2,}, T. Shibuchi\textsuperscript{2,}, Y. Uwatoko\textsuperscript{4} and N. Fujiwara\textsuperscript{1,2}. 1. Graduate School of Human & Environmental Studies, Kyoto University, Kyoto, Japan; 2. Graduate School of Frontier Sciences, The University of Tokyo, Chiba, Japan; 3. Department of Physics, Kyoto University, Kyoto, Japan; 4. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan

U13-11. Superconducting gap anisotropy of FeSe single crystal in fully twinned nematic state: upper critical field and conductivity in basal plane, A.V. Sadakov\textsuperscript{1,}, P.D. Grigoriev\textsuperscript{1,2,}, T.A. Romanova\textsuperscript{2,} and D.A. Chareev\textsuperscript{3}. 1. P.N. Lebedev Physical Institute, Russian Academy of Sciences, Moscow, Russian Federation; 2. L.D. Landau Institute for Theoretical Physics, Russian Academy of Sciences, Chernogolovka, Russian Federation; 3. Institute of Experimental Mineralogy, Russian Academy of Sciences, Chernogolovka, Russia

U13-12. Withdrawn
U14-01. Magnetic, superconducting, and structural information of an epitaxially grown CeCoIn5 film probed by nuclear quadrupole resonance. T. Yamanaka1, T. Yamanaka1, S. Kitagawa1, K. Ishida1, M. Naito1, T. Ishi1, T. Shibata1, T. Shibauchi1, Y. Matsuda1 and K. Ishida1. 1. Physics, Kyoto University, Kyoto, Japan; 2. Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 3. Physics and Electronics, Osaka Prefecture University, Sakai, Japan; 4. Physics, Ritsumeikan University, Kusatsu, Japan; 5. Advanced Materials Science, The University of Tokyo, Kashiwa, Japan


U14-03. Pressure-dependent uranium valence states in UPd2Cd20 probed by high-energy resolution x-ray absorption spectroscopy. N. Kawamura1, Y. Hirose2, R. Shimokawa3, F. Honda4, N. Ishimatsu1, M. Mizumaki1, H. Doto2 and K. Mimura1. 1. Research & Utilization Division, Japan Synchrotron Radiation Research Institute (JASRI), Sayo, Japan; 2. Department of Physics, Niigata University, Niigata, Japan; 3. Graduate School of Engineering, Osaka Prefecture University, Sakai, Japan; 4. Institute for Materials Research, Tohoku University, Oarai, Japan; 5. Graduate School of Science, Hiroshima University, Higashi-Hiroshima, Japan; 6. Graduate School of Science and Technology, Niigata University, Niigata, Japan

U14-04. Micro-structuring the Ce(Co,Rh,Ir)In5 heavy fermion family. M. Bachmann1, C. Putzke1, T. Helin1, K. Modic1, K. Shirer1, M. König1, A. Mackenzie2, E. Bauer3, F. Ronning4 and P.J. Moll5. 1. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Microstructured Quantum Matter, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

U14-05. NMR studies on the magnetic fluctuations in the artificial heavy-fermion superlattices of CeCoIn5/YbCoIn5 and CeCoIn5/YbCoIn5. G. Nakamine1, T. Yamanaka1, S. Kitagawa1, K. Ishida1, M. Naito1, T. Ishi1, T. Shibata1, T. Shibauchi1, Y. Matsuda1. 1. Department of Physics, Kyoto University, Kyoto, Japan; 2. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan


U14-07. THz conductivity of YbRh2Si2 thin films grown by molecular beam epitaxy. S. Paschen1,2. 1. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. Rice University, Houston, TX, United States


U14-10. RKKY interaction revised - spin correlation functions and quantum criticality. F. Eickhoff1, B. Lechtenberg2 and F. Anders1 1. Theoretical Physics, Technical University Dortmund, Dortmund, Germany; 2. Department of Physics, Kyoto University, Kyoto, Japan

U14-11. Withdrawn

THURSDAY SAN FRANCISCO BALLROOM EVENING 5:00

Session U15
THIN FILMS, NANO- & HETEROSTRUCTURES (Poster Session)
Qing Lin He, Chair
International Center for Quantum Materials, School of Physics, Peking University, Beijing, China

U15-01. The exchange bias and giant vertical magnetization shift in LaMnO3/SrMnO3 superlattice. X. Xu1 1. Chemistry and Material Science, Shanxi Normal University, Linfen, China

U15-02. Magnetic, structural and strain properties of FeRh thin films studied using polarised neutron reflectivity and X-Ray characterisation. C. Bull1, C.W. Barton1, W. Griggs1, A. Caruana2, C. Kinane2, P.W. Nutter1 and T. Thomson1 1. School of Computer Science, University of Manchester, Manchester, United Kingdom; 2. Rutherford Appleton Laboratory, STFC, Didcot, United Kingdom

U15-03. Structural and magnetic properties of cobalt iron disulfide (CoFeS2) nanocrystals. H.J. Gabold1, Z. Luan2, M. Law3 and A. Paul1 1. E21, Technical University of Munich, Munich, Germany; 2. Department of Chemical Engineering & Material Science, University of California, Irvine, Irvine, CA, United States

U15-04. Temperature controlled Fe/Au/FeRh spin valves. P. Drozd4, M. Slezak1, K. Matlak1, J. Korecki1,2 and T. Slezak1 1. Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland; 2. Jerzy Haber Institute of Catalysis and Surface Chemistry PAS, Krakow, Poland

U15-05. Study of magnetic phase transition in LaCoO3 and LaSrCoO3 thin films grown by pulsed laser deposition. T. Joshi1, D. Belanger1 and D. Lederman1 1. Department of Physics, University of California, Santa Cruz, Santa Cruz, CA, United States

U15-06. Fluctuation of stripe domains mediated by topological magnetic defects. S. Je1,2, M. Jung3, S. Montoya1, E.E. Fullerton1, K. Lee1, J. Hong2 and M. Im1 1. CXRO, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 2. Emerging Materials Science, Daegu Gyeongbuk Institute of Science and Technology, Daegu, The Republic of Korea; 3. Space and Naval Warfare Systems Center Pacific, San Diego, CA, United States; 4. UC San Diego, La Jolla, CA, United States; 5. School of Mechanical & Advanced Material Engineering, Ulsan National Institute of Science Technology, Ulsan, The Republic of Korea

U15-07. Magnetostructural transition, magnetic properties, and magnetocaloric effects of Ni48Co2Mn35In15 melt spun ribbons. S. Pandey1, A. Quetz1, P. Ibarra-Gaytan2, C. Sanchez-Valdes3, A. Aryal1, I. Dubenko1, J.L. Sanchez Llamazares4, S. Stadler5 and N. Ali1 1. Physics, Southern Illinois University, Carbondale, USA, Carbondale, IL, United States; 2. División de Materiales Avanzados, Instituto Potosino de Investigación Científica y Tecnológica A.C., San Luis Potosi, Mexico; 3. Institute of Physics, Faculty of Sciences, University Pavol Jozef Safárik, Kosice, Slovakia; 4. División Multidisciplinaria, Ciudad Universitaria, Universidad Autónoma de Ciudad Juárez (UACJ), Ciudad Juárez, Mexico; 5. Louisiana State University, Baton Rouge, LA, United States

U15-08. The microstructure and giant magnetocaloric effect of Ni36.0Co14.0Mn35.7Ti14.3 alloy ribbons. K. Liu1, S. Ma1, Q. Ge1, S. Yang1, X. Han1, K. Yu1 and Z. Zhong1 1. Jiangxi Key Laboratory for Rare Earth Magnetic Materials and Devices (IREMMD), Jiangxi University of Science and Technology, Ganzhou, China

THURSDAY SAN FRANCISCO BALLROOM EVENING 5:00

Session U16
VOXET AND SKYRMIOM DYNAMICS II (Poster Session)
Mario Carpentieri, Chair
Politecnico of Bari, Bari, Italy

U16-01. Frequency modulation spin waves generator via oscillating vortex core in NiFe disk array. L. Chang1, M. Kao1, L. Tsai1, J. Liang2 and S. Lee3 1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Physics, Fu Jen Catholic University, New Taipei City, Taiwan

U16-02. Effects of pinning in the magnetic configuration of a single disk at low temperatures. S. Lendinez1, J. Ding1, T. Polakovic1, J.E. Pearson1, A. Hoffmann1 and V. Novosad1 1. Materials Science Division, Argonne National Laboratory, Lemont, IL, United States
U16-03. The Role of Thermal Activation for Magnetic Vortex States.  
H. Brueckl1, K. Pruegl2, T. Wurfl3, S. Luber4, W. Raberg5, J. Zimmer6, A. Satz7 and D. Suesb1 1. Department for Integrated Sensor Systems, Danube University Krems, Wiener Neustadt, Austria; 2. Infineon Technologies AG, Regensburg, Munich, Germany; 3. Infineon Technologies Austria AG, Villach, Austria; 4. Physics of Functional Materials, University Vienna, Vienna, Austria

M. Stifano1, M. Barbeau2, T. Rasing3 and J. Mentink1 1. Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands

U16-05. Switching of Skyrmion chirality by local heating.  
Y. Nakatani1, K. Yamada2 and A. Hirohata1 1. University of Electro-communications, Tokyo, Japan; 2. Gifu University, Gifu, Japan; 3. University of York, York, United Kingdom

U16-06. Skyrmion-Lattice Inversion and Defect-Induced Melting in Thin Magnetic Films. L. Pierobon1, C. Moutafis1, Y. Li1, J. Löfler2 and M. Charilaou1 1. School of Computer Science, University of Manchester, Manchester, United Kingdom; 2. Laboratory of Metal Physics and Technology, Department of Materials, ETH Zurich, Zurich, Switzerland

U16-07. Dynamics of isolated skyrmions driven by electromagnon excitations. A. Takeuchi1 and M. Mochizuki1,2 1. Department of Physics and Mathematics, Aoyama Gakuin University, Sagamihara, Japan; 2. Department of Applied Physics, Waseda University, Shinjuku-ku, Japan

U16-08. Fixed Skyrmion Based Resonate and Fire Neuron. M. Azam1, D. Bhattacharyya1, D. Querlioz2 and J. Atulasimha1 1. Virginia Commonwealth University, Richmond, VA, United States; 2. C2N, Université Paris-Sud, Orsay, France

U16-09. Resonance Beyond Frequency-Matching: Multidimensional Resonance. R. Wang1 1. Xiamen University, Xiamen, China

U16-10. Creation of Skyrmions in arrays of coupled oscillators. H. Vigo Cotrina1 and A.P. Guimaraes2 1. Centro Brasileiro de Pesquisas Fisicas (CBPF), Rio de Janeiro, Brazil; 2. CBPF, Rio de Janeiro, Brazil

U16-11. Micromagnetic study of spin transfer torque induced dynamical skyrmions and dissipative droplet solitons. N. Statuto3, J. Hernández Ferrás1, A. Kent1 and F. Macià2 1. Condensed Matter Physics Department, University of Barcelona, Barcelona, Spain; 2. Institute of Materials Science of Barcelona (ICMAB), Bellaterra, Spain; 3. Department of Physics, Center for Quantum Phenomena, New York University, New York, NY, United States

U16-12. Decay of Skyrmions and Droplets in Uniaxial Ferromagnets. M. Ruth1, E. Iacocca1 and M. Hoefer1 1. Applied Mathematics, University of Colorado, Boulder, CO, United States

Session V1  
CPP-GMR AND MAGNETIC TUNNEL JUNCTIONS II
Andrew Kent, Chair  
New York University, New York, NY, United States

8:30  
V1-01. Perpendicular Anisotropy in CoFeAl0.5Si0.5 for CPP-GMR devices. W.J. Frost1, M. Samiepour2 and A. Hirohata1 1. Department of Electronics, University of York, York, United Kingdom; 2. University of York, York, United Kingdom

8:45  
V1-02. L12-phase FePd fully perpendicular magnetic tunnel junctions for STT-MRAM application. D. Zhang1, C. Sun1, R. Wu1, Y. Lv1, K. Schliep1, Z. Zhao1, J. Chen1, A. Mkhoyan2, P. Voyles1 and J. Wang1 1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, United States; 2. Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, United States; 3. Department of Materials Science and Engineering, University of Wisconsin-Madison, Madison, WI, United States

9:00  
V1-03. CPP-GMR of Heusler alloy based junctions: Spacer materials and interface effects. (Invited) T. Kubota1,2, Z. Wen1,2 and K. Takanashi1,2 1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network, Tohoku University, Sendai, Japan

9:30  
V1-04. Oblique-incidence deposition for custom-designed GMR- and TMR sensor functionalities. S. Willing3, K. Schlage1, T. Gurieva1, L. Bocklage1,3, G. Meier3,4 and R. Roehlsberger1,3 1. Photon Science, Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 2. Physics, Hamburg University, Hamburg, Germany; 3. The Hamburg Centre for Ultrafast Imaging, Hamburg, Germany; 4. Max-Planck Institute for the Structure and Dynamics of Matter, Hamburg, Germany

9:45  
V1-05. Scavenging Properties of Metal Spacer in Perpendicular Magnetic Tunnel Junction and its Impact on Switching Characteristics of Spin Transfer Torque Random Access Memory. H. Dixit1, D. Datta1, S. Agarwal1 and F. Benistant1 1. TCAD, GLOBALFOUNDRIES, Singapore, Singapore
Session V2

NOVEL MULTIFERROICS

Alexander Grutter, Chair
National Institute of Standards and Technology, Gaithersburg, MD, United States

8:30

V2-01. Probing Multiferroic Metal Organic Frameworks with Neutrons. H. Walker1, Z. Yang1, D. Le1, R. Smith1, D. Vonesen1, A. Phillips2 and D. Keen1 1. ISIS neutron and muon source, Rutherford Appleton Laboratory, Didcot, United Kingdom; 2. Centre for Condensed Matter and Materials Physics, Queen Mary University of London, London, United Kingdom

8:45

V2-02. Theory of Orbital Magnetic Quadrupole Moment and Magnetoelectric Susceptibility. A. Shitade1, H. Watanabe2 and Y. Yanase2 1. Center for Emergent Matter Science, RIKEN, Wako, Japan; 2. Department of Physics, Kyoto University, Kyoto, Japan

9:00

V2-03. Magnetic Frustration and Exchange Anisotropy in Antiferroelectric Francisite Cu3Bi(SeO3)2O2Cl. E. Constable1,2, S. Raymond1, S. Petit2, E. Ressouche2, F. Bourdarot1, J. Debray2, M. Josse1, O. Fabro3, H. Berger2, S. de Brion1 and V. Simonet2 1. Technical University Vienna, Vienna, Austria; 2. Institut Néel CNRS, Grenoble, France; 3. Laboratoire Léon Brillouin, Gif-sur-Yvette, France; 4. Institut de Nanosciences et Cryogénie, CEA, Grenoble, France; 5. ICMCB, CNRS and Université de Bordeaux, Bordeaux, France; 6. Institut Laue Langevin, Grenoble, France; 7. Institute of Physics of Complex Matter, Ecole Polytechnique Federal de Lausanne, Lausanne, Switzerland

9:15

V2-04. Magnetoelectric Effect in a Newly Synthesized Helical Magnet Ni1In1−xAxSbO6 (x = Cr0.1, Fe0.05). T. Sato1, Y. Araki1, A. Miyake2, M. Tokunaga1, T. Honda3, S. Kimura1, H. Sagayama2, N. Abe1, Y. Tokunaga1 and T. Arima1 1. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 2. ISSP, The University of Tokyo, Kashiwa, Japan; 3. IMSS, KEK, Tsukuba, Japan; 4. IMR, Tohoku University, Sendai, Japan

9:30

V2-05. Magnetoelectric Effect in Buckled Honeycomb Antiferromagnet Cu3Ta2O9. N. Abe1, T. Sato1, A. Miyake1, S. Kimura1, K.D. Nguyen1, T. Omi1, T. Muyoshi2, A. Nakao1, M. Tokunaga1, T. Tokunaga1 and T. Arima1,4 1. Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Japan; 2. The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan; 4. Center for Emergent Matter Science, RIKEN, Wako, Japan; 5. Neutron Science and Technology Center, CROSS, Tokai, Japan

9:45

V2-06. Structural and spectroscopic properties of the new polar antiferromagnet Ni2MnTeO6. S. Skiadopoulou1,2, M. Retuerto3, M. Greenblatt3, D. Legut1 and S. Kamba2 1. IT4Innovations Center, VSB Technical University Ostrava, Ostrava-Poruba, Czechia; 2. Institute of Physics, Czech Academy of Sciences, Prague, Czechia; 3. Department of Chemistry and Chemical Biology, Rutgers, The State University of New Jersey, Piscataway, NJ, United States

Large Moments in bcc FeCoMn ternary alloy thin films. Y.U. Idzerda, R. Snow, H. Bhatkar, A.T. N'Diaye and E. Arenholz. 1. Physics, Montana State University, Bozeman, MT, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States

Growth of FeNiN Films toward Formation of \( L1_0 \)-ordered FeNi Films by Nitrogen Topotactic Extraction. K. Ito, M. Mizuguchi, F. Takata, T. Suemasu, H. Yanagihara and K. Takanashi. 1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Institute of Applied Physics, University of Tsukuba, Tsukuba, Japan

Electronic tunneling through epitaxial cobalt-ferrite (001) films with perpendicular magnetic anisotropy grown on non-magnetic metal layers. M. Tanaka, K. Naruse, K. Nomura, T. Taniguchi, S. Honda, T. Ono and K. Mibu. 1. Graduate School of Engineering, Nagoya Institute of Technology, Nagoya, Japan; 2. Institute for Chemical Research, Kyoto University, Uji, Kyoto, Japan; 3. Faculty of Engineering Science, Kansai University, Suita, Japan

Magnetic and transport properties of melt spun ribbons and bulk samples of MnFeGa. V. Khovaylo, I. Gavrikov, M. Seredina, Y. Anikin, M. Gorshenkov, S.V. Taskaev and R. Chatterjee. 1. National University of Science and Technology “MISiS”, Moscow, Russian Federation; 2. Physics department, Chelyabinsk State University, Chelyabinsk, Russian Federation; 3. Physics, Indian Institute of Technology Delhi, New-Delhi, India

Structural, magnetic and dielectric properties of ferrite-ferroelectric ceramic composites. A. Farheen and R. Singh. 1. School of Physics, University of Hyderabad, Hyderabad, India

Controlling the magnetization and coercivity in quenched FeRh magnetic heterostructures with hydrostatic pressure. C. Urban, S.P. Bennett and L.K. Schuller. 1. Physics, UCSD, San Diego, CA, United States; 2. Materials Science and Technology, U.S. Naval Research Laboratory, Washington, DC, United States
**Session V6**

**MAGNETIC SEMICONDUCTORS IV**

Laura Thevenard, Co-Chair
Institut des Nanosciences de Paris, Paris, France

Xinyu Liu, Co-Chair
University of Notre Dame, Notre Dame, IN, United States

8:30

**V6-01.** Spin-orbit induced effective magnetic field in GaMnAs ferromagnetic semiconductor. (Invited) S. Lee1. Physics, Korea University, Seoul, The Republic of Korea

8:30

**V6-03.** Observation of spin-gapless semiconductor-like magnetotransport in CoFeVSi epitaxial films. S. Yamada1,2, S. Kobayashi1, K. Arima1 and K. Hamaya1,2. 1. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan; 2. Center for Spintronics Research Network, Osaka University, Toyonaka, Japan

9:00

**V6-04.** InAs quantum dots selectively doped with Mn. A. Bouravlev1,2 and G. Cirlin1. 1. St. Petersburg Academic University RAS, St. Petersburg, Russian Federation; 2. Joffe Physical Technical Institute RAS, St. Petersburg, Russian Federation

9:15

**V6-05.** Engineering Magnetoresistance in MnGe1-x System for Magnetic Sensor Application. (Invited) T. Nie1. School of Electronic and Information Engineering, Beihang University, Beijing, China

9:30
Session V8
NON-EQUILIBRIUM PHENOMENA IN STRONGLY CORRELATED SYSTEMS
Mireille Lavagna, Chair
CEA-SPINTEC, Grenoble, France

8:30
1. Laboratoire de Physique des Solides, Orsay, France; 2. Osaka University, Osaka, Japan; 3. ISSP, Tokyo University, Tokyo, Japan; 4. Osaka City University, Osaka, Japan

9:00

9:30
V8-03. Real-Time Dynamics and Parity Symmetry Protected Spin Entanglement in the Two Impurity Kondo Model. B. Lechtenberg and F. Anders1. Department of Physics, Kyoto University, Kyoto, Japan; 2. Department of Physics, Technical University Dortmund, Dortmund, Germany

9:45
V8-04. Current-induced giant diamagnetism and Mott semimetal behavior in single crystalline Ca2RuO4. C. Sow1, S. Yonezawa1, S. Kitamura1, T. Oka1, K. Kuroki2, F. Nakamura3 and Y. Maeno1
1. Physics, Kyoto University, Kyoto, Japan; 2. Physics, The University of Tokyo, Tokyo, Japan; 3. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany; 4. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 5. Physics, Osaka University, Osaka, Japan; 6. Education and Creation Engineering, Kurume Institute of Technology, Kurume, Japan

Session V9
STRIPES, MAGNETISM, AND HIGH TEMPERATURE SUPERCONDUCTIVITY
Suchitra Sebastian, Chair
University of Cambridge, Cambridge, United Kingdom

8:30
V9-01. Hourglass Magnetic Spectrum in Charge-Stripe-Ordered Cobalt Oxide. P. Babkevich1, P.G. Freeman2, M. Enderle3, D. Prabhakaran4 and A. Boothroyd4
1. Laboratory for Quantum Magnetism, EPFL, Lausanne, Switzerland; 2. Jeremiah Horrocks Institute for Mathematics, Physics and Astronomy, University of Central Lancashire, Preston, United Kingdom; 3. Institut Laue-Langevin, Grenoble, France; 4. Clarendon Laboratory, University of Oxford, Oxford, United Kingdom

8:45
1. Department of Physics, University of Oxford, Oxford, United Kingdom; 2. Department of Energy Conversion and Storage, Technical University of Denmark, Kongens Lyngby, Denmark; 3. Institute of Energy Conversion, Technical University of Denmark, Kongens Lyngby, Denmark; 4. Department of Physics, DTU, Lyngby, Denmark; 5. Institute of Energy Conversion, DTU, Lyngby, Denmark; 6. Department of Physics and Institute of Materials Science, University of Connecticut, Storrs, CT, United States; 7. Niels Bohr Inst., Univ. Copenhagen, Copenhagen Ø, Denmark

9:00
V9-03. Unexpected magnetic field behaviour of spin stripes in LSCO superconductor close to the underdoped quantum critical point. A. Tutuaneaud1,3, M. Böhm1, P. Steffens1, T.B. Tejsner1,2, M. Lacatusu1,2, J. Grivel1, L. Folkers1, Y. Sassa1 and K. Lefmann1
1. Institut Laue-Langevin, Grenoble, France; 2. Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark; 3. Department of Energy Conversion and Storage, Technical University of Denmark, Kongens Lyngby, Denmark; 4. Centre for Analysis and Synthesis, Lund University, Lund, Sweden; 5. Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden

9:15
V9-04. Anomalous lattice dynamics in La2−SrCuO4 (LSCO): The role of static or mobile dopants. T.B. Tejsner1,2, M. Boehm1, A. Piovano1, K. Lefmann1, A. Tutuaneaud1 and L. Udby2
1. Institut Laue-Langevin, Grenoble, France; 2. Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark
9:30

V9-05. Anisotropic Dispersion of the Spin Excitations in a Cuprate Superconductor. O. Ivashko1, M. Horio1, N. Shaik2, X. Lu3, C.G. Fatuzzo4, M. Dantz1, D.E. McNally1, D. Destraz1, E. Paris1, Y. Tseng1, P.G. Freeman1, W. Wan6, N.B. Christensen6, T. Kurowsawa7, N. Momono1, A. Oda7, H.I. Wei8, C. Adamo8, M. Gibert1,1, K.M. Shen9, C. Monney1,1,12, H.M. Ronnow2, J. Tomczak13, T. Schmitt1 and J. Chang1 1. Physik-Institut, University of Zurich, Zurich, Switzerland; 2. Physics, Ecole Polytechnique Federale De Lausanne, Lausanne, Switzerland; 3. Swiss Light Source, Paul Scherrer Institut, Villigen, Switzerland; 4. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 5. Jeremiah Horrocks Institute for Mathematics, Physics and Astronomy, University of Central Lancashire, Preston, United Kingdom; 6. Department of Physics, Technical University of Denmark, Kongens Lyngby, Denmark; 7. Department of Physics, Hokkaido University, Sapporo, Japan; 8. Department of Applied Sciences, Muroran Institute of Technology, Muroran, Japan; 9. Department of Physics, Cornell University, Ithaca, NY, United States; 10. Department of Applied Physics, Stanford University, Stanford, CA, United States; 11. Department of Quantum Matter Physics, University of Geneva, Geneva, Switzerland; 12. Department of Physics, University of Fribourg, Fribourg, Switzerland; 13. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria

V9-06. Anomalously high-temperature superconductivity driven by resonant impurity states in Tl-doped PbTe. P. Giraldo-Gallo2, P. Walmsley1, B. Sangiorgio3, S.C. Riggs1, R.D. McDonald1, L. Buchauer7, B. Fauque6, C. Liu1, N.A. Spaldin1, A. Kaminski7, K. Behnia4 and I.R. Fisher2 1. Geballe Laboratory for Advanced Materials and Department of Applied Physics, Stanford University, Stanford, CA, United States; 2. Department of Physics, Universidad de los Andes, Bogotá, Colombia; 3. Materials Theory, ETH Zurich, Zurich, Switzerland; 4. National High Magnetic Field Laboratory, Tallahassee, FL, United States; 5. Los Alamos National Laboratory, Los Alamos, NM, United States; 6. LPEM (UPMC-CNRS), Ecole Superieure de Physique et Chimie Industrielles, Paris, France; 7. Ames Laboratory and Department of Physics and Astronomy, Iowa State University, Ames, IA, United States

8:45


9:00

V10-04. Double Magnetic Field-induced Phase Transition in the Spin 1/2 Alternating Chain System AgVOAsO4. F. Weickert1, A.A. Acel1, R. Movshovich1, M. Gamza1, A. Demuer1, N. Harrison1, H. Rosner1 and A.A. Tsirlin1 1. NHMFL, Florida State University, Tallahassee, FL, United States; 2. MPa, Los Alamos National Laboratory, Los Alamos, NM, United States; 3. MPa-MAG, Los Alamos National Laboratory, Los Alamos, NM, United States; 4. Oak Ridge National Laboratory, Oak Ridge, TN, United States; 5. University of Central Lancashire, Preston, United Kingdom; 6. University of Augsburg, Augsburg, Germany; 7. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 8. Laboratoire National des Champs Magnetiques Intenses, Grenoble, France

8:30

Session V10

QUANTUM AND LOW-DIMENSIONAL MAGNETISM II

Andrey Zheludev, Co-Chair
ETH Zürich, Zürich, Switzerland
Frederic Mila, Co-Chair
EPFL, Lausanne, Switzerland

9:00

V10-01. Quasi-one-dimensional Bose-Einstein Condensation in Spin-1/2 Ferromagnetic-leg Ladder Organic Magnets. Y. Kono1, S. Kittaka1, H. Yamaguchi2, Y. Hosokoshi2 and T. Sakakibara1 1. The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan; 2. Department of Physical Science, Osaka Prefecture University, Sakai, Japan

9:15

V10-03. Spin molecular-orbit coupling and electron correlations in multinuclear organometallic complexes. J. Merino1, A. Jacko2, A.L. Khosla2 and B.J. Powell2 1. Fisica Teorica de la Materia Condensada, Universidad Autónoma de Madrid, Madrid, Spain; 2. School of Mathematics and Physics, The University of Queensland, Brisbane, QLD, Australia

9:45

V10-05. Anomally high-temperature superconductivity driven by resonant impurity states in Tl-doped PbTe. P. Giraldo-Gallo2, P. Walmsley1, B. Sangiorgio3, S.C. Riggs1, R.D. McDonald1, L. Buchauer7, B. Fauque6, C. Liu1, N.A. Spaldin1, A. Kaminski7, K. Behnia4 and I.R. Fisher2 1. Geballe Laboratory for Advanced Materials and Department of Applied Physics, Stanford University, Stanford, CA, United States; 2. Department of Physics, Universidad de los Andes, Bogotá, Colombia; 3. Materials Theory, ETH Zurich, Zurich, Switzerland; 4. National High Magnetic Field Laboratory, Tallahassee, FL, United States; 5. Los Alamos National Laboratory, Los Alamos, NM, United States; 6. LPEM (UPMC-CNRS), Ecole Superieure de Physique et Chimie Industrielles, Paris, France; 7. Ames Laboratory and Department of Physics and Astronomy, Iowa State University, Ames, IA, United States

9:15

V10-03. Spin molecular-orbit coupling and electron correlations in multinuclear organometallic complexes. J. Merino1, A. Jacko2, A.L. Khosla2 and B.J. Powell2 1. Fisica Teorica de la Materia Condensada, Universidad Autónoma de Madrid, Madrid, Spain; 2. School of Mathematics and Physics, The University of Queensland, Brisbane, QLD, Australia

9:45

V9-06. Anomalously high-temperature superconductivity driven by resonant impurity states in Tl-doped PbTe. P. Giraldo-Gallo2, P. Walmsley1, B. Sangiorgio3, S.C. Riggs1, R.D. McDonald1, L. Buchauer7, B. Fauque6, C. Liu1, N.A. Spaldin1, A. Kaminski7, K. Behnia4 and I.R. Fisher2 1. Geballe Laboratory for Advanced Materials and Department of Applied Physics, Stanford University, Stanford, CA, United States; 2. Department of Physics, Universidad de los Andes, Bogotá, Colombia; 3. Materials Theory, ETH Zurich, Zurich, Switzerland; 4. National High Magnetic Field Laboratory, Tallahassee, FL, United States; 5. Los Alamos National Laboratory, Los Alamos, NM, United States; 6. LPEM (UPMC-CNRS), Ecole Superieure de Physique et Chimie Industrielles, Paris, France; 7. Ames Laboratory and Department of Physics and Astronomy, Iowa State University, Ames, IA, United States

9:45

V9-05. Anisotropic Dispersion of the Spin Excitations in a Cuprate Superconductor. O. Ivashko1, M. Horio1, N. Shaik2, X. Lu3, C.G. Fatuzzo4, M. Dantz1, D.E. McNally1, D. Destraz1, E. Paris1, Y. Tseng1, P.G. Freeman1, W. Wan6, N.B. Christensen6, T. Kurowsawa7, N. Momono1, A. Oda7, H.I. Wei8, C. Adamo8, M. Gibert1,1, K.M. Shen9, C. Monney1,1,12, H.M. Ronnow2, J. Tomczak13, T. Schmitt1 and J. Chang1 1. Physik-Institut, University of Zurich, Zurich, Switzerland; 2. Physics, Ecole Polytechnique Federale De Lausanne, Lausanne, Switzerland; 3. Swiss Light Source, Paul Scherrer Institut, Villigen, Switzerland; 4. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 5. Jeremiah Horrocks Institute for Mathematics, Physics and Astronomy, University of Central Lancashire, Preston, United Kingdom; 6. Department of Physics, Technical University of Denmark, Kongens Lyngby, Denmark; 7. Department of Physics, Hokkaido University, Sapporo, Japan; 8. Department of Applied Sciences, Muroran Institute of Technology, Muroran, Japan; 9. Department of Physics, Cornell University, Ithaca, NY, United States; 10. Department of Applied Physics, Stanford University, Stanford, CA, United States; 11. Department of Quantum Matter Physics, University of Geneva, Geneva, Switzerland; 12. Department of Physics, University of Fribourg, Fribourg, Switzerland; 13. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria
W1-05. Elastic-ferromagnetic swimmers, pumps, and membranes. J.K. Hamilton1, A.D. Gilbert1 and F.Y. Ogrin1 1. Department of Physics, University of Exeter, Exeter, United Kingdom; 2. Department of Mathematics, University of Exeter, Exeter, United Kingdom; 3. University of Exeter, Exeter, United Kingdom

W1-06. Comparative Study of Different Stator Winding Configurations for Variable Flux Permanent Magnet Synchronous Machine. S. Zhang1, P. Zheng1, M. Wang1 and F. Liu1 1. School of Electrical Engineering and Automation, Harbin Institute of Technology; Harbin, China

W1-07. Relationship between anisotropy field and temperature rise caused by AC field applied to Nd-Fe-B permanent magnet. M. Ishikawa1, F. Akagi2 and K. Yoshida2 1. Electrical and Electronic Engineering, Kogakuin University, Shinjuku-ku, Japan; 2. Kogakuin University, Shinjuku-ku, Japan

W1-08. Improved Modeling of Surface Degraded Sintered NdFeB Magnets with Large SA/V Ratios. K.C. Kurtz1,2, M.S. Guthrie2 and J.F. Naber1 1. Electrical and Computer Engineering, University of Louisville, Prospect, KY, United States; 2. Engineering, Quadrant Solutions, Inc., Prospect, KY, United States

FRIDAY SAN FRANCISCO BALLROOM
MORNING 10:00

Session W1
3D PRINTING AND APPLICATIONS OF PERMANENT MAGNETS
(Poster Session)
Andrés Martín-Cid, Chair
BCMaterials, Leioa, Spain

W1-01. Withdrawn


W1-03. Magnetic Polymerized Composites for Bonding and 3D-Printing of Alternative Permanent Magnets. E.M. Palmero1, J. Rial1, D. Casaleiz1, J. de Vicente1 and A. Bollero1 1. Division of Permanent Magnets and Applications, IMDEA Nanoscience, Madrid, Spain

W1-04. Trajectory of a Non-magnetic Particle transported by a Rotating Magnetic Particle Chain. W. Lo1, C. Lu1 and C. Chen1 1. Mechanical Engineering, National Chiao Tung University, Hsinchu, Taiwan, Taiwan

W1-05. Elastic-ferromagnetic swimmers, pumps, and membranes. J.K. Hamilton1, A.D. Gilbert1 and F.Y. Ogrin1 1. Department of Physics, University of Exeter, Exeter, United Kingdom; 2. Department of Mathematics, University of Exeter, Exeter, United Kingdom; 3. University of Exeter, Exeter, United Kingdom

W1-06. Comparative Study of Different Stator Winding Configurations for Variable Flux Permanent Magnet Synchronous Machine. S. Zhang1, P. Zheng1, M. Wang1 and F. Liu1 1. School of Electrical Engineering and Automation, Harbin Institute of Technology; Harbin, China

W1-07. Relationship between anisotropy field and temperature rise caused by AC field applied to Nd-Fe-B permanent magnet. M. Ishikawa1, F. Akagi2 and K. Yoshida2 1. Electrical and Electronic Engineering, Kogakuin University, Shinjuku-ku, Japan; 2. Kogakuin University, Shinjuku-ku, Japan

W1-08. Improved Modeling of Surface Degraded Sintered NdFeB Magnets with Large SA/V Ratios. K.C. Kurtz1,2, M.S. Guthrie2 and J.F. Naber1 1. Electrical and Computer Engineering, University of Louisville, Prospect, KY, United States; 2. Engineering, Quadrant Solutions, Inc., Prospect, KY, United States

FRIDAY SAN FRANCISCO BALLROOM
MORNING 10:00

Session W2
ADVANCED SYNTHESIS OF MAGNETIC THIN FILMS AND MULTILAYERS II
(Poster Session)
Sophie Morley, Chair
University of California, Santa Cruz, Leeds, United Kingdom


W2-02. Magnetoelectrodeposition of FePd alloy thin films. S. Annamalai1 and J.R. Mohanty1 1. Physics, Indian Institute of Technology, Hyderabad, India

W2-03. Magnetic Properties for Synthetic Antiferromagnet with Perpendicular Easy Magnetic Anisotropy. N. Tezuka1, S. Fujikawa1, M. Matsuura1 and S. Sugimoto1 1. Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan


W2-10. Magnetic Properties of La$_{0.67}$Sr$_{0.33}$Mn$_{1-x}$Ni$_x$O$_3$ Synthesized by Sol Gel Method. B. Kurniawan, U. Widyaiswari, G. Yudharmi, I.N. Rahman and D.R. Munazat. 1. Department of Physics, Universitas Indonesia, Depok, Indonesia.
W4-09. Magnetic Property of Polymorphs (Al$_{Fe_x}$)$_x$GeO$_y$. H. Aruga Katori$^1$ 1. Department of Applied Physics, Tokyo University of Agriculture and Technology, Koganei, Japan

W4-10. Withdrawn

W4-11. Origin of Magnetocrystalline Anisotropy in Trigonal Magnetics with Zero Orbital Moment. J. Kliava$^1$, K. Seleznyova$^2$, M. Strugatsky$^2$, A. Drobosev$^1$, S. Yaipov$^2$ and V. Zubov$^4$ 1. LOMA, Université de Bordeaux, Talence, France; 2. Physics and Technology Institute, Crimean Federal University, Simferopol, Russian Federation; 3. P.L. Kapitza Institute for Physical Problems, RAS, Moscow, Russian Federation; 4. Lomonosov Moscow State University, Moscow, Russian Federation

FRIDAY MORNING 10:00

Session W5
MULTIFERROICS III
(Poster Session)
Helen Walker, Chair
STFC, Didcot, United Kingdom

W5-01. Spin waves in multiferroic Ni$_x$TeO$_y$. J. Lass$^{1,2}$, C.R. Andersen$^1$, J.O. Birk$^1$, H.K. Leerberg$^1$, S. Birkemose$^1$, S. Toth$^2$, U. Stuhr$^2$, M. Bartovic$^2$, C. Niedermayer$^2$, Z. Lu$^3$, R. Toft-Petersen$^2$, M. Retuerto$^5$ and K. Lefmann$^1$ 1. Niels Bohr Institute, University of Copenhagen, København Ø, Denmark; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Helmholtz-Zentrum Berlin, Berlin, Germany; 4. Physics, Technical University of Denmark, Lyngby, Denmark; 5. Instituto de Catálisis y Petroleoquímica, Consejo Superior de Investigaciones Científicas, Madrid, Spain

W5-02. Effect of the Eu$^{3+}$ ion Substitution at the Nd site of the NdCr$_2$TiO$_4$. K. Gautam$^1$, A. Ahad$^2$, K. Dey$^1$, S. Majid$^2$, S.K. Sharma$^3$, J. Coaquira$^3$, S. Francoual$^4$ and D. Shukla$^1$ 1. Department of Physics, Kookmin University, Seoul, The Republic of Korea

W5-03. Magnetic and electrical properties of $R$Ir$_x$ (R = Tb, Er). K. Ueda$^1$ and T. Tsutaoka$^1$ 1. Graduate School of Education, Hiroshima University, Higashi-Hiroshima, Japan

W5-04. Origin of Magnetocrystalline Anisotropy in Trigonal Magnetics with Zero Orbital Moment. J. Kliava$^1$, K. Seleznyova$^2$, M. Strugatsky$^2$, A. Drobosev$^1$, S. Yaipov$^2$ and V. Zubov$^4$ 1. LOMA, Université de Bordeaux, Talence, France; 2. Physics and Technology Institute, Crimean Federal University, Simferopol, Russian Federation; 3. P.L. Kapitza Institute for Physical Problems, RAS, Moscow, Russian Federation; 4. Lomonosov Moscow State University, Moscow, Russian Federation

W5-05. Non-equilibrium phase transitions in magnetic systems. A. Galda$^{1,2}$ and V. Vinokur$^1$ 1. James Franck Institute, University of Chicago, Chicago, IL, United States; 2. Materials Science Division, Argonne National Laboratory, Lemont, IL, United States

W5-06. Magnetic and electrical properties of $R$Ir$_x$ (R = Tb, Er). K. Ueda$^1$ and T. Tsutaoka$^1$ 1. Graduate School of Education, Hiroshima University, Higashi-Hiroshima, Japan

FRIDAY MORNING 10:00

Session W5
MULTIFERROICS III
(Poster Session)
Helen Walker, Chair
STFC, Didcot, United Kingdom

W5-01. Spin waves in multiferroic Ni$_x$TeO$_y$. J. Lass$^{1,2}$, C.R. Andersen$^1$, J.O. Birk$^1$, H.K. Leerberg$^1$, S. Birkemose$^1$, S. Toth$^2$, U. Stuhr$^2$, M. Bartovic$^2$, C. Niedermayer$^2$, Z. Lu$^3$, R. Toft-Petersen$^2$, M. Retuerto$^5$ and K. Lefmann$^1$ 1. Niels Bohr Institute, University of Copenhagen, København Ø, Denmark; 2. Paul Scherrer Institut, Villigen, Switzerland; 3. Helmholtz-Zentrum Berlin, Berlin, Germany; 4. Physics, Technical University of Denmark, Lyngby, Denmark; 5. Instituto de Catálisis y Petroleoquímica, Consejo Superior de Investigaciones Científicas, Madrid, Spain

W5-02. Effect of the Eu$^{3+}$ ion Substitution at the Nd site of the NdCr$_2$TiO$_4$. K. Gautam$^1$, A. Ahad$^2$, K. Dey$^1$, S. Majid$^2$, S.K. Sharma$^3$, J. Coaquira$^3$, S. Francoual$^4$ and D. Shukla$^1$ 1. Material Science, UGC-DAE,CSR, Indore, India; 2. Physics, Aligarh Muslim University, Aligarh, ALIGARH, India; 3. Laboratory of Magnetic Materials, University of Brasilia, NFA, Brazil; 4. Photon Science, Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany; 5. Physics, Universidade Federal do Maranhão, Sao Luis, Brazil

W5-03. Magnetic and electrical properties of $R$Ir$_x$ (R = Tb, Er). K. Ueda$^1$ and T. Tsutaoka$^1$ 1. Graduate School of Education, Hiroshima University, Higashi-Hiroshima, Japan
W5-03. Field-induced antiferromagnetic cone structure in multiferroic BiFeO₃, M. Matsuda¹, S. Dissanayake¹, Y. Ozaki², T. Ito³, X. Liu², M. Bartkowiak¹ and O. Prokhnenko¹ 1. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. AIST, Tsukuba, Japan; 3. Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany

W5-04. Magnetic and magneto-dielectric coupling behavior of HoBaNiO₄, a Haldane spin-chain compound, S.K. Upadhyay¹ and E. Sampathkumaran¹ 1. Tata Institute of Fundamental Research, Mumbai, India

W5-05. Spin dynamics and exchange interactions in CuO measured by neutron scattering, H. Jacobsen¹, S. Gaw¹, A. Princep², E. Hamilton¹, S. Toth¹, R. Ewings¹, M. Enderle⁵, E. Hétoy-Wheeler³, D. Prabhakaran¹ and A. Boothroyd¹ 1. Department of Physics, University of Oxford, Oxford, United Kingdom; 2. ISIS Neutron and Muon Source, Rutherford Appleton Laboratory, Oxford, United Kingdom; 3. Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut, Villigen, Switzerland; 4. ISIS, Rutherford Appleton Laboratory, Didcot, United Kingdom; 5. Institut Laue Langevin, Grenoble, France

W5-06. Withdrawn

W5-07. Effect of Co-Doping in KNbO₃ Samples on the Multiferroic Properties at Room Temperature, J.A. Astudillo¹, S. Dionizio², J.L. Izquierdo¹, O. Morán¹, J.L. Heiras Aguirre¹ and G. Bolaños Pantoja¹ 1. Physics, Universidad del Cauca, Popayán, Colombia; 2. Physics, Universidad del Cauca, Popayán, Colombia; 3. Faculty of Engineering, Institución Universitaria Pascual Bravo, Medellín, Colombia; 4. Physics, Universidad Nacional de Colombia, Medellín, Colombia; 5. Centro de Nanociencias y Nanotecnología, Universidad Nacional Autónoma de México, Ensenada, Mexico; 6. Physics, Universidad del Cauca, Popayán, Colombia

W5-08. Pressure effects on the Magnetic phases in Mn₁₋ₓCoₓWO₄: x = 0.05 and 0.12, M.J. Gooch¹, N. Poudel¹, B. Lorenz¹, K. Liang¹, J. Wang¹, F. Ye¹, J. Fernandez-Baca¹ and C. Chu¹ 1. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States; 2. Physics and Astronomy, The University of Tennessee, Knoxville, TN, United States; 3. Texas Center for Superconductivity, University of Houston, Houston, TX, United States; 4. Lawrence Berkeley National Laboratory, Berkeley, CA, United States

W5-09. Withdrawn

W5-10. Nature of spiral state, electric polarisation and magnetic transitions in Sr-doped YBaCuFeO₄ from first-principles study, D. Dey², S. Nandy², T. Maity¹, C.S. Yadav² and A. Taraphder¹ 1. Physics Department, Indian Institute of Technology, Roorkee, Roorkee, India; 2. Physics, Indian Institute of Technology Kharagpur, Kharagpur, India; 3. School of Basic Sciences, Indian Institute of Technology Mandi, Mandi, India

W5-11. Magnetic order in rare-earth ferroborate CeFe₅(BO₃)₄, S. Hayashida¹, S. Asai¹, D. Kato¹, S. Hasegawa¹, M. Avdeev², H. Cao¹ and T. Masuda¹ 1. University of Tokyo, Kashiwa, Japan; 2. Australian Nuclear Science and Technology Organization, Menai, NSW, Australia; 3. School of Chemistry, The University of Sydney, Sydney, NSW, Australia; 4. Oak Ridge National Laboratory, Oak Ridge, TN, United States

W5-12. Magnetolectric effect in frustrated spinel CoAl2O4 single crystal, C. De¹ 1. CPMU, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India

FRIDAY SAN FRANCISCO BALLROOM
10:00
Session W6
MULTIPOLAR SCES 2: OTHER MATERIALS, MOSTLY HEAVY FERMION (Poster Session)
Alix McCollam, Chair
Radboud University, Nijmegen, Netherlands

W6-01. Anomalous Pressure Effect on the Néel Temperature and Volume of DyB₆, G. Oomi¹, T. Eto¹, T. Sakai², Y. Uwatoko¹ and S. Kumi² 1. Kurume Institute of Technology, Fukuoka, Japan; 2. National Institute of Technology, Omuta, Japan; 3. Department of Physics, Sendai, Japan

W6-02. Kondo Destruction in Multipolar Order: Implications for Heavy-Fermion Quantum criticality, H. Lai¹ 1. Physics and Astronomy, Rice University, Houston, TX, United States

W6-03. Transport properties of multipolar ordering compounds Ce(Pd,Pt)₅S₄, S. Michimura¹, U. Nishikawa², R. Iizuka², R. Numakura² and M. Kosaka² 1. Research and Development Bureau, Saitama University, Saitama-city, Japan; 2. Graduate School of Science & Engineering, Saitama University, Saitama-city, Japan

W6-04. Withdrawn

W6-05. Sequential Localization and Strange-metal Behavior in a Multipolar Kondo System, A. Cai¹ 1. Physics and Astronomy, Rice University, Houston, TX, United States; 2. University of British Columbia, Vancouver, BC, Canada; 3. Renmin University of China, Beijing, China; 4. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria
W7-03. Time crystals realized by spatial translation and its symmetry breaking. K. Mizuta,1 K. Takasan,1 M. Nakagawa2 and K. Norio1 1. Department of Physics, Kyoto University, Kyoto, Japan; 2. RIKEN, Wako, Japan


W7-05. Emission Noise in an Interacting Quantum Dot: Role of Inelastic Scattering and Asymmetric Coupling to the Reservoirs. A. Crépieux2, S. Sahoo1,3, T. Duong2, R. Zamoum4 and M. Lavagna1 1. Univ. Grenoble Alpes, CEA INAC-PHELIQS, Grenoble, France; 2. Aix Marseille Univ., Université de Toulon, CNRS CPT UMR 7332, Marseille, France; 3. Physics Department and Research Center OPTIMAS, University of Kaiserslautern, Kaiserslautern, Germany; 4. Faculté des sciences et des sciences appliquées Université de Bouira, Bouira, Algeria

W7-06. Differential conductances and charge susceptibility of a double quantum dot. M. Lavagna1, V. Talbo1, T. Duong2 and A. Crépieux2 1. Univ. Grenoble Alpes, CEA INAC-PHELIQS, Grenoble, France; 2. Aix Marseille Univ., Université de Toulon, CNRS CPT UMR 7332, Marseille, France

W7-07. Role of the surface state in the Kondo effect of Co single adatoms on Ag(111). Q. Li1, C. Zheng1, R. Wang1,2, K. Xie1, X. Li1, B. Miao1,2, R. Cao1, L. Sun1,2, D. Wu1,2, Y. Wu1,4, S. Li1,3, B. Wang1,3 and H. Ding1,3 1. Department of Physics, Nanjing University, Nanjing, China; 2. Department of Physics and Astronomy, Shanghai Jiao Tong University, Shanghai, China; 3. Collaborative Innovation Center of Advanced Microstructures, Nanjing, China; 4. College of Physics Science and Technology, Yangzhou University, Yangzhou, China; 5. Department of Physics, Fudan University, Shanghai, China

W7-08. Withdrawn

W7-09. Withdrawn
W8-01. Multifunctional Spintronic Device Based on a Molecule/Metal Oxide Interface. M.D. Rogers1, T. Moorsom1, I. Scivetti2, S. Bandaru3, G. Teobaldi3, M. Valdarese4, M. Flokstra5, S. Lee5, R. Stewart5, T. Prokscha6, P. Gargiani7, G. Stefanou1, M. Ali1, F. Al Ma’Mari1, G. Burnell1, B. Hickey1 and O. Cespedes1. 1. Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. Department of Chemistry, Stephenson Institute for Renewable Energy, Liverpool, United Kingdom; 3. Engineering, University of St. Andrews, St. Andrews, United Kingdom; 4. Physical Science and Engineering Division (PSE), King Abdullah University of Science and Technology (KAUST), Jeddah, Saudi Arabia; 5. School of Physics and Astronomy, University of St. Andrews, St. Andrews, United Kingdom; 6. Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen, Switzerland; 7. Department of Physics, Sultan Qaboos University, Muscat, Oman

W8-02. Electrically detected spin transport in conjugated organic polymers. S. Wang1, D. Venkateshvaran1, R. Di Pietro2, M. Cubukcu1, T. Wagner2, E. McNellis3, A. Wittmann1, G. Schweicher1, K. Kang1, C. Jellet4, M. Little1, I. McCulloch1, J. Wunderlich2, J. Sinova3 and H. Sirringhaus1. 1. Optoelectronics Group, Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Hitachi Cambridge Laboratory, Cambridge, United Kingdom; 3. Institute of Physics, Johannes Gutenberg-Universität, 55128 Mainz, Mainz, Germany; 4. Department of Chemistry, Imperial College, London, United Kingdom

W8-03. Spin transport in poly-acene films and the derivative films by using the spin-pumping. Y. Tanaka1, T. Kono1, Y. Teki2 and E. Shikoh1. 1. Graduate School of Engineering, Osaka City University, Osaka, Japan; 2. Engineering, Osaka City University, Osaka, Japan; 3. Science, Osaka City University, Osaka, Japan

W8-04. Withdrawn

W8-05. Defect-mediated ferromagnetism in doped and undoped Cu,O thin films. M.A. Tumelero1, I.S. Brandt2 and A.A. Pasa1. 1. Physics Department, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; 2. Departamento de Física, Universidade Federal de Santa Catarina, Florianopolis, Brazil

W8-06. Electrical and Optical Characterization of Fe/n-GaAs Non-Local Spin Valve. J. Kim1, M. Samiepour1, J. Ryu1, D. Iizasa1, T. Saito1, M. Kohda1, J. Nitta1, H. Beere1, D. Ritchie1, E. Jackson3 and A. Hirohata1. 1. University of York, York, United Kingdom; 2. Materials Science, Tohoku University, Sendai, Japan; 3. Physics, University of Cambridge, Cambridge, United Kingdom

W8-07. Measurement of the Overhauser field in a two-dimensional electron system. X. Qian1 and Y. JF1. 1. Institute of Semiconductors, Chinese Academy of Science, Beijing, China

W8-08. Withdrawn

W8-09. Influence of in-situ x-ray exposure on the magnetotransport properties of NPB and MADN based blue OLED structures. J. Bobo1, R. Monflier2, L. Salvagnac2, E. Bedel Pereira2 and I. Séguy2. 1. CEMES CNRS, Toulouse, France; 2. LAAS CNRS, Toulouse, France
W9-05. Multilayer skyrmions stabilized at high temperature.
K. Song1,2, J. Jeong1,2, H. Kwon1,3, S. Woo1, C.Y. Won1, H. Chang1,2, J. Choi1 and B. Min1,4. 1. Center for Spintronics, Korea Institute of Science and Technology (KIST), Seoul, The Republic of Korea; 2. Department of Physics, Soomyang Women’s University, Seoul, The Republic of Korea; 3. Advanced Analysis Center, Korea Institute of Science and Technology, Seoul, The Republic of Korea; 4. Department of Physics, POSTECH, Pohang, The Republic of Korea.


W9-07. Search for Small Skyrmion in Amorphous Ferrimagnets. C.T. Ma1, Y. Xie2, J. Ma2, Y. Tan2, H. Vakilitaleghani2, A. Ghosh3 and J. Poon1. 1. Department of Physics, University of Virginia, Charlottesville, VA, United States; 2. Department of Electrical and Computer Engineering, University of Virginia, Charlottesville, VA, United States.

W9-08. Computational search for ultrasmall and fast skyrmions in the Heusler family. Y. Xie1, J. Ma1, Y. Tan1, C.T. Ma2, H. Vakilitaleghani2, J. Poon2 and A. Ghosh1. 1. Department of Physics, University of Virginia, Charlottesville, VA, United States; 2. Department of Electrical and Computer Engineering, University of Virginia, Charlottesville, VA, United States.

W9-09. Withdrawn

W9-10. Withdrawn

FRIDAY MORNING
SAN FRANCISCO BALLROOM
10:00

Session W10
SOFTWARE MATERIALS AND MAGNETIC SHIELDING VII (Poster Session)
Rie Umemu, Chair
Tohoku University, Sendai, Japan

W10-01. Magnetic properties of FeNiMo compacted powder. D. Oleksakova1, P. Kollar2, M. Jakubcin2, P. Slovensky2 and J. Fuzer2. 1. Faculty of Manufacturing Technologies with seat in Presov, Technical University in Košice, Presov, Slovakia; 2. Institute of Physics, Faculty of Science, P.J. Safárik University, Košice, Slovakia.

W10-02. Effects of static and exchange fields on magnetization reversal time with different damping constants in soft magnetic material. H. Ohta1, F. Akagi2 and K. Yoshida2. 1. Electrical and Electronics Engineering, Kagakui University, Shinjuku-ku, Japan; 2. Kagakui University, Shinjuku-ku, Japan.

W10-03. Magneto-optical Terbium Iron Garnet and Ce-substituted TbIG thin films for integrated photonics. T. Fakhrul1, Y. Zhang1, L. Berani2, E.R. Rosenberg1, M. Veis1 and C. Ross1. 1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, United States; 2. Institute of Physics, Charles University, Prague 2, Czechia; 3. Massachusetts Institute of Technology, Cambridge, MA, United States; 4. Institute of Physics, Charles University, Prague, Czechia.

W10-04. Withdrawn


W10-08. Room temperature ferromagnetism of non-magnetic band insulator of (LaO)ZnPn (Pn=P, As, Sb). K. Takase1, T. Shimomura1, Y. Takano1 and Y. Hara2. 1. Physics, Nihon University, Tokyo, Japan; 2. National Institute of Technology, Ibaraki College, Hitachinaka, Japan.

W10-09. Effects of rapid solidification and annealing on magnetic properties of LaFe11.38Mn0.32Si1.3 compound. B. Macan1, K. Sarlar2, E. Civan3 and I. Kucuk1. 1. Uludag University, Bursa, Turkey; 2. National Defence University, Izmir, Turkey.


Session W11
SPIN STRUCTURES AND TRANSPORT PROPERTIES IV
(Poster Session)
Seiya Shimo, Chair
Osaka Prefecture University, Sakai, Japan

W11-01. Electronic and magnetic properties of single-layer MPX3 metal phosphorous trichalcogenides. B. Chittari1, Y. Park1, D. Lee1, M. Han1, A. MacDonald2, E. Hwang3 and J. Jung1

W11-02. Magnetic moments and correlation effects in Co-doped Nb and V clusters. A. Diaz Bachs1, L. Peters1, V. Cherny1, R. Logemann1, J. Bakker2, M. Katsnelson1 and A. Kirilyuk2
1. Institute for Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands; 2. FELIX Laboratory, Radboud University, Nijmegen, Netherlands

W11-03. Magnetic ordering on a boron-doped Si(111)-√3×√3 surface. C. Moon1, D. Eom1 and J. Koo1
1. Quantum Technology Institute, Korea Research Institute of Standards and Science, Daejeon, The Republic of Korea

W11-04. Angle resolved photoemission spectroscopy study of Ce-doped Bi2Se3 3D topological insulator. E. Lee1, S. Seong1, J. Kim1, M. Jung2, B. Park1 and J. Kang1
1. Physics, The Catholic University of Korea, Bucheon, The Republic of Korea; 2. Department of Physics, Sogang University, Seoul, The Republic of Korea; 3. Pohang Accelerator Laboratory, Pohang, The Republic of Korea

W11-05. Long-Lived Surface Photovoltage in Bulk Insulating Topological Insulator Revealed by Time-Resolved ARPES. S.T. Cioci1,2, K. Gottlieb1,2, C. Lin1,2, T. Morimoto1, C. Jozwiak1, J. Analytis2, Z. Hussain2 and A. Lanzara4
1. Physics, University of California, Berkeley, Kensington, CA, United States; 2. Material Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Applied Science and Technology, University of California, Berkeley, Berkeley, CA, United States; 4. University of California, Berkeley, Berkeley, CA, United States; 5. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 6. Physics, University California, Berkeley, Berkeley, CA, United States

W11-06. Formation of antiferromagnetic NiO spiral domain and its effect on the magnetic anisotropy in Py/NiO/Co0.5 Ni0.5O/vincial Ag(001). M. Yang1, Q. Li1, N. Gao1, A.T. N’Diaye2, Q. Dong1, C. Klewe1, P. Shafer2, E. Arenholz2, C. Hwang1, J. Li1 and Z. Qiu1
1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Korea Research Institute of Standards and Science, Daejeon, The Republic of Korea; 4. School of Physics, International Center for Quantum Materials (ICQM), Beijing, China

1. Physics, Tohoku University, Sendai, Japan; 2. RIKEN, Saitama, Japan

W11-08. Withdrawn

W11-09. Giant Rashba-type spin splitting through spin-dependent interatomic hopping. J. Hong1, J. Rhim2, I. Song2, C. Kim2, S. Park1 and J. Shim1

W11-10. Withdrawn

W11-11. Withdrawn

FRIDAY 295
W12-03. Observation of complementary transistor operation using the Rashba channel. J. Park, J. Choi, H. Kim, J. Chang and H. Koo1,2. 1. Spin Convergence Research Center, Korea Institute of Science and Technology, Seoul, The Republic of Korea; 2. KU-KIST Graduate School of Converging Science and Technology, Korea University, Seoul, The Republic of Korea

W12-04. Monotonicity of the spin signal by controlling the growth of silver in Py/Ag/Py lateral spin valves. G. Stefanou1, K.A. Moran1, M. Ali2, M. Rosamond3, G. Burnell3 and B. Hickey1. 1. School of Engineering, University of Leeds, Leeds, United Kingdom; 2. Electronic and Electrical Engineering, University of Leeds, Leeds, United Kingdom

W12-05. Structural and Spin Transport Properties of CoFeSi/MgO/GaAs(001) Heterostructures. G. Hoffmann1, M. Ramsteiner1, B. Jenichen1 and J. Herfort1. 1. Paul-Drude-Institute, Berlin, Germany

W12-06. Inverse spin-Hall effect in Pd/NiFe bilayer films under a mechanical strain. K. Yasuda1, Y. Teki2, H. Tsujimoto3 and E. Shikoh1. 1. Graduate School of Engineering, Osaka City University, Osaka, Japan; 2. Science, Osaka City University, Osaka, Japan; 3. Engineering, Osaka City University, Osaka, Japan

W12-07. Vertical spin transport in Cu with NiFe2Sb/Cu/Pd trilayer films using the spin-pumping. T. Kitamura1, Y. Teki3 and E. Shikoh1. 1. Graduate School of Engineering, Osaka City University, Osaka, Japan; 2. Engineering, Osaka City University, Osaka, Japan; 3. Science, Osaka City University, Osaka, Japan


W12-09. Evidence for anisotropic Berry phase effect in epitaxial MnAs films. J. Ma1, H. Wang1, X. Wang2 and J. Zhao1. 1. State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China

W12-10. Two types of sign change of anomalous Hall effect in heavy metal/ferrimagnetic insulator heterostructures. Q. Shao1, A.J. Grutter1, C. Tang1, G. Yu1, Y. Liu1, C. Yang1, D.A. Gilbert2, E. Arenholz2, Q. He3, B.J. Kirby4, J. Shi5 and K.L. Wang6. 1. Electrical and Computer Engineering, UCLA, Los Angeles, CA, United States; 2. NIST Center for Neutron Research, NIST, Gaithersburg, MD, United States; 3. Physics and Astronomy, UCR, Riverside, CA, United States; 4. Advanced Light Source, LBNL, Berkeley, CA, United States

W12-11. Extraordinary Hall effect in Pd/[Co-SiO x] multilayer thin films with perpendicular magnetic anisotropy. S. Miched1, S. Oyarzún2 and J.C. Denardin2. 1. Institute of Applied Chemical Sciences, CEDENNA, Universidad Autónoma de Chile, Santiago, Chile; 2. Physics Department, CEDENNA, Universidad de Santiago de Chile, Santiago, Chile

W13-01. Superconductivity in new Oxyanion Superconductors: TlSr2CuO3(SO4)1-x(CrO4)x. H. Lee1. 1. Physics, Kangwon National University, Chuncheon, The Republic of Korea

W13-02. Interfacial-Redox-Induced Tuning of Superconductivity in YBa2Cu3O7-δ. P. Murray1, D. Gilbert2, A.J. Grutter2, B.J. Kirby2, Z.E. Brubaker1,3, R.V. Chopdekar1,4, V. Taufour1, R. Zieve1, J.R. Jeffries2, E. Arenholz3, Y. Takamura1, J. Borchers2 and K. Liu1,4. 1. Physics Department, University of California, Davis, CA, United States; 2. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, United States; 3. Lawrence Livermore National Laboratory, Livermore, CA, United States; 4. Department of Materials Science and Engineering, University of California, Davis, CA, United States; 5. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 6. Physics Department, Georgetown University, Washington, DC, United States

W13-03. Fully Polarized RIXS of Superconducting Cuprates. R. Fumagalli1, M. Minola2, M. Moretti2, Y. Peng3, K. Kummer4, E. Lefrancos5, C. Morave6, M. Salluzzo1, H. Suzuki2, F. Hakhou1, M. Le Tacon1, B. Keimer2, N.B. Brookes6, G. Ghiringhelli1 and L. Braccio1. 1. Politecnico di Milano, Milano, Italy; 2. Karlsruhe Institute of Technology, Karlsruhe, Germany; 3. Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 4. University of Illinois at Urbana-Champaign, Urbana-Champaign, IL, United States; 5. CNRS-SPIN, Napoli, Italy; 6. Karlruhe Institute of Technology, Karlsruhe, Germany; 7. European Synchrotron radiation Facility, Grenoble, France

W13-04. Pressure enhanced superconducting phase of the metallic double chain compound PrBa2Cu3O6+δ. H. Taniguchi1, R. Kumagai1, M. Matsukawa2 and T. Sasaki2. 1. Department of Physical Science and Materials Engineering, Iwate University, Morioka, Japan; 2. Department of Physical Science and Materials Engineering, Iwate University, Morioka, Japan; 3. IMR, Tohoku University, Sendai, Japan
W13-05 The Fermi Surface of Nd-LSCO Inside the Pseudogap State.
B. Ramshaw1, L. Taillefer2, P. Goddard1 and A. Legros3
1. Physics, Cornell University, Ithaca, NY, United States; 2. University of Sherbrooke, Sherbrooke, QC, Canada; 3. University of Warwick, Coventry, United Kingdom

W13-06 Dual fermion approach to the Fermi arc formation in the two-dimensional square-lattice Hubbard model. A. Tanaka1
1. Department of Quantum Matters, ADSM, Hiroshima University, Hiroshima, Japan

S. Badoux1,2, W. Tabis3, F. Laliberté2, G. Grissonnanche2, B. Vignolle1, D. Vignolles2, J. Béard1, D.A. Bonn1, W.N. Hardy1,2, R. Liang1,2, N. Doiron-Leyraud2, L. Taillefer2,5 and C. Proust2,5 1. University of Bristol, Bristol, United Kingdom; 2. Université de Sherbrooke, Sherbrooke, QC, Canada; 3. LNCMI, Toulouse, France; 4. University of British Columbia, Vancouver, BC, Canada; 5. CIFAR, Toronto, ON, Canada

W13-08 Hybridization Effects on the Pseudogap of Hole and Electron Regimes of a Hubbard d-p Model. E.J. Calegari1, D.D. Lalish1, S.G. Magalhaes1, C.M. Chaves1 and A. Troper1
1. Physics, Universidade Federal de Santa Maria, Santa Maria, Brazil; 2. Physics, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; 3. EXP, Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil

W13-09 Withdrawn

W13-10 Al-impurity-induced magnetic excitations in heavily overdoped La_{2-x}Sr_{x}CuO_4. K. Ikeuchi1, S. Kawamura2, K. Nakajima3, R. Kajimoto2, S. Wakimoto3, K. Suzuki4 and M. Fujita1 1. Neutron Science and Technology Center, CROSSTokai, Japan; 2. J-PARC Center, Tokai, Japan; 3. JAERI, Tokai, Japan; 4. IMR, Tohoku University, Sendai, Japan

W13-11 Model-mapped RPA to determine a model Hamiltonian from first-principles. H. Sakakibara1, S. Jang2, H. Kino3, M. Han2, K. Kuroki2 and T. Kotani1 1. Department of Applied Mathematics and Physics, Tottori University, Tottori, Japan; 2. Department of Physics, Seoul National University, Seoul, South Korea; 3. National Institute for Materials Science (NIMS), Tsukuba, Japan; 4. Department of Physics, Osaka University, Toyonaka, Japan; 5. Applied Mathematics and Physics, Tottori University, Tottori, Japan

W13-12 Quantized Massive Gauge Fields, Anomalous Angle-resolved Photoemission Spectra, and Other Anomalous Properties in High-Tc Cuprates. I. Kanazawa1 1. Physics, Tokyo Gakugei University, Tokyo, Japan

W13-13 Withdrawn

W13-14 Withdrawn

W14-08. Observation of a double-Q spin-density wave in hole-doped iron arsenide superconductors. S. Rosenkranz$^1$, J. Allred$^{1,2}$, K. Taddei$^{1,3}$, D. Bugaris$^4$, M.J. Krogstad$^{4,5}$, S. Lapidus$^6$, D.Y. Chung$^7$, M. Kanatzidis$^{7,8}$, D.E. Brown$^7$, O. Chmaissem$^{9,10}$ and R. Osborn$^{1,11}$. 1. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 2. Department of Chemistry & Biochemistry, University of Alabama, Tuscaloosa, AL, United States; 3. Oak Ridge National Laboratory, Oak Ridge, TN, United States; 4. Department of Physics, Northern Illinois University, DeKalb, IL, United States; 5. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, United States; 6. Department of Chemistry, Northwestern University, Evanston, IL, United States

W14-09. Resonant Ultrasound Spectroscopy of the Nematic Transition in an Iron-Based Superconductor. S.K. Lewin$^{1,2}$, V. Nagarajan$^{1,2}$, E. Lachman$^{1,3}$ and J. Analytis$^{1,2}$. 1. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States

W14-10. Nematic fluctuations in iron arsenide superconducting system probed by $^{75}\text{As NMR}$. Y. Kobayashi$^1$, M. Toyoda$^1$ and M. Itoh$^1$. 1. Department of Physics, Nagoya University, Nagoya, Japan

W14-11. Superconducting gap structure and its temperature dependence of layered iron-free pnictide superconductor $\text{BaPd}_2\text{As}_4$. A.S. Usoilshev$^1$, T.A. Romanova$^1$ and M. Abdel-Hafiez$^2$. 1. P.N. Lebedev Physical Institute, Russian Academy of Sciences, Moscow, Russian Federation; 2. Institute of Physics, Goethe University Frankfurt, Frankfurt, Germany


W14-13. Low temperature heat capacity in the iron-based superconductor $\text{YFe}_2\text{Ge}_2$. K.J. Murphy$^1$, J. Chen$^1$, J. Banda$^1$, J. Baglo$^{1,2}$, M. Brando$^3$, M. Sutherland$^4$ and M. Grosche$^5$. 1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Max Planck Institute for Chemical Physics of Solids, Dresden, Germany


W15-02. Low temperature magnetism of gold nano particles contained in electrochemical sugar recognition system. T. Goto$^1$, Y. Kitamoto$^2$, K. Matsui$^3$, H. Kuroe$^4$, A. Endo$^5$, T. Hashimoto$^5$, T. Hayashita$^6$, S. Iguchi$^7$ and T. Sasaki$^8$. 1. Physics Division, Sophia University, Chiyodaku, Japan; 2. Department of Materials and Life Science, Sophia University, Tokyo, Japan; 3. Institute for Materials Research, Tohoku University, Sendai, Japan

W15-03. Observation of Dzyaloshinskii-Moriya Interaction Effect in Co/Pt Multilayers with variation of repeat number. L. Huang$^1$, J. Jung$^2$, C. You$^2$ and D. Kim$^1$. 1. Department of Physics, Chungbuk National University, Cheongju, The Republic of Korea; 2. Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Daegu, The Republic of Korea


W15-05. Magnetic properties of Fe/Pd(001) bilayer affected by quantum-well states formed in Pd layer. K. Mochihara$^1$, S. Nakahara$^1$, S. Sakuragi$^2$, M. Sawada$^1$ and T. Sato$^1$. 1. Department of Applied Physics and Physico-Informatics, Keio University, Yokohama-shi, Japan; 2. ISSP, The University of Tokyo, Kashiwa-shi, Japan; 3. Hiroshima Synchrotron Radiation Center, Hiroshima University, Higashihiroshima-shi, Japan
W15-06. Differential Conductance Anomalies in Superconducting Vanadium and Niobium with Hydrogen and Deuterium Impurities. S. Wen¹, M.S. Islam¹, H. Takata¹, M. Shiga¹, Y. Inagaki¹, K. Hashizume² and T. Kawae¹ ¹. Applied Quantum Physics, Kyushu University, Fukuoka, Japan; ². Advanced Energy Engineering Science, Kyushu University, Fukuoka, Japan

W15-07. Low temperature divergence in the AHE and AMR of ultra-thin Pt/Co/Pt trilayers. E. Zion¹ ¹. Physics, Bar Ilan University, Tel Aviv, Israel

W15-08. Enhanced magneto-optical Kerr effect and Faraday effect at Fe/insulator interfaces. B. Gui¹ ¹. Kavli Institute for Theoretical Sciences, University of Chinese Academy of Sciences, Beijing, China; 2. Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan

Session X1
PLENARY IV: HIDDEN MAGNETIC ORDER IN MULTIFERROICS AND SUPERCONDUCTORS
Mark Stiles, Chair
National Institute of Standards and Technology, Gaithersburg, MD, United States

11:30
X1-01. Hidden Magnetic Order in Multiferroics and Superconductors. (Invited) N.A. Spaldin¹ ¹. ETH Zürich, Zürich, Switzerland

Session Y1
EMERGING PHENOMENA IN VAN DER WAALS MAGNETS
Steve May, Chair
Drexel University, Philadelphia, PA, United States

1:30
Y1-01. Evidence for Topological Order in a Magnetic van-der-Waals Material. (Invited) K. Burch¹ ¹. Physics, Boston College, Chestnut Hill, MA, United States

ESPLANADE BALLROOM
FRIDAY MORNING
11:30

ESPLANADE 157
FRIDAY AFTERNOON
1:30

Session Y2
THEORY AND SIMULATION OF MAGNETIC SYSTEMS IV
Anders Sandvik, Chair
Boston University, Boston, MA, United States

1:30
Y2-01. Tensor Network Study on Kitaev Materials. (Invited) T. Okubo¹ ¹. Department of Physics, The University of Tokyo, Tokyo, Japan

2:00
Y2-02. A Clear Understanding of the Skyrmionic A-phase Stability in MnSi. V. Laliena¹, J. Campo¹ and G. Albalate¹ ¹. Aragon Materials Science Institute (CSIC-UZ), Zaragoza, Spain

2:15
Y2-03. The Bosonic RKKY Effect: Magnetic Order in a Dissipative Spin Chain. M. Butler¹, J. Pixley² and A. Nevidomskyy¹ ¹. Physics and Astronomy, Rice University, Houston, TX, United States; ². Rutgers University, Highland Park, NJ, United States

2:30
Y2-04. Specific heat and non-linear susceptibility in the spin glass state with random fields. M.V. Romitti¹, F. Zimmer¹, C.A. Morais² and S.G. Magalhaes³ ¹. Physics, Universidade Federal de Santa Maria, Santa Maria, Brazil; ². Physics, Universidade Federal de Pelotas, Pelotas, Brazil; ³. Physics, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil

2:45
Y2-05. Boosting the Modeling of Heusler Alloy Using Game Tree Search. R. Sawada¹, Y. Iwasaki¹² and M. Ishida¹ ¹. IoT Device Laboratory, NEC Corp, Tsukuba, Japan; ². JST-PRESTO, Tokyo, Japan
Session Y4
THIN FILM AND HYBRID NANOSTRUCTURES III
Yayoi Takamura, Chair
University of California, Davis, Davis, CA, United States

1:30
Y4-01. Studying The 3D Magnetization Of Ultrathin And Antiphase-Boundary Free Spinel Crystals. (Invited)
A. Quesada1, J. de la Figuera1, S. Ruiz-Gomez2, L. Perez2, A. Mascaraque2, A. Mandziak3, C. Munuera2, L. Martin-Garcia1, P. Prieto2, I. Palacio1, M. Foerster4 and L. AballeA
1. Electroceramics, Instituto de Cerámica y Vidrio (CSIC), Madrid, Spain; 2. Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain; 3. Instituto de Quimica-Fisica Rocosolano (CSIC), Madrid, Spain; 4. ALBA Synchrotron Light Source, Cerdanyola del Vallès, Spain; 5. Instituto de Ciencia de Materiales de Madrid (CSIC), Madrid, Spain; 6. Fisica Aplicada, Universidad Autónoma de Madrid, Madrid, Spain

2:00
Y4-02. Real-space imaging of topological spin textures and their dynamics. X. Yu1 and Y. Tokura1
1. RIKEN, Saitama, Japan; 2. RIKEN Center for Emergent Matter Science (CEMS), Saitama, Japan

2:15
Y4-03. Experimental Evidence of Chiral Ferrimagnetism in Amorphous GdCo Films. R. Streubel1, C. Lambert2, N. Kent1, P. Ercius3, A.T. N’Diaye4, C. Ophus1, S. Salahuddin4 and P. Fischer1,2
1. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 2. ETH Zurich, Zurich, Switzerland; 3. Physics, University of California, Santa Cruz, Berkeley, CA, United States; 4. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 5. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 6. University of California, Berkeley, Berkeley, CA, United States; 7. Lawrence Berkeley National Laboratory, Berkeley, CA, United States

2:30
Y4-04. Exploring chiral spin textures in in-plane magnets and graphene/metal bilayers. (Invited) G. Chen1,2
1. Department of Physics, University of California, Davis, Davis, CA, United States; 2. Lawrence Berkeley National Laboratory, Davis, CA, United States

Session Y5
FIRST PRINCIPLE SIMULATION OF HARD MAGNETIC PROPERTIES
Olga Vekilova, Chair
Uppsala University, Uppsala, Sweden

1:30
Y5-01. Optimizing the magnetic performance of REFe12−xMx phases – an ab initio study. (Invited) H.C. Herper1, O. Vekilova1 and O. Eriksson1
1. Dept. of Physics and Astronomy, Uppsala University, Uppsala, Sweden

2:00
Y5-02. Theoretical study on the magnetic properties of Sm(Fe1−xCox)12 systems.
H. Tsuchiura1,2 and T. Yoshioka1
1. Department of Applied Physics, Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network, Tohoku University, Sendai, Japan

2:15
Y5-03. First-principles study on the magnetic properties and structural stability of NdFe12−xXx (X = B, C, N, O, F).
Y. Tatetsu1,2, Y. Harashima3,4, T. Miyake4 and Y. Gohda5
1. 1Department of Materials Science and Engineering, Tokyo Institute of Technology, Yokohama, Japan; 2. ESICMM, National Institute for Materials Science (NIMS), Tsukuba, Japan; 3. National Institute for Materials Science, Tsukuba, Ibaraki, Japan; 4. 3CD-FMat, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 5. Tokyo Tech, Yokohama, Japan

2:30
M. Werwinski1,4, S. Kontos2, K. Gunnarson1, P. Svedlindh1, J. Cedervall1, V. Hoglin1, M. Häggblad Sahlberg1, A. Edström4, O. Eriksson1 and J. Rusz1
1. Department of Solid State Theory, Institute of Molecular Physics Polish Academy of Sciences, Poznan, Poland; 2. Department of Engineering Sciences, Uppsala University, Uppsala, Sweden; 3. Department of Chemistry, Uppsala University, Uppsala, Sweden; 4. Physics and Astronomy, Uppsala University, Uppsala, Sweden

2:45
Y5-05. Calculating the Temperature Dependence of the Magnetocrystalline Anisotropy in Rare-Earth-Transition-Metal Ferrimagnets. C.E. Patrick1, S. Kumar1, G. Balakrishnan1, R.S. Edwards1, M.R. Lees1, L. Petit7 and J.B. Staunton1
1. Department of Physics, University of Warwick, Coventry, United Kingdom; 2. Daresbury Laboratory, Warrington, United Kingdom
Session Y6
ANTIFERROMAGNETIC SPINTRONICS: EXPERIMENT
Libor Šmejkal, Chair
Johannes Gutenberg University, Mainz, Germany

1:30
Y6-01. Spin torque control of antiferromagnetic moments in NiO. (Invited) T. Moriyama1 1. Kyoto University, Uji, Japan

2:00
Y6-02. Enhancement of spin transfer torque in antiferromagnetic barrier-based magnetic tunnel junctions. Y. Cheng1, W. Wang1 and S. Zhang1 1. Physics, University of Arizona, Tucson, AZ, United States

2:15
Y6-03. Angular dependence of magnetoresistance in asymmetric and symmetric nonmagnet/antiferromagnet metallic heterostructures. S. Duttagupta1, A. Kurenkov2, R. Itoh3, A. Okada1, S. Fukami3 and H. Ohno3 1. CSRN, Tohoku University, Sendai, Japan; 2. RIEC, Tohoku University, Sendai, Japan; 3. CSIS, Tohoku University, Sendai, Japan

2:30
Y6-04. Current-induced spin-orbit torques in antiferromagnets. C. Song1, X. Zhou1, P. Zhang1, X. Chen1 and F. Pan1 1. Tsinghua University, Beijing, China

2:45
Y6-05. Long Distance Lateral Spin Transport in Antiferromagnetic Insulators. R. Lebrun1, A. Ross1, S. Bender1, A. Qaiumzadeh4, R. Duine1, A. Brataas4 and M. Kläui1 1. Johannes Gutenberg University, Mainz, Germany; 2. Physics, Johannes Gutenberg - University Mainz, Mainz, Germany; 3. University of California, Los Angeles, Los Angeles, CA, United States; 4. Norwegian University of Science and Technology, Trondheim, Norway; 5. University of Utrecht, Utrecht, Netherlands

Session Y7
VOLTAGE CONTROLLED MAGNETIC DYNAMICS
Weigang Wang, Chair
University of Arizona, Tucson, AZ, United States

1:30

1:45
Y7-02. Electric Field-Driven Manipulation of the Magnetization State in BaTiO3/FeCo Micro- and Nano-Structures. R. Lo Conte1, J. Gorchon1,2, A. Mougin3, C. Lambert1, A. El-Ghazaly1, A. Scholl4, S. Salahuddin1 and J. Bokor1,2 1. EECS Department, University of California, Berkeley, Berkeley, CA, United States; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, United States; 3. Laboratoire de Physique des Solides, CNRS, Univ. Paris-Sud, Université Paris-Saclay, ORSAY, France; 4. ALS, Lawrence Berkeley National Laboratory, Berkeley, CA, United States

2:00
Y7-03. Giant Voltage-Controlled Magnetic Anisotropy in Strained Ir / FeCo / MgO Heterostructure. S. Kwon1, P. Ong3,4, Q. Sun1, X. Li2, P. Khalili Amiri3, K.L. Wang2, Y. Kato4, H. Yoda4 and N. Kioussis1 1. Physics and Astronomy, California State University Northridge, Northridge, CA, United States; 2. Electrical Engineering, UCLA, Los Angeles, CA, United States; 3. Northwestern University, Evanston, IL, United States; 4. Toshiba Corporation, Kawasaki, Japan; 5. Physical & Computational Sciences Directorate, Pacific Northwest National Laboratory, Richland, WA, United States

2:15
Y7-04. Robust Room Temperature Magnetolectric Coupling in Multiferroic Materials for Ultralow Energy Spintronic Applications. B. Prasad1, H. Taz2, Y. Huang1, Z. Chen1, V. Thakare1, S. Hsu1, R. Kalyanaraman1,2 and R. Ramesh1,4 1. Department of Materials Science and Engineering, UC Berkeley, Berkeley, CA, United States; 2. Bredesen Center, University of Tennessee, Knoxville, TN, United States; 3. Department of Materials Science and Engineering, University of Tennessee, Knoxville, TN, United States; 4. Department of Physics, University of California, Berkeley, CA, United States
Y8-01. Topological magnon Dirac points in a three-dimensional antiferromagnet. (Invited) W. Yao1, C. Li1, L. Wang1, S. Xue1, Y. Dan1, K. Iida2, K. Kamazawa2, K. Li3, J. Hu1, C. Fang1 and Y. Li1 1. International Center for Quantum Materials, Peking University, Beijing, China; 2. Neutron Science and Technology Center, Comprehensive Research Organization for Science and Society, Tokai, Japan; 3. Institute of Physics, Chinese Academy of Sciences, Beijing, China

Y8-02. Observation of Direct Pu-239 Nuclear Magnetic Resonance in PuB2. E. Bauer1, A. Dioguardi1, H. Yasuoka1, S.M. Thomas1, S. Cary1, S. Kozimor1, J. Thompson1, T. Albrecht-Schmitt2 and F. Ronning1 1. Los Alamos National Laboratory, Los Alamos, NM, United States; 2. Florida State University, Tallahassee, FL, United States

Y8-03. Resonant inelastic X-ray scattering studies of correlated rare-earth systems. J. Hancock1,2 1. Department of Physics, University of Connecticut, Storrs, CT, United States; 2. Institute of Materials Science, University of Connecticut, Storrs, CT, United States
Vanishing Quantum Oscillations in Dirac Semimetal ZrTe₅.
J. Wang, J. Niu, B. Yan, X. Li, R. Bi, Y. Yao, D. Yu and X. Wu
1. Physics, Peking University, Beijing, China; 2. Collaborative Innovation Center of Quantum Matter, Peking University, Beijing, China; 3. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 4. Physics department, Southern University of Science and Technology of China, Beijing, China
Z4-01. Spin Hall Effect Induced Magnetism in Nonmagnetic Metals. (Invited) C. Stamm 1. ETH Zurich, Zurich, Switzerland
Z5-02. Atomic configuration and electronic state of CoVMnAl quaternary Heusler alloy. R.Y. Umetsu1,2, K. Saito1, K. Ono3, T. Fukushima4,5, F. Kuroda6,7, T. Oguchi1,8 and T. Ishigaki9
1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Center for Spintronics Research Network, Tohoku University, Sendai, Japan; 3. Institute of Materials Structure Science, High Energy Accelerator Research Organization, Tsukuba, Japan; 4. Institute for NanoScience Design, Osaka University, Toyonaka, Japan; 5. Institute for Datability Science, Osaka University, Saitama, Japan; 6. Institute of Scientific and Industrial Research, Osaka University, Ibaraki, Japan; 7. CM12-MaDIS, National Institute for Materials Science (NIMS), Tsukuba, Japan; 8. Center for Spintronics Research Network, Osaka University, Toyonaka, Japan; 9. Frontier Research Center for Applied Atomic Sciences, Ibaraki University, Tochigi, Japan

Z5-03. Magnetization process and martensitic microstructure of Ni-Mn-Ga epitaxial films. F. Casoli1, S. Fabbri1, M. Takhsha Ghafrarokhi1, L. Nasi1, R. Cabassi1, F. Celegato2, P. Tiberto2, G. Varvaro1 and F. Albertini1
1. School of Physics and Technology, Nanjing Normal University, Nanjing, China; 2. INRIM, Turin, Italy; 3. CNR - ISM, Rome, Italy

Z5-04. Temperature-dependent interlayer exchange coupling strength in synthetic antiferromagnetic [Pt/Co]/Ru/[Co/Pt] multilayers. P. Pan1, Y. Li1, X. Jin1, N. Zhang1 and F. Ma1
1. School of Physics and Technology, Nanjing Normal University, Nanjing, China

Z5-05. Metallic and Half-Metallic Materials with Ultra-Low Magnetic Damping. (Invited) J. Shaw1
1. NIST, Boulder, CO, United States

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FRIDAY ROOM 105
AFTERNOON
3:30

Session Z6
EXCHANGE BIAS AND EXCHANGE SPRINGS IV
Arantxa Fraile Rodriguez, Chair
Universitat de Barcelona, Barcelona, Spain

3:30

Z6-01. Magneto-Ionic Control of Exchange Bias. (Invited)
P. Murray1, D.A. Gilbert1,2, J. Olami1, B.J. Kirby2, A.J. Grutter2, B.B. Maranville3, E. Arenholz4, J. Borchers5 and K. Liu6
1. Physics Department, University of California, Davis, Davis, CA, United States; 2. NIST Center for Neutron Research, NIST, Gaithersburg, MD, United States; 3. LBNL, Berkeley, CA, United States; 4. Physics Department, Georgetown University, Washington, DC, United States

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FRIDAY ROOM 104
AFTERNOON
3:30

Session Z7
SURFACE AND INTERFACE EFFECTS VI
Clemens Laubschat, Chair
Technische Universität Dresden, Dresden, Germany

3:30

Z7-01. Topology and Antiferromagnetic Proximity Interactions at (Bi,Sb)2Te3-based Interfaces. (Invited) Q. He1,2, G. Yin3, A.J. Grutter4 and K.L. Wang1
1. Institute for Quantum Materials, School of Physics, Peking University, Beijing, China; 2. Electrical Engineering, University of California, Los Angeles, Los Angeles, CA, United States; 3. NIST Center for Neutron Research, Gaithersburg, MD, United States
Z7-02. Coherent quantum control and magnetism on atoms on surfaces. T. Choi¹ Physics, Ewha Womans University and Quantum Nanoscience, Seoul, The Republic of Korea

Z7-03. Long range magnetic order in 2D, fully-organic, structures on graphene. R. Miranda¹², M. Garnica¹, F. Calleja¹, A.L. Vázquez de Parga¹², D. Stradi³ and F. Martin¹² ¹. IMDEA Nanociencia, Madrid, Spain; 2. Universidad Autónoma de Madrid, Madrid, Spain; 3. Synopsis QuantumWise, Copenhagen, Denmark

Z7-04. Magnetic Patterning by Electron Beam Assisted Carbon Lithography. F. Genazio¹, P. Genoni², O.T. Mentes¹, B. Santos¹, A. Sala¹, C. Lenardi¹ and A. Locatelli¹ ¹. Elettra sincrotrone Trieste, Trieste, Italy; 2. Physics, Università degli Studi di Milano, Milan, Italy; 3. IOM-CNR, Basovizza, Italy

Z7-05. Magnetization Switching in Ferromagnetic Thin Film Induced by Adsorbed Chiral Molecules Realized without Current or External Magnetic Field. O. Ben Dor¹, S. Yochelis¹, A. Capua¹, E. Capua¹, S.S.P. Parkin¹², R. Naaman¹, Y. Paltiel¹ and L.T. Baczewski ¹. Applied Physics Department, The Hebrew University of Jerusalem, Jerusalem, Israel; 2. IBM Almaden Research Center, San Jose, CA, United States; 3. Max Planck Institute for Microstructure Physics, Halle (Saale), Germany; 4. Weizmann Institute of Science, Rehovot, Israel; 5. Institute of Physics, Polish Academy of Sciences, Warsaw, Poland

FRIDAY ROOM 306
AFTERNOON
3:30

Session Z8
STRANGE METAL, UNDERDOPED CUPRATES, SUPERCONDUCTING INTERFACES
Jonathan Denlinger, Chair
Lawrence Berkeley National Laboratory, Kensington, CA, United States

3:30

Z8-01. Scale-Invariant transport in high-temperature superconductors. (Invited) A. Shekhter¹ ¹. NHMFL, Tallahassee, FL, United States

4:00

Z8-02. The Hall Effect in the Strange Metal Physics of BaFe₂(As,P). J. Hayes¹, N. Maksimovic¹, M.K. Chan², B. Ramshaw³, R.D. Mcdonald⁴ and J. Analytis ¹. Physics, University of California, Berkeley, Berkeley, CA, United States; 2. Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Physics, Cornell University, Ithaca, NY, United States; 4. Pulsed Field Facility, Los Alamos National Laboratory, Los Alamos, NM, United States; 5. University of California, Berkeley, Berkeley, CA, United States

4:15

Z8-03. Long range magnetic order in 2D, fully-organic, structures on graphene. R. Miranda¹², M. Garnica¹, F. Calleja¹, A.L. Vázquez de Parga¹², D. Stradi³ and F. Martin¹² ¹. IMDEA Nanociencia, Madrid, Spain; 2. Universidad Autónoma de Madrid, Madrid, Spain; 3. Synopsis QuantumWise, Copenhagen, Denmark

4:30

Z8-04. Uncovering magnetic field-resilient superconductivity in the pseudogap regime of the underdoped high-Τ_c cuprates. M. Harstein¹, Y. Hsu¹, A. Davies¹, M.K. Chan², J. Porras³, T. Loew¹, S. Taylor¹, H. Liu¹, M. Le Tacon³, H. Zuo⁵, J. Wang⁵, Z. Zhu⁵, G. Lonzarich¹, B. Keimer³, N. Harrison² and S.E. Sebastian¹ ¹. University of Cambridge, Cambridge, United Kingdom; 2. Los Alamos National Laboratory, Los Alamos, NM, United States; 3. Max Planck Institute for Solid State Research, Stuttgart, Germany; 4. Karlsruhe Institut für Technologie, Karlsruhe, Germany; 5. National High Magnetic Field Center and School of Physics, Huazhong University of Science and Technology, Wuhan, China

4:45

Z8-05. Electron-phonon coupling and superconductivity in doped SrTiO₃. H. Yoon¹, A.G. Swartz¹,², H. Inoue¹, Y. Hikita² and H. Hwang¹,² ¹. Geballe Laboratory for Advanced Materials, Applied Physics, Stanford, CA, United States; 2. Stanford Institute for Materials and Energy Sciences, SLAC National Accelerator Laboratory, Menlo Park, CA, United States

FRIDAY ROOM 306
AFTERNOON
3:30

Session Z9
HEAVY FERMIONS VIII: NOVEL EXPERIMENTS
Andrew Huxley, Chair
University of Edinburgh, Edinburgh, United Kingdom

3:30

Z9-01. Coherent Band Excitations Studied With Inelastic Neutron Scattering. (Invited) R. Oxborn¹, E.A. Goremychkin², H. Park³, J. Lawrence¹, S. Rosenkranz³, A. Christianson¹ and V.R. Fanelli¹ ¹. Materials Science Division, Argonne National Laboratory, Argonne, IL, United States; 2. Joint Institute for Nuclear Research, Dubna, Russian Federation; 3. University of California, Irvine, Irvine, CA, United States; 4. University of Illinois at Chicago, Chicago, IL, United States; 5. Oak Ridge National Laboratory, Oak Ridge, TN, United States
Z9-02. Core-level spectroscopy of the Anderson Lattice in CePd3, M.C. Rahn1, A. Amorese1, K. Kummer2, E. Bauer1, F. Ronning1, I. Lawrence1 and M. Janoschek1 1. Los Alamos National Laboratory, Los Alamos, NM, United States; 2. University of California, Irvine, Irvine, CA, United States; 3. European Synchrotron Radiation Facility (ESRF), Grenoble, France; 4. Institute of Physics II, University of Cologne, Dresden, Germany

4:15

Z9-03. XMCD Studies of Actinide Compounds with Formally Nonmagnetic 5f-electron Ground States. R. Caciuffo1, N. Magnani1, E. Colineau1, R. Eloirdi1, J. Griveau1, G.H. Landier1, A. Rogalev2, F. Wilhelm2 and A.B. Shick1 1. Joint Research Centre, European Commission, Karlsruhe, Germany; 2. ESRF, Grenoble, France; 3. Institute of Physics, Czech Academy of Sciences, Prague, Czechia

4:30

Z9-04. Tests for Magnetoelectric Effects on Antiferromagnetic Metals. (Invited) H. Amitsuka1, H. Saito1, N. Shikanai1, M. Yamamoto1, H. Hidaka1, T. Yanagisawa1, C. Tabata2, H. Nakao2, H. Tanida2, T. Matsumura3 and M. Sera3 1. Graduate School of Science, Hokkaido University, Sapporo, Japan; 2. IMSS CMRC, KEK, Tsukuba, Japan; 3. Graduate School of Engineering, Toyama Prefecture University, Toyama, Japan; 4. Graduate School of Advanced Sciences of Matter, Hiroshima University, Higashi Hiroshima, Japan

FRIDAY ESPLANADE 152
AFTERNOON
5:00

Session ZZ
CLOSING CEREMONY
Allan MacDonald, Chair
University of Texas at Austin, Austin, TX, United States
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