General Information

SCOPE OF THE CONFERENCE
The 53rd Magnetism and Magnetic Materials Conference is sponsored jointly by the Physics Conferences Inc. and the Magnetics Society of the IEEE, in cooperation with The American Physical Society. Members of the international scientific and engineering communities interested in recent developments in fundamental and applied magnetism are invited to attend the Conference and contribute to its technical sessions. Sessions will include invited and contributed papers, oral and poster presentations and invited symposia. This Conference provides an outstanding opportunity for participants to meet their colleagues and discuss new and improved as well as controversial developments.

AUSTIN, TEXAS
Known as the Live Music Capital of the World, Austin is also the state capital of Texas and is the gateway to the Texas Hill Country with its rolling hills and sparkling waterways. The people of Austin pride themselves on being far from ordinary and, in fact, they celebrate being “weird.” Austin is a hot spot for creativity and embraces its community of musicians, artists, entrepreneurs and progressive thinkers. Each night during the summer 1.5 million bats take flight from underneath the Ann Richards Congress Avenue Bridge. For more travel and visitor information about Austin, please visit the web-site: www.austintexas.org.

WEATHER
In November, Austin has an average high temperature of 70°F and an average low of 45°F. Keep in mind that the Conference session rooms may be air-conditioned and will most likely be chilly, so please dress appropriately.

TRANSPORTATION
The Austin-Bergstrom International Airport is located 7 miles (or 15–20 minutes) from the Hilton Austin.

There are several methods of ground transportation that you can choose to take you to and from the airport and Hilton Austin. The rates listed below are based on a typical minimum charge and are not guaranteed. Please contact the service provider for exact fares.

Shared Van Service:
• SuperShuttle: Austin Direct Phone #: (512) 258-3826
  National Phone #: (800) 258-3826
  $13.00 USD per person per trip

Ground Transportation:
• Yellow Cab: (512) 452-9999
• Austin Cab: (512) 478-2222
• Lone Star: (512) 836-4900
  $25.00 USD minimum charge
HOTEL
The new Hilton Austin is a stunning Hill Country design that utilizes local native woods and stone and features an eclectic collection of Texas artwork. The location is convenient to the Texas State Capitol and Historic Sixth Street, dining and entertainment venues, galleries, and museums.

These special hotel room rates have been secured for MMM Conference attendees:

- $144.00 USD - Single or Double
- $164.00 USD - Triple
- $184.00 USD - Quad

All rates are subject to additional state and local taxes. Hotel room reservations must be made and confirmed prior to the cutoff date of October 13th. Rooms may be offered for three days prior to and following the Conference at these lower rates, based on availability when you make your hotel room reservations. In addition, should you need to check out earlier than you expected, there will be an early checkout fee imposed by the hotel. The hotel will reconfirm your checkout date with you when you check in at the beginning of the conference.

Please note: Based upon previous experience with MMM Conferences, the hotel’s room block may sell out prior to October 13th. Therefore, you should make your room reservations several weeks before the cut-off date.

Please visit www.magnetism.org to obtain the link for making your hotel reservation online or to download and print the Hotel Reservation Form.

HELP KEEP YOUR CONFERENCE FEES DOWN: Costs for the Conference meeting space are minimized by meeting pre-established targets for room occupancy at the Conference hotel. Please support the Steering Committee and Advisory Committee in their attempt to keep your Conference registration fees as low as possible by booking your room at the Hilton Austin for the 2008 MMM Conference before the cutoff date of October 13th. Your hotel room reservation must be received no later than October 13th in order for you to receive the special MMM Conference rates.

CONFERENCE REGISTRATION
The Advance Registration Form and complete instructions for registering can be found on the MMM Conference homepage at: www.magnetism.org. Advance Registration via the web is the most convenient way to register and is highly recommended. This year there are two registration rates: Advance and Onsite. “Advance Registration” at the lower fees will be available until October 13th. After October 13th, the higher “Onsite Registration” fees will be in effect, even if paid in advance of arriving onsite.

Registration Fees:

**Advance Registration Fees**
- Full Registrant: $470.00 (US Dollars)
- Student/Unemployed Retiree: $225.00 (US Dollars)

**Onsite Registration Fees**
- Full Registrant: $570.00 (US Dollars)
- Student/Unemployed Retiree: $275.00 (US Dollars)

NOTE: The 2008 MMM Advance Program will be available only on the website in advance of the Conference, and in printed form only onsite. Therefore, the Advance Program will NOT be mailed to anyone in advance of the Conference. In addition, this year the Abstracts Book will be distributed onsite only as a CD. Additional copies of the Abstracts CD may also be purchased onsite, but NOT in advance of the Conference.

Full Registration includes the Proceedings on a CD-ROM. For an additional $25.00 USD the Full Registrant can receive the Print version instead of the CD. The cost to receive both the CD and Print versions is $50.00 USD over the standard Full Registration fee. Students and Unemployed Retirees who register at the lower fees will NOT receive a copy of the Proceedings.

Registration Hours:
The Conference Registration Desks will be located in the Foyer of the Austin Grand Ballroom on 6th Floor of the hotel. The hours of operation will be:

- Monday, November 10th: 4:00 PM – 8:00 PM
- Tuesday, November 11th: 7:00 AM – 2:00 PM
- Wednesday, November 12th: 8:30 AM – 2:00 PM
- Thursday, November 13th: 8:30 AM – 2:00 PM
- Friday, November 14th: 8:30 AM – 12:00 Noon

Registration Cancellation Policy: Cancellations of advance registrations must be submitted in writing and received at YesEvents no later than Monday, October 13, 2008. Refunds of the original payment, less a $75 service fee, will be made following the Conference. Substitutions may be made at any time, including onsite, for a registrant who cannot attend but has paid the registration fee in advance.

Reminders:
- All attendees will be required to wear MMM Conference name badges to enter the Technical Sessions and Exhibits.
- The use of cameras, videotaping and/or recording devices in the technical sessions (including Poster Sessions) is strictly prohibited.

VISA REQUIREMENTS FOR ENTRY INTO THE USA:
Participants requiring visas must initiate the application process many months in advance of their departure date. The US has updated its visa policies to increase security, so it may take you longer to apply for and receive your visa than it used to. For details that apply specifically to your country and to schedule an interview appointment, pay fees, etc. please go to your nearest US Consulate or Embassy. Review your visa status now to determine if you need a US visa or visa renewal.

To receive a personal letter of invitation to attend the Conference, contact the 2008 MMM Conference by Email at: 2008MMM@courtesyassoc.com. Be sure to provide your complete mailing address so that a signed letter of invitation can then be mailed to you via standard mail service. NOTE: The Conference CANNOT contact or intervene with any U.S. Embassy or Consulate office abroad on your behalf.

CONFERENCE SYMPOSIA
The conference program includes seven symposia addressing topics at the forefront of research in magnetism and its applications:

- Frontiers in Biomagnetism
- Spin Transport and Single Spin Manipulation
- New Developments in Magnetic Microscopy
- Discrete Track and Bit Patterned Media
- Reconstruction and Emergence at Interfaces of Complex Oxides
- Recent Developments in Spin Torque Transfer
- Microwave Assisted Magnetization Reversal
MONDAY EVENING SESSION
On Monday evening November 10, 2008, before the start of the conference, there will be a special session on “The New Fe-As Based High-Tc Superconductors and Related Materials.” The session will include invited presentations by Professor Masahiro Hirano of the Tokyo Institute of Technology and Professor Xiannhui Chen of the University of Science and Technology of China. There will also be an opportunity for short presentations by others of new results on this rapidly developing subject as well as an open discussion. Further information will be posted on the Conference website in September.

TUESDAY EVENING OPENING RECEPTION
On Tuesday, the first full day of the 2008 MMM Conference, there will be an Opening Reception held from 5:30 PM–7:00 PM in the Austin Grand Ballroom and Foyer on the 6th Floor of the hotel. The IEEE Magnetics Society has been very generous in helping to fund this event.

WEDNESDAY EVENING OPEN FORUM
ON MICROMAGNETIC MODELING
Micromagnetic numerical simulation is an important tool for understanding the response of magnetic systems to external stimuli. There is broad interest from the academic community, magnetic storage and sensors industry, and government research laboratories to improve the accuracy of solutions and predictive power of such simulations. While significant progress has been made during the past two decades, the need for predictive models has also intensified. Industrial applications are continuing to employ more complex engineered materials and device structures. Academic studies of magnetics continue to push the limits of large signal excitations and fast dynamics.

The 2008 MMM Conference Program Committee has scheduled an Open Forum on Micromagnetic Modeling on Wednesday evening from 8:00-10:00 PM to further the pace of development in simulation algorithms and alignment with needs of the user community. The session will employ a panel discussion format that will open with short presentations and remarks by leading authorities in this discipline, followed by interactive “Q & A” discussions. The goal is to identify trends in simulation algorithms that can lead to more powerful tools as well as trends in the user community needs. In addition to refreshments prior to the Forum, all Conference participants will receive at the Registration Desks a CD containing copies of the introductory presentations and a collection of seminal papers on micromagnetic simulations to provide a background for the discussion. The 2008 MMM Conference is grateful to the IEEE Magnetics Society for its support of this new session, the handout, and the dessert reception beforehand.

WOMEN IN MAGNETISM NETWORKING EVENT
There will be a Women’s Networking Reception with beverages and light snacks on Wednesday beginning at 5:30 PM in Meeting Room 410. At the reception there will be the opportunity to form dinner groups so that women working in magnetism can get to know one another better. All graduate students, researchers, and retirees are encouraged to attend. For questions, contact Patricia Sparks at Harvey Mudd College (sparks@hmc.edu). The 2008 MMM Conference is especially grateful to the IEEE Magnetics Society for their sponsorship of this special event.

BIERSTUBE AND COFFEE
Complimentary coffee service will be available on Tuesday through Friday mornings in the Austin Grand Ballroom and Foyer from 7:00 AM–9:30 AM. On Wednesday and Thursday evenings, the Bierstube will be held from 5:00–6:00 PM in the Austin Grand Ballroom. These two Bierstubes will again be sponsored through the generosity of Williams Advanced Materials, who will have a booth in the exhibits area as well.

PUBLICATIONS ROOM
The Publications Room, where authors can check the status of their manuscripts, will be located in Meeting Room 404 (adjacent to the Governor’s Ballroom) on the 4th Floor of the hotel. The status of all papers can be found here and authors should check periodically on their individual papers if they have questions. This room will be open as follows:

- Tuesday – Thursday
  - 9:00 AM – 5:00 PM
- Friday
  - 9:00 AM – 12:00 Noon

SPEAKER PRACTICE ROOM
Speakers are reminded that the Conference is planning an all-electronic presentation format. Speakers may use Meeting Room 415 (behind the Governor’s Ballroom) on the 4th Floor of the hotel to practice their presentations. Audiovisual equipment (LCD projector and screen) will be available for authors to use from Monday late afternoon until Friday at 1:00 PM. Speakers are urged to use this facility to practice their presentation, either alone or with colleagues.

LCD PROJECTORS
This year only LCD projectors will be available for oral presentations. Authors are expected to bring their presentation on their own laptop computer, and have it powered on and ready to connect to the projector. Only standard PC-style VGA connections to the LCD projector will be supplied, therefore you must supply any required adapter to your computer. Macintosh users must make sure that “mirroring” is activated.

There will also be a switchbox so that a speaker can set up his/her laptop during the question period of the previous speaker. Each speaker will be solely responsible for promptly connecting to the projector. The presentation timer will begin immediately after the introduction by the Session Chair, and there will not be time to reboot your computer. You are therefore STRONGLY ENCOURAGED to test your laptop connections and screen resolution settings with the projectors in the Speaker Practice Room or in the assigned room for your talk before start of the session. There will be no technical support provided. In case of laptop failure, it would be prudent to bring a copy of your presentation on flash memory.

SESSION CHAIRS
Session Chairs are expected to attend the Session Chair’s Breakfast on the morning of the session which they are chairing. If you are chairing a session, please bring your laptop computer to the meeting or arrange to borrow one during your session. Further details will be emailed to Session Chairs a few weeks before the meeting.
POSTER SESSIONS

The hours of the Poster Sessions are 8:00 AM–12:00 Noon and 1:00 PM–5:00 PM. Authors should set up their materials at least half-an-hour before session start times. They must be by their posters from 8:00 AM–9:00 AM and 11:00 AM–12:00 Noon for the morning sessions, and from 1:00 PM–2:00 PM and 4:00 PM–5:00 PM for the afternoon sessions. Guidelines for preparation of Posters are found at: http://www.magnetism.org/poster.pdf. Authors are reminded to remove all of their materials, excluding the pushpins that have been provided by the Conference, PROMPTLY at the end of their session. The Conference Coordinators will discard materials that are not removed, in order to prepare for the next session. REMEMBER, there is only one hour between the morning and afternoon poster sessions and the Conference Staff will remove and destroy your presentation if you do not safely remove it yourself and on time.

EXHIBITS

An exhibition of related services, equipment, materials, and software will be held as a part of the Conference. The exhibits will be located adjacent to the poster sessions and internet lounge in the Austin Grand Ballroom. Individuals and organizations who are interested in purchasing booth space should contact Lauren Westcott, Exhibits Coordinator at Courtesy Associate, by e-mail at 2008MMM@courtesyassoc.com; or by Fax at 202-331-0111. The Exhibitor Prospectus and Application Form are now available on the MMM website at www.magnetism.org.

BEST STUDENT PRESENTATION AWARD

This year, there is a competition for the best student presentation at the 53rd MMM Conference to recognize and encourage excellence in graduate studies in the field of magnetism. This award is available to any full time graduate student who is expected to graduate within one year of the Conference. The student’s area of research may either be theoretical or experimental in any of the general technical and scientific areas normally presented as part of the Conference. This award consists of a one-year fellowship of $1000 for the award winner and a one-year fellowship of $250 to each of the remaining finalists. The student who is expected to graduate within one year of the Conference, PROMPTLY at the end of their session. The Conference Coordinators will discard materials that are not removed, in order to prepare for the next session. REMEMBER, there is only one hour between the morning and afternoon poster sessions and the Conference Staff will remove and destroy your presentation if you do not safely remove it yourself and on time.

For the 52nd MMM Conference in Tampa, the best student presentation award went to Matthew Vannette; the other finalists were J. D. Burton (CB-03), Jixuan He (CE-09), Ajit Patra (CH-11) and Xiaohang Zhang (FG-02).

Best 52nd MMM Conference Best Student Presentation Winner
Matthew Vannette
(Iowa State University)
for his presentation:
“Distinguishing local moment vs. itinerant ferromagnets: dynamic magnetic susceptibility”
CONGRATULATIONS!

BEST POSTER PRESENTATION

Eligibility: All posters will be eligible for nomination for this award provided that they meet the requirements and guidelines for MMM poster presentations and sessions, as described on the website. The presentations should consist of well-prepared visual materials about the work, posted on a designated board. It is required that an author be registered for the Conference and in attendance to present details and answer questions during the designated session time. Since the award will be made at the session, it is recommended that the authors be present for the majority of the session. All posters must include a full contact mailing address in the case that the authors are not present when the award is made.

Nature of the Award: This award consists of a $50 certificate. The awards will be made in the last hour of each poster session. A ribbon will also be attached to the successful posters. Winning posters will be prominently displayed through the remainder of the conference.

Selection Process: A Poster Award Committee will review all of the posters at the beginning of each session. Nominations will be made by the individual session chairs which will be forwarded to the Award Committee. Selections will be based on the level of the research, quality of the poster, and clarity of the presentation.

This is the list of the winners from the Tampa Meeting:

Best 52nd MMM Conference Poster Presentation Winners

AR-18
Magnetization reversal process and single domain stability of Co/Pt multilayer dot
N. Kikuchi1; T. Kato2; S. Okamoto2; O. Kitakami1; N. Tzuk2; S. Sugimoto1
1. IMRAM Tohoku University, Sendai, Japan.
2. Department of Materials Science, Tohoku University, Sendai, Japan.

BU-01
Crystallization and Thermal-Magnetic Treatment of Co-Rich HiTPerm-type Alloys with Ni and Mn Additions
P. R. Ohodnicki1; S. Park1; D. E. Laughlin1; M. E. McHenry1; V. Keylin2; M. A. Willard1
1. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA.
2. Magnetics, Division of Spang and Company, Pittsburgh, PA, USA.
3. Code 6355, Naval Research Labs, Washington, DC, USA.

Their extended abstracts will be posted during the conference.
FUTURE CONFERENCES

INTERMAG Conference
May 4–8, 2009, Sacramento, California

2010 (11th) Joint MMM/Intermag Conference
January 17–21, 2010, Washington, DC

55th Conference on Magnetism and Magnetic Materials
November 14–18, 2010, Atlanta, Georgia

INTERMAG Conference
April 25–29, 2011, Taipei, Taiwan

56th Conference on Magnetism and Magnetic Materials
October 30–November 3, 2011, Scottsdale, Arizona

ADDITIONAL INFORMATION

If you would like to receive more information about the 53rd MMM Conference, to be placed on the Conference Mailing List, or to update your mailing address, please contact Janis Bennett at: magnet@aip.org; Telephone: 516-576-2403; Fax: 516-576-2223. The latest information on the 2008 MMM Conference can be found on the Web at the Conference homepage at: http://www.magnetism.org.

CONFERENCE ORGANIZATION

Steering Committee 53rd MMM Conference
Chairman. . . . . . . . . . . . . . . . . . . . . Daniel Reich
Chairman Elect. . . . . . . . . . . . . . . . Kevin O’Grady
Past Chairman . . . . . . . . . . . . . . . Dieter Weller
Treasurer . . . . . . . . . . . . . . . . . . . . Julie Borchers
Program Co-Chairmen. . . . . . . . . . Paul Crowell, Ned Tabat

CP-12

Relation between non-adiabaticity and damping in Permalloy studied by current-induced spin structure transformations
T. A. Moong1; L. Heyne1; D. Backes1; S. Krzyk1; M. Kläui1;
U. Rüdiger1; L. J. Heyderman2; A. F. Rodriguez3; F. Nolting1;
T. O. Mentes3; M. A. Niño1; A. Locatelli3; K. Kirsch1; R. Mattheis5
1. Fachbereich Physik, Universität Konstanz, Konstanz, Germany.
2. Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, Villigen, Switzerland.
3. Swiss Light Source, Paul Scherrer Institut, Villigen, Switzerland.
4. Sincrotrone Trieste, Trieste, Italy.
5. Institute of Photonic Technology, Jena, Germany.

DQ-04

Deposition of hexagonal ferrites by the ATLAD technique - gateway to new and exotic ferrite materials
A. L. Geiler1; S. D. Yoon1; Y. Chen1; C. N. Chinnasamy1;
Z. Chen2; V. G. Harvis1; C. Vittoria1
1. Center for Microwave Magnetic Materials and Integrated Circuits, Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA.

EP-05

Micro Total Analysis System for hematopoietic stem/progenitor cell separation and counting
J. F. Loureiro3, 4; M. Merciez1, 5; S. Cardoso1, 2;
P. P. Freitas1; C. L. Silva1; J. M. Cabral1
1. INESC-Microsystems and Nanotechnologies, Lisbon, Portugal.
2. Instituto Superior Técnico (IST), Lisbon, Portugal.
3. CEBQ - IST, Lisbon, Portugal.

FP-13

Examination of the optimum arrangement of magnetic sensors for nondestructive crack system in distribution line.
G. Owada1; T. Nonaka2; H. Matsuki2; T. Sato3
1. Graduate School of Engineering, Tohoku University, Sendai, Japan.
2. Hachinohe National College of Technology, Sendai, Japan.
3. NEC TOKIN Corporation, Sendai, Japan.

GR-09

Magnetic transmission X-ray microscopy of field-driven magnetization processes in Permalloy structures
D. A. Allison1, 2; M. T. Brian1; P. W. Fry2; P. Fischer3
1. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom.
2. Centre for Nanoscience and Technology, University of Sheffield, Sheffield, United Kingdom.
3. LBNL/CXRO, Berkeley, CA, USA.

HR-03

Magnetoelectric Properties of the High Curie Temperature Relaxor Composite Sr1.9Ca0.1NaNb5O15-CoFe2O4
W. Liu1; C. Mak1; K. Wong1; C. Lo1; S. Or1;
W. Zhou1; A. Hauser2; F. Yang2; R. Sooryakumar2
1. Department of applied physics, The Hong Kong Polytechnic University, Hong Kong, China.
2. Department of physics, The Ohio State University, Columbus, OH, USA.
CONFERENCE PROGRAM

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<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tr>
<td>Mon Eve.</td>
<td>XA Special session on the new Fe-As based high-Tc superconductors</td>
<td>Salon G</td>
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<tr>
<td>7:00 p.m.</td>
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<td>Tuesday</td>
<td>AA Symposium on new horizons in biomagnetism</td>
<td>Salon C</td>
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<td>9:00 a.m.</td>
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<td></td>
<td>AB Domain wall motion in nanowires</td>
<td>Salon G</td>
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<td>AC Perpendicular media I</td>
<td>Salon A</td>
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<td>AD Magnetic tunnel junctions I</td>
<td>Salon B</td>
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<td>AE Semiconductor spin injection</td>
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<td>AF Ultrafast processes and switching</td>
<td>Salon E</td>
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<td>AG Soft magnetic crystalline alloys</td>
<td>400/402</td>
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<td>AH Superconductivity I</td>
<td>410</td>
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<td>8:00 a.m.</td>
<td>AP CMR oxides I: Bulk and nanoparticles</td>
<td>Austin Ballroom</td>
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<td>AQ Rare-earth transition metal borides I</td>
<td>Austin Ballroom</td>
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<td>AR Spin torque effects in nanostructures</td>
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<td>AS Spin torque and other excitations in magnetic nanostructures</td>
<td>Austin Ballroom</td>
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<td></td>
<td>AT CMR oxides II: Films and heterostructures</td>
<td>Austin Ballroom</td>
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<td>AU Magnetic microscopy and imaging I</td>
<td>Austin Ballroom</td>
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<td>AV Ferrite, garnets I</td>
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<td>AW New applications</td>
<td>Austin Ballroom</td>
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<td>2:00 p.m.</td>
<td>BA Symposium on spin transport and single spin manipulation</td>
<td>Salon C</td>
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<td>BB Domain wall motion</td>
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<td>BC Recording heads I</td>
<td>Salon A</td>
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<td>BD Anisotropy in multilayers and surfaces</td>
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<td>BE Itinerant magnetism</td>
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<td>BF Nonlinear dynamics</td>
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<td>BG Magnetic microscopy and imaging II</td>
<td>40/402</td>
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<td>BH Low dimensional systems and critical phenomena</td>
<td>410</td>
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<td>1:00 p.m.</td>
<td>BP Multiferroics I: Films and nanostructures</td>
<td>Austin Ballroom</td>
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<td>BQ Intermetallic and other hard magnetic materials I</td>
<td>Austin Ballroom</td>
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<td>BR Magnetic tunnel junctions: MgO based</td>
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<td>BS Biomagnetism</td>
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<td>BT Intermetallics and other hard magnetic materials II</td>
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<td>BU Magnetic materials for therapy applications</td>
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<td>BV Amorphous and nanostructured materials I</td>
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<td>BW Multiferroics II: BiFeO3</td>
<td>Austin Ballroom</td>
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Tues. Eve.
5:30 p.m. Opening Reception Austin Ballroom

Wednesday 9:00 a.m.
CA Symposium on new developments in magnetic microscopy Salon C
CB Spin transfer torque: Ferromagnets and antiferromagnets Salon G
CC High anisotropy perpendicular media I Salon A
CD Magnetic tunnel junctions II Salon B
CE Hybrid semiconductor/Ferromagnet heterostructures Salon D
CF Complex magnetic oxides Salon E
CG Applications of magnetic nanoparticles to biology 400/402
CH Magnetoresistance, magnetoimpedance, and Hall effect 410

8:00 a.m.
CP Domain walls and vortices Austin Ballroom
CQ CMR oxides III: Transport Austin Ballroom
CR Multiferroics III: Bulk oxides Austin Ballroom
CS 4f-, 5f- and strongly correlated systems I Austin Ballroom
CT MRAM and magnetic tunnel junctions Austin Ballroom
CU Magnetic sensors I (not for magnetic recording) Austin Ballroom
CV Microwave and millimeter wave devices Austin Ballroom
CW Recording systems and patterned media I Austin Ballroom
CX Magneto-caloric materials I Austin Ballroom

Wednesday 2:00 p.m.
DA Symposium on discrete track and bit patterned media Salon C
DB Spin-torque-induced switching in nanomagnets Salon G
DC MRAM Salon A
DD Halfmetallic Heusler compounds Salon B
DE Magnetic semiconductors Salon D
DF Vortex dynamics Salon E
DG Multiferroics 400/402
DH Exchange bias I 410

1:00 p.m.
DP Fundamental properties Austin Ballroom
DQ Magnetic nanoparticles for biological applications Austin Ballroom
DR Magnetic fluids and separation Austin Ballroom
DS Ferrites, garnets II Austin Ballroom
DT Recording heads II Austin Ballroom
DU Electronic structure and itinerant magnetism Austin Ballroom

12:00 p.m. DV Instrumentation and measurement techniques Austin Ballroom
DW Numerical methods and hysteresis modeling Austin Ballroom

Wed. Eve.
8:00 p.m.
XB Open forum on micromagnetic modeling Salon G
Thursday 9:00 a.m.
EA Symposium on reconstruction and emergence at interfaces of complex oxides Salon C
EB Spin transfer torque: Theory and experiment Salon G
EC Alternative magnetic recording Salon A
ED Magnetic tunnel junctions III Salon B
EE Spin injection in metals Salon D
EF Novel magnetic nanoparticles Salon E
EG Patterned films I 400/402
EH Numerical methods and magnetic simulations 410

8:00 a.m.
EP 4f, 5f- and strongly correlated systems II Austin Ballroom
EQ Magnetic semiconductors: Group IV and III-V Austin Ballroom
ER Superconductivity II Austin Ballroom
ES Magneto-optic and new magnetic materials Austin Ballroom
ET Perpendicular media II Austin Ballroom
EU Dynamics and damping Austin Ballroom
EV Multilayers and superlattices Austin Ballroom
EW Semiconductor spin injection and transport Austin Ballroom

1:00 p.m.
FP Magnetic tunnel junctions and spin injection Austin Ballroom
FQ Thin film growth and characterization Austin Ballroom
FR Nanoparticles and nanostructures Austin Ballroom
FS Magnetic semiconductors: Oxides Austin Ballroom
FT  Patterned films II  Austin Ballroom
FU  Exchange bias II  Austin Ballroom

Friday 9:00 a.m.
GA  Symposium on microwave-assisted magnetization reversal  Salon C
GB  Spin-torque oscillators  Salon G
GC  Nanostructured permanent magnet materials  Salon A
GD  Magnetic nanostructures: Measurement, fabrication, and modeling  Salon B
GE  Molecular magnets  Salon D
GF  Damping mechanisms and measurement  Salon E
GG  Galfenol magnetostrictive alloys  400/402
GH  Spin glasses and spin dynamics in correlated systems  410

8:00 a.m.
GP  Heads-media interface and tribology  Austin Ballroom
GQ  High anisotropy perpendicular recording media II  Austin Ballroom
GR  Motors and actuators I  Austin Ballroom
GS  Micromagnetic simulations and methods  Austin Ballroom
GT  Magneto-resistance, magneto-impedance, Hall effect, and half metals  Austin Ballroom
GU  Magneto-elastic materials  Austin Ballroom
GV  Power, shielding, and levitation  Austin Ballroom

Friday 2:00 p.m.
HA  Intermetallics and other hardmetallic materials III  Salon A
HB  Amorphous and nanocrystalline materials II  Salon B
HC  Magneto-caloric materials II  Salon D
HD  4f-, 5f- and strongly correlated systems III  Salon E
HE  Ferrites, garnets and microwave materials  400/402
HF  Motor and actuators II  410
MONDAY EVENING 7:00

Session XA
SPECIAL SESSION ON THE NEW Fe-As BASED HIGH-Tc SUPERCONDUCTORS AND RELATED MATERIALS
Chia-Ling Chien, Chair

7:00
XA-01. Discovery and Progress in the New High Tc Superconductors LnTMAPO. M. Hirano
1. Tokyo Inst. of Technology, Tokyo, Japan

7:40
XA-02. The Phase Diagram of Fe-based High-Tc Superconductors.
X. Chen
1. University of Science and Technology of China, Beijing, China

TUESDAY MORNING 9:00

Session AA
SYMPOSIUM ON NEW HORIZONS IN BIOMAGNETISM
Shoogo Ueno, Chair

9:00
AA-01. Biomagnetism In Nanotechnology MRI Imaging, (Invited)
1. Diagnostic Imaging, Lawson Imaging, London, ON, Canada; 2. Department of Physics, University of Waterloo, Waterloo, ON, Canada

9:36
AA-02. Micro-engineered local field control for high-sensitivity multispectral MRI, (Invited)
G. Zabow, S. Doddi, J. Moreland and A. Koretsky

10:12
AA-03. High Resolution SQUID microscopy for imaging biomagnetic fields and magnetic particle detection, (Invited)
F. J. Budenbacher
1. BME and Physics, Vanderbilt University, Nashville, TN

10:48
AA-04. Magnetic Micro- and Nanoparticles in Biology and Medicine, (Invited)
J. Dobson
1. Institute for Science and Technology in Medicine, Keele University, Stoke-on-Trent, United Kingdom; 2. Department of Materials Science and Engineering, University of Florida, Gainesville, FL

11:24
AA-05. Magnetic positioning of nerve cells, (Invited)
1. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. The Kroto Research Institute, University of Sheffield, Sheffield, United Kingdom; 3. Centre for Nanoscience and Technology, University of Sheffield, Sheffield, United Kingdom; 4. Center for X-Ray Optics, Lawrence Berkeley National Laboratory, Berkeley, CA

TUESDAY MORNING 9:00

Session AB
DOMAIN WALL MOTION IN NANO-WIRES
Yaroslaw Bazaliy, Chair

9:00
AB-01. Thermally and spin-torque assisted domain wall depinning from a single defect in FePt monolayers and spin-valves.
A. P. Mihai, J. Attané, L. Vila and A. Marty
1. INAC, SP2M, CEA, Grenoble, France; 2. Université Joseph Fourier, Grenoble, France

9:12
AB-02. Perpendicular Pt / CoFeB / Pt, a tunable system for domain-wall dynamics.
R. Lavrijsen, G. Malinowski, J. Kohlhepp, H. Swagten and B. Koopmans
1. Applied Physics, Technical University of Eindhoven, Eindhoven, Netherlands

9:24
AB-03. Role of pinning in current driven DW motion in wires with perpendicular anisotropy.
C. Burrowes, D. Ravelosona, M. Nguyen Ngo, C. Chappert and E. Fullerton
1. Institut d’électronique Fondamentale, UMR CNRS 8622, Orsay, France; 2. University of California San Diego, CMRR, San Diego, CA

9:36
AB-04. Current-driven domain wall motion in amorphous TbFeCo nanowires with perpendicular magnetic anisotropy.
X. Liu and A. Morisako
1. Department of Information Engineering, Shinshu University, Nagano, Japan

9:48
AB-05. Controlled motion of multiple domain walls in permalloy nanowires.
M. Hayashi, L. Thomas, R. Moriya, C. Rettnier, X. Jiang, B. Bergman and S. Parkin
1. IBM Research, San Jose, CA

10:00
AB-06. Creation, propagation and detection of magnetic domain walls for data storage applications.
1. Department of Physics, Imperial College London, London, United Kingdom
AB-07. Real time measurement of domain wall motion in ferromagnetic nano-wires by using tunnel magnetoresistance effect. T. Ochiai¹, H. Ahisda³, K. Nagasaki¹ and A. Tanaka¹.
Fujitsu Ltd., Kawasaki-shi, Kanagawa, Japan

AB-08. The domain wall spin torque-meter. I. Miron¹, P. Zermatten¹, G. Gaudin¹, S. Auffret¹, B. Rodmacq¹ and A. Schuhl¹.
SPINTEC INAC / CEA-CNRS, Grenoble, France

The University of Leeds, Leeds, United Kingdom; 2. Diamond Light Source, Didcot, United Kingdom; 3. ISIS, RAL, Didcot, United Kingdom

AB-10. Role of the perpendicular spin current to assist the Current driven Domain Wall motion in spin valve nanostripes. S. Laribi¹, A. Anane¹, J. Grollier¹, V. Cros¹, C. Deranlot¹, G. Faini³, A. Fert¹, S. Langridge³, S.S. Dhesi² and C.H. Marrows¹.
Unité Mixte de Physique CNRS/Thales and Université Paris Sud 11, Route départementale 128, Palaiseau, France; 2. ST Microelectronics, 850 Rue Jean Monnet, Crolles, France; 3. Phynano team, Laboratoire de Photonique et Nanostructures, LPN-CNRS, Route de Nozay, Marcoussis, France

Nanotechnology Research Institute, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan

AB-12. Critical vortex core size required for nucleation of stable vortex or antivortex during domain wall motion in magnetic thin-film nanostripes. S. Kim¹, Y. Choi¹, J. Lee¹ and M. Yoo¹.
Research Center for Spin Dynamics & Spin-Wave Devices and Nanospinics Laboratory, Department of Materials Science and Engineering, College of Engineering, Seoul National University, Seoul, South Korea

AB-13. Current-assisted vortex chirality transition in a layered circular ring. C. Nam¹, B. Ng¹, F. Castaño¹ and C. Ross¹.
Materials Science and Engineering, MIT, Cambridge, MA

AB-14. Domain wall pinning by a curved conduit. E. Lewis¹, D. Petit¹, D.E. Read¹, H.T. Zeng¹, L.A. O’Brien¹, J. Sampaio¹, A.V. Jausovec¹ and R.P. Cowburn¹.
Physics, Imperial College London, London, United Kingdom

TUESDAY MORNING
9:00

Session AC
PERPENDICULAR MEDIA I
Shanlin Duan, Chair

AC-01. Topology and Elemental Distribution in Co alloy+Oxide Perpendicular Media. D. Laughlin¹,², N.T. Nuhfer², S. Park¹,², H. Yuan¹,² and J. Zhu¹,³.

AC-02. Reduction of Magnetic Grain Size of Perpendicular Recording Media with CoCrW Seed Layer. R. Inamura¹, Y. Toyoda¹, T. Tanaka¹ and T. Uzumaki¹.
Fujitsu Labs., Atsugi, Japan

AC-03. CoRuCr-oxide intermediate layers for grain size reduction and improved lattice matching. S. Piramanayagam¹ and K. Srinivasan¹.
A*STAR (Agency for Science Technology and Research), Data Storage Institute, Singapore, Singapore

AC-04. Microstructure and magnetic properties of perpendicular media with reduced grain size. H. Yuan¹,² and D.E. Laughlin¹,².
Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA

AC-05. Ru/FeCoB crystalline soft magnetic underlayers with high anisotropy field for CoPtCr-SiO₂ granular perpendicular magnetic recording media. T. Matsun¹, K. Hirata¹, A. Hashimoto¹, S. Matsunuma¹, T. Inoue¹, T. Doi² and S. Nakagawa¹.
Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. Hitachi Maxell, Ltd., Ibaraki, Japan

AC-06. A Novel Crystalline Soft Magnetic Intermediate Layer for Perpendicular Recording Media. S. Park¹,², J. Zhu¹,² and D. Laughlin¹,².
AC-07. Effects of non-uniform exchange and magnetostatic coupling constants on the determination of intrinsic switching field distributions. Y. Liu1, K.A. Dahmen1, O. Hovorka2 and A. Berger3. Physics, University of Illinois at Urbana-Champaign, Urbana, IL; 2. CIC nanoGUNE Consolider, Donostia - San Sebastian, Spain

AC-08. New patterned media recording scheme based on precessional reversal. B. Livshitz1,2, H.N. Bertram1,2 and V. Lomakin1,2. ECE, UCSD, San Diego, CA; 2. CMRR, UCSD, San Diego, CA.

AC-09. Magnetic Reversal of Exchange Spring Media with High and Low Moment Soft Layer. N. Supper1, D. Margulies1, Y. Ikeda1 and K. Takano1. Hitachi Global Storage Technologies, San Jose, CA

AC-10. Effects of exchange coupling between cap layer and oxide layer on the recording performance in perpendicular media. K. Zhang1, G. Choe1 and S. Duan1. Hitachi Global Storage Technologies, San Jose, CA


AC-12. An approach to understand the effect of interlayer coupling in composite media using anomalous Hall effect measurement. S. Das1, K. Tanahashi1 and H. Suzuki1. Hitachi Central Research Laboratory, Odawara, Kanagawa, Japan

AC-13. Switching behaviour of perpendicular magnetic recording media measured with polarized small-angle neutron scattering. S.J. Lister3, M.P. Wismayer1, V. Venkataramana1, S.L. Lee1, T. Thomson2 and J. Kohlbrecr3. 1. School of Physics & Astronomy, University of St. Andrews, St. Andrews, Fife, United Kingdom; 2. School of Computer Science, University of Manchester, Manchester M13 9PL, United Kingdom; 3. Laboratory for Neutron Scattering, ETHZ & PSI, CH-5232 Villigen PSI, Switzerland

AC-14. Switching volume change and recording performance correlation for weakly coupled exchange spring media. Y. Ikeda1, G. Choe1, K. Zhang1 and K. Takano1. San Jose Research Center, Hitachi GST, San Jose, CA; 2. Media Development, Hitachi GST, San Jose, CA

AC-15. Magnetization reversal of Exchange Coupled Composite media measured by XMCD. H. Hou1, M. Lin1, Y. Wu1, R. Liao1, C. Lai1, H. Lin1, F. Chang2, C. Lee3 and R. Chen1. National Tsing Hua University, Hsing Chu, Taiwan; 2. National Synchrotron Radiation Research Center, Hsing Chu, Taiwan; 3. China Steel Corporation, Kao Hsiung, Taiwan

TUESDAY MORNING
9:00
Session AD

MAGNETIC TUNNEL JUNCTION I
Guoxing Miao, Chair


AD-02. Manipulating the crystallographic properties of Fe/MgO/Fe trilayers. H. Zhang1, A. Morisako1, H. Matsuoka1 and X. Liu1. Department of Information Engineering, Shinshu University, Nagano, Japan

AD-03. Correlation effects in the magnetoresistance of Fe/MgO/Fe tunnel junctions. S. Mirhosseini1, K.K. Saha1, A. Ernst1, J. Henk1 and P. Bruno1. 1. Theory Department, Max-Planck-Institut für Mikrostrukturphysik, Halle (Saale), Germany; 2. Oak Ridge National Laboratory, Oak Ridge, TN; 3. Theory Group, European Synchrotron Radiation Facility, Grenoble, France

AD-04. Experimental evidence of Interface Resonance States in Single Crystal Magnetic Tunnel Junctions. P. Zermatten1, G. Gaudin1, M. Miron1, C. Tusau1, F. Greullet1, M. Hehn2 and A. Schuhl1. 1. SPINTEC, CNRS/CEA, Grenoble, France; 2. Laboratoire de Physique des Matériaux, UMR7536, CNRS, Nancy, France

AD-05. Temperature dependence of Spin Transfer induced high frequency response of MgO based magnetic tunnel junctions. B. Georges1, J. Grollier1, V. Cros1, A. Fert1, A. Fukushima1, H. Kubota1, K. Yakushijin1, S. Yusa1 and K. Ando1. 1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan
AD-06. Understanding spin tunneling in CoFeB alloys. P.V. Paluskar1, J.J. Attema2, G.A. de Wijs3, R. Lavijsen1, M. Sicot1, E. Snoeck5, S. Fiddy4, J.T. Kohlhepp1, H.J. Swagten1, R.A. de Groot2 and B. Koopmans1. Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands; 2. ESM, Theoretical Physics, Radboud University Nijmegen, Nijmegen, Netherlands; 3. Station 7.1, Daresbury Labs, CCLRC, Daresbury, United Kingdom; 4. CEMES, CNRS, Toulouse, France

AD-07. 75% inverse TMR at room temperature in Fe4N/MgO/CoFeB-MTJs. Y. Komasaki1, M. Tsunoda1, S. Isogami1 and M. Takahashi2,1. 1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan

AD-10. Study of Dielectric Breakdown Distributions in Magnetic Tunneling Junction with MgO Barrier. T. Min1. MagIC Technologies, Milpitas, CA

TUESDAY MORNING
9:00
Session AE

SEMICONDUCTOR SPIN INJECTION
Michel de Jong, Chair

AE-01. Electrical injection, detection and modulation of spin currents in silicon using a lateral transport geometry. (Invited) O. van ’t Erve1, C. Awo-Affouda1, G. Kioseoglou1, A.T. Hanbicki1, M. Holub1, C.H. Li1, P. Thompson1 and B.T. Jonker1. Code 6361, Naval Research Laboratory, Washington, DC

AE-02. High Spin Polarization at Heusler-alloy/silicon Interface. K. Abe1, Y. Miura1, Y. Shiozawa1 and M. Shirai1. RIEC, Tohoku University, Sendai, Japan

AE-03. Electrical Spin injection into Silicon: a comparison between Fe/Schottky and Fe/Al2O3 tunnel contacts. A. Hanbicki1, G. Kioseoglou1, O.M. van ’t Erve1, C.H. Li1, P. Thompson1, R. Goswami1, G. Spanos1 and B.T. Jonker1. Naval Research Laboratory, Washington, DC

AE-04. Ferromagnetic Kisaki transistor as spin-injector into Silicon. M. van Veenhuizen1 and J. Moodera1. physics, MIT, Cambridge, MA; 2. Francis Bitter Magnet Laboratory, MIT, Cambridge, MA

AE-05. Coherence and phase control of electrically injected spins using ultrafast current pulses. (Invited) G. Guntherodt1,2, L. Schreiber1,2, C. Schwark1,2, J. Moritz1,2, B. Beschoten1,2, M. Lepsa2,4, C. Adelmann1 and C. Palmstrom5. Physikal. Institut IIA, RWTH Aachen University, 52056 Aachen, Germany; 2. Virtual Institute for Spin Electronics (ViSeL), Aachen - Jülich – Göttingen, Germany; 3. Kavli Institute of Nanoscience, Delft University of Technology, 2600 GA Delft, Netherlands; 4. Institute of Bio- and Nanosystems (IBN-1), Research Center Jülich GmbH, 52425 Jülich, Germany; 5. Department of Chemical Engineering and Material Science, University of Minnesota, Minneapolis, MN
AE-06. Electrical spin injection and detection through CoFeB/MgO electrodes in n-GaAs channel. T. Inokuchi1, T. Marukame1, M. Ishikawa1, H. Sugiyama1 and Y. Saito1. Corporate R&D Center, Toshiba Corporation, Kawasaki, Japan

AE-07. Enhancement of the spin accumulation at the interface between a magnetic tunnel junction and a semiconductor. T. Tran1, J. Haffreis2, C. Deranlot1, J. George1, A. Fert1, A. Miard1 and A. Lemaître21. Unité Mixte de Physique CNRS-Thales, Palaiseau, France; 2. Laboratoire de Photonique et de Nanostructure, CNRS, Marcoussis, France

AE-08. Spin-dependent transport in Zinc-Blende MnAs nanoparticles / GaAs semiconductor hybrid structures. P. Nam Hai1, B. Yu1, S. Ohya1,2, M. Tanaka1,2, S.E. Barnes3,4 and S. Maekawa1,1. Department of Electrical Engineering and Information Systems, The University of Tokyo, 7-3-1 Hongo, Bunkyo-Ku, Tokyo, Japan; 2. Japan Science and Technology Corporation, 4-1-8 Honcho, Kawaguchi, Saitama, Japan; 3. Physics Department, University of Miami, Coral Gables, FL; 4. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 5. Institute for Materials Research, Tohoku University, Sendai, Japan

AE-09. Robustness of spin polarization in graphene-based spin valves. M. Shiraishi1,2, M. Ohishi1, R. Nouchi1, T. Nozaki1, T. Shinjo1 and Y. Suzuki1. Osaka University, Toyonaka, Osaka, Japan; 2. JST-PRESTO, Kawaguchi, Japan

AE-10. Correlation of microstructure and magnetotransport in organic semiconductor spin valve structures. Y. Liu1, S.M. Waston2, T. Lee1, J.M. Gorham3, H.D. Fairbrother4, H.E. Katz5, J.A. Borchers2 and D.H. Reich1. Department of Physics, Indiana State University, Terre Haute, IN; 2. Department of Physics and OPTIMAS Research Center, Kaiserslautern University of Technology, Kaiserslautern, Germany; 3. Center for Instruction, Research, and Technology, Indiana State University, Terre Haute, IN

AE-11. The origin of large magnetoresistance in rubrene-Co nanocomposites. D. Hatanaka1, S. Tanabe1, H. Kusai1, R. Nouchi1, T. Nozaki1, T. Shinjo1, Y. Suzuki1 and M. Shiraishi1,21. Graduate School of Engineering Science, Osaka University, Toyonaka-shi, Osaka, Japan; 2. JST-PRESTO, Kawaguchi, Japan

AF-01. Ultrafast demagnetization induced by interlayer spin angular momentum transfer. G. Malinowski1, F. Dalla Longa1, J.H. Rietjens1, P.V. Paluskar1, R. Huijink1, H. M. Swagten1 and B. Koopmans1. Group Physics of Nanostructures Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands

AF-02. Ultrafast thermo-magnetic writing across ferrimagnetic compensation points. A. Tsukamoto1,2, D. Stanciu3, A. Kimel3, F. Hansteen3, A. Kirilyuk3, A. Itoh1 and T. Rasing3. 1. College of Science and Technology Nihon University, Funabashi, Chiba, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Saitama, Japan; 3. Institute for Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands

AF-03. Time-resolved and energy-dispersed spin manipulation in ferromagnets and clusters under influence of femtosecond laser pulses. G. Zhang1, Y. Bai1,2, T. Hartenstein2, G. Lefkidis2 and W. Hübner1. Department of Physics, Indiana State University, Terre Haute, IN; 2. Department of Physics and OPTIMAS Research Center, Kaiserslautern University of Technology, Kaiserslautern, Germany; 3. Center for Instruction, Research, and Technology, Indiana State University, Terre Haute, IN


AF-05. Two relaxation times model for ferromagnetic metals and half metals. M.G. Muenzenberg1, G.M. Müller1, J. Walowski1, A. Gupta2, A.V. Ramos3, K. Gehre4, V. Moshnyaga5, K. Samwer5, J. Schmalhorst6, A. Thomas7, A. Hüttten7, G. Reiss7, G.X. Miao8,9 and J.S. Moodera1. IV. Phys. Institute, Goettingen University, Goettingen, Germany; 2. MINT Center, University of Alabama, Tuscaloosa, AL; 3. DSM/DRECAM/SPCSI, CEA Saclay, Gif-Sur-Yvette, France; 4. I. Phys. Institute, Goettingen University, Goettingen, France; 5. Department of Physics, University of Bielefeld, Bielefeld, Germany; 6. Francis Bitter Magnet Laboratory, MIT, Cambridge, MA
AG-07. Ultrafast Demagnetization and Transfer of Angular Momentum in Nickel. (Invited) C. Stamm¹, N. Pontius¹, T. Kachel¹, T. Quast¹, T. Kachel¹, M. Wietstruk¹, R. Mitzner¹², S. Khan¹³, H.A. Dürr¹ and W. Eberhardt¹. BESSY GmbH, Berlin, Germany; 2. Physikalisches Institut der Universität Münster, Münster, Germany; 3. Institut für Experimentalphysik, Universität Hamburg, Hamburg, Germany

AG-08. Dynamic Switching of Single Domain and ECC Media Under AC Field at Microwave Frequency. K. Gao¹ and M. Benakli¹. Research and Technology Development, Seagate Technology, Bloomington, MN

AG-09. Noise enhanced stability in magnetic systems. M. Trapanese¹. Dipartimento di Ingegneria Elettrica, Elettronica e delle Telecomunicazioni, Università di Palermo, Palermo, Italy

AG-10. Non-exponential magnetization thermal decay of a single-domain particle: numerical computations with dynamic Fokker-Planck equation. K. Zhang¹. Hitachi Global Storage Technologies, San Jose, CA

AG-11. Exact determination of nucleation fields and nucleation modes in 2-phased magnetic nano-systems. G. Zhao¹², H. Zhang¹ and Y. Feng¹. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; 2. Department of Physics, National University of Singapore, Singapore, Singapore

AG-12. Micromagnetic analysis of the switching field of CoCrPt-SiO₂ and CoPt-TiO₂ layers. J. Lee¹, J. Fidler¹, D. Sues¹, T. Schrefl¹, S. Park¹ and K. Oh¹. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 2. Department of Materials Science and Engineering, Seoul National University, Seoul, South Korea; 3. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 4. Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, South Korea


AG-02. Isothermal Oxidation Behaviors of FeCoV and FeCoVNb Alloys. Z. Turgut¹², J.C. Horwath², M. Huang¹², J.E. Coate² and R.T. Fingers². UES Inc., Dayton, OH; 2. AFRL, Wright-Patterson AFB, OH

AG-03. Fluoride Insulator Material of Iron Powder for Compacted Magnetic Core. T. Imagawa¹, Y. Satsuu¹ and M. Komuro¹. Hitachi-ARL, Hitachi, Ibaraki, Japan

AG-04. Effects of Si content on the magnetic properties of Fe-Si alloy powder cores. P. Jang¹, B. Lee¹ and I. Jeong¹. Div. of Applied Science, Cheongju University, Cheongju, Chungcheongbuk-do, South Korea; 2. R&D Center, Changsung Corp., Incheon, South Korea

AG-05. Powder Compacts of Nd₅FeₓNₓ exhibiting μsp > 1 at 1-18 GHz. N. Imaoka¹², M. Tada¹, T. Nakagawa¹ and M. Abe¹. Physical Electronics, Tokyo Institute of Technology, Meguro, Tokyo, Japan; 2. Central R&D Laboratories, Asahi Kasei Corporation, Fuji, Shizuoka, Japan

AG-06. The effect of boron addition on the atomic structure and magnetism of FeGaB thin films investigated by extended x-ray absorption fine structure. A. Yang¹, J. Lou¹, C. Vittoria¹, N.X. Sun¹ and V.G. Harris¹. Center for Microwave Magnetic Materials and Integrated Circuits, Electrical and Computer Engineering, Northeastern University, Boston, MA
AG-07. Magnetic entropy change and refrigerant capacity in GdFeAl compound. Q. Dong1, B. Shen1, J. Chen1, J. Shen1, H. Zhang1 and J. Sun1. State Key Laboratory for Magnetism, Beijing National Laboratory for Condensed Matter Physics and Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. School of Material Science and Engineering, Hebei University of Technology, Tianjin, China

AG-08. Lift-Off Phenomenon in Magnetostriction of Electrical Steels. T. Hilgert1, L. Vandevelde1 and J. Melkebeek1. Department of Electrical Energy, Systems and Automation, Ghent University, Gent, Oost-Vlaanderen, Belgium

AG-09. Control of the number of {110} grains and magnetic induction in inhibitor-free 3% Si-Fe strips. S. Kim1, J. Soh1 and N. Heo1. Advanced Materials Research Group, Korea Electric Power Research Institute, Daejeon, CN, South Korea

AG-10. Correlation between the Magnetostrixtion and the Loss in 3% Silicon-iron Grain-oriented Electrical Steel. O. Kwon1, K. Ha1, J. Kim1 and J. Kim1. Technical Research Laboratories, Pohang, Gyeongbuk, South Korea

AG-11. An equivalent stress for the influence of multiaxial stress on the magnetic behavior. L. Daniel1 and O. Hubert1. Laboratoire de Génie Electrique de Paris (LGEP), CNRS (UMR 8507) ; SUPELEC ; Univ Paris-Sud ; UPMC, Gil sur Vette Cedex, France; 2. LMT-Cachan, ENS Cachan ; CNRS ; PRES Universit Paris, Cachan Cedxex, France

AG-12. Magnetic Anisotropy induced by High energy ball milling of Fe2MnAl. V. Atatappa1, H. Bhargava1, L. Nambakkat1 and V. Kanippoth1. Department of Physics, Mohan Lal Sukhadia University, Udaipur, Rajasthan, India


AG-14. Ru/FeCoB double layered film with high in-plane magnetic anisotropy field of 500 Oe. K. Hira61, T. Matsuu1, A. Hashimoto1 and S. Nakagawa1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan

AG-15. Magnetic stability of Fe-rich FeCu alloy with structural alteration of nucleated Cu phase: ab initio study. H. Choi1 and Y. Chung1. Department of Material Science and Engineering, Hanyang University, Seoul, South Korea

AH-10. Long-Range Proximity Effect in Nanowires Investigated by I-

AP-01. Paramagnetic spin dynamics in the non-homogeneous crystals of low-doped lanthanum manganites. M. Auslender¹, A.I. Shames², E. Rozenberg³, G. Gorodetsky⁴ and Y.M. Mukovskii⁵. 1. Ben Gurion University, Beer Sheva, Israel; 2. Department of Physics, Bar-Ilan University, Ramat-Gan, Israel; 3. Department of Applied Physics, The University of Tokyo, Tokyo, Japan


AH-07. Magnetic flux oscillations in partially irradiated Bi₂Sr₂CaCu₂O₈⁺ₓ crystals. D. Barness⁶, M. Sinvani⁷, A. Shaulov⁸, C. Trautmann⁹, T. Tamegai¹⁰ and Y. Yeshurun¹¹. 1. Department of Physics, Bar-Ilan University, Ramat-Gan, Israel; 2. Gesellschaft für Schwerionenforschung (GSI), Darmstadt, Germany; 3. Department of Applied Physics, The University of Tokyo, Tokyo, Japan

10:24

AH-08. Effect of rare earth doping on the superconducting properties of MgB2. G.D. Varma¹, N. Ojha¹ and H.K. Singh¹. 1. Physics, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India; 2. Quantum Hall Resistance Standard & Superconducting Devices Group, National Physical Laboratory, New Delhi, New Delhi, India

10:36


M. Costache¹, B. Moeckly² and J. Moodera³. 1. MIT, Cambridge, MA; 2. Superconductor Technologies, Inc., Santa Barbara, CA

10:48

AH-10. Long-Range Proximity Effect in Nanowires Investigated by I-V Measurements. H. Liu¹, Z. Ye², W. Wu² and K. Rathnayaka³. 1. Physics, Texas A&M University, College Station, TX

11:00


I. Lyuksyutov¹. 1. Department of Physics, Texas A&M University, College Station, TX

11:12

AH-12. Topological Confinement and Superconductivity. K.A. Al-Hassanieh¹, C.D. Batista¹, P. Sengupta¹ and A.E. Feiguin²,³,¹. 1. Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM; 2. Department of Physics, The University of Maryland, College Park, MD; 3. Microsoft Project Q, The University of California, Santa Barbara, CA

Program 31

TUESDAY MORNING 8:00

Session AP

CMR OXIDES I: BULK AND NANOPIERCLES (POSTER SESSION)

Bogdan Dabrowski, Chair

AP-02. Investigation of Valence States of Transition-metal Ions in Ferromagnetic Double Perovskite La₆MnNiO₁₆ by Using Synchrotron Radiation. J. Kang¹, G. Kim¹, H.J. Lee¹, D.H. Kim¹, S. Kolesnik², B. Babrowski³, H. Lee¹, J.Y. Kim¹, J.E. Lee¹, B.J. Kim³ and B.I. Min¹. 1. Physics, The Catholic University of Korea, Bucheon, South Korea; 2. Physics, Northern Illinois University, DeKalb, IL; 3. Pohang Accelerator Laboratory, POSTECH, Pohang, South Korea; 4. Physics, POSTECH, Pohang, South Korea

AP-03. Anomalous temperature dependence of the magnetization in La₉₋ₓSrₓ₁₋ₓMnO₃. M. Marysko¹, Z. Jirak¹, P. Novák¹ and M.M. Savosta². 1. Institute of Physics, Praha, Czech Republic; 2. Donets Institute of Physics and Technics, Donetsk, Ukraine

AP-04. Positron annihilation spectroscopy and transport properties of double perovskite compounds Sr₂₋ₓGdxFeMoO₆. X. Wu¹, Y. Hu¹, B. Qian¹ and Q. Lu¹. 1. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Physics, Henan Normal University, Xinxian, China

AP-05. Magnetocaloric dependence of A-site cation-disordering in Y and Sr co-doped La₂/3Ca₁/3MnO₃ compounds. G. Liu¹,², Q. Ji¹, B. Cai¹, X. Wu¹ and G. Luo⁵. 1. Physics, Nanjing University, Nanjing, China; 2. School of Materials Science and Engineering, Nanchang University, Nanchang, China

AP-06. Cr-doping Effect on the orbital fluctuation of heavily doped Nd₁₋ₓSrₓMnO₃ (x = 0.625). R. Tasaki¹, S. Fukushima¹, M. Akaki¹, D. Akahoshi¹ and H. Kuwahara¹. 1. Physics, Sophia University, Tokyo, Japan

AP-07. Exchange bias in phase-separated ferromagnetic-nanodomain Pr₅/₈Ca₃/₈MnO₃ single crystal. G. Cao¹, J. Zhang¹, S. Cao¹ and X. Shen¹. 1. Physics, Shanghai University, Shanghai, Shanghai, China

AP-08. Field Induced Magnetic Phase Transitions in (Sm₁₋ₓGdx)₀.₅₅Sr₀.₄₅MnO₃. F.N. Bukhanko¹, V.I. Valkov¹, B.M. Todris¹, R. Tasaki¹, S. Fukushima¹, M. Akaki¹, D. Akahoshi¹ and H. Kuwahara¹. 1. Solid State Physics, The University of Tokyo, Tokyo, Japan

AP-09. Effect of Local Jahn-Teller Distortions on Field-Induced Magnetic Phase Transitions in (Sm₁₋ₓGdx)₀.₅₅Sr₀.₄₅MnO₃. F.N. Bukhanko¹, V.I. Valkov¹, B.M. Todris¹, R. Tasaki¹, S. Fukushima¹, M. Akaki¹, D. Akahoshi¹ and H. Kuwahara¹. 1. Solid State Physics, The University of Tokyo, Tokyo, Japan

AP-10. Magnetic and transport properties of polycrystalline La₀.₄₅Sr₀.₅₅Mn₁₋ₓCoₓO₃. Y. Ying¹, N. Dai¹, T. Eom¹ and Y. Lee¹. 1. Physics, Quantum Photonic Science Research Center and BK21 Program Division of Advanced Research and Education in Physics, Hanyang University, Seoul, South Korea
AP-11. Synthesis and ESR studies of Bi0.55Ca0.45MnO3 nanoparticles. J. Kurian and R. Singh. I. School of Physics, University of Hyderabad, Hyderabad, Andhra Pradesh, India

AP-12. Magnetic properties of La0.67Ca0.33MnO3 nanoplatelets. D. De, S. Ram, A. Banerjee, A. Gupta and S.K. Roy. I. MME, Indian Institute of Technology, Kharagpur, West Bengal, India; 2. MDC, Indian Institute of Technology, Kharagpur, West Bengal, India; 3. UGC-DAE Consortium for Scientific Research, Indore Centre, Indore, Madhya Pradesh, India

TUESDAY MORNING 8:00

Session AQ
RARE-EARTH TRANSITION METAL BORIDES I (POSTER SESSION)
Melania Marinescu, Chair


AQ-02. Magnetic properties of NdFeB sintered magnet with Dy segregation. H. Suzuki, Y. Satsu and M. Komuro. I. Advanced Research Laboratory, Hitachi Ltd., Omika, Ibaraki, Japan

AQ-03. Electrochemical corrosion behavior of Nd-Fe-B permanent magnets with modified microstructure. W. Liu, M. Yue, D. Zhang, J. Zhang and X. Liu. I. College of Material Science and Engineering, Beijing University of Technology, Beijing, China; 2. Center for the Physics of Materials and Department of Physics, McGill University, Montreal, QC, Canada

AQ-04. Preparation, structural and magnetic properties of Nd-Fe-B-based nano-particles. M. Yue, Y. Wang, N. Poudyal, C. Rong and J. Liu. I. University of Texas at Arlington, Arlington, TX

AQ-05. Microstructure and magnetic properties of multilayer Ta/NdFeB/MoCuTa thin films. H. Chirciac, M. Grigoras, N. Lupu, M. Ursu and V. Buta. I. MDM Department, National Institute of R&D for Technical Physics, Iasi, Romania

AQ-06. Interfacial state and magnetic properties of Nd-Fe-B / Nd thin films. S. Sugimoto, M. Matsuura, R. Goto and N. Tezuka. I. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai, Japan


AQ-09. Exchange Interaction in Rapidly Solidified Nanocrystalline RE-(Fe/Co)-B Hard Magnetic Alloys. Z. Liu, Z. Zeng and H. Davies. I. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. School of Materials Science and Engineering, South China University of Technology, Guangzhou, China


AQ-13. Magnetic properties of Sn substituted Nd₄Fe₁₁B₆Fe₃B nanocomposite. R. Madugundo and S. Ram. I. Materials Science Centre, Indian Institute of Technology Kharagpur, Kharagpur, West Bengal, India

TUESDAY MORNING 8:00

Session AR
SPIN TORQUE EFFECTS IN NANOSTRUCTURES (POSTER SESSION)
Li Gao, Chair

AR-01. Spin Transfer Torque in Electrodeposited Co/Cu Multilayered Nanowire Arrays. L. Tun, X. Huang and B.J. Stadler. I. University of Minnesota, Minneapolis, MN
AR-02. Current driven magnetization reversal in microstructured spin valve with CIP configuration. C. Kuo1, C. Chao1, J. Ou1, L. Horng1, T. Wu2, M. Tsunoda1, M. Takahashi1 and J. Wu1. 1. Physics, National Chianghua University of Education, Chianghua City, Taiwan; 2. Humanities and Sciences, National Yunlin University of Science and Technology, Yunlin City, Taiwan; 3. Electronic Engineering, Tohoku University, Sendai, Japan

AR-03. Current-Induced Flip-Flop of Magnetization in Magnetic Tunnel Junction with Perpendicular Magnetic Layers and Polarization-Enhancement Layers. W. Kim1, K. Lee1 and T. Lee1. Korea Advanced Institute of Science and Technology, Daejeon, South Korea; 2. Korea University, Seoul, South Korea

AR-04. LLG study of the effect of pulse width on spin-transfer torque magnetization switching. R. Sugano1, M. Ichimura1, S. Takahashi1 and S. Maekawa1. Advanced Research Laboratory, Hitachi, Ltd., Kokubunji-shi, Tokyo, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan

AR-05. Reduction of spin-transfer switching current in MgO-based magnetic tunnel junctions using Co-Fe-(Cr, V)-B free layer having low saturation magnetization. H. Kubota1, A. Fukushima1, K. Yakuishi1, S. Yuasa1, K. Ando1, M. Oogane2, S. Yakata1, Y. Ando1 and T. Miyazaki1. 1. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 2. Department of Applied Physics, Tohoku University, Sendai, Miyagi, Japan; 3. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan

AR-06. Spin transfer torque in magnetic tunnel junctions with synthetic ferrimagnetic free layer. M. Ichimura2, T. Hamada1, H. Imamura2, S. Takahashi1 and S. Maekawa1. Advanced Research Lab., Hitachi, Ltd., Tokyo, Japan; 2. AIST, Tsukuba, Japan; 3. IMR, Tohoku Univ., Sendai, Japan

AR-07. Sweep-rate dependence of current-driven dynamics in magnetic nanopillars. B. O’Gorman1, S. Dietze1 and M. Tsoi1. University of Texas at Austin, Austin, TX

AR-08. Non-stationary signal processing of multiple oscillatory modes excited by spin-polarized current in nanoscale exchange-bias spin valves. G. Siracusano1, G. Finocchio1, I. Krivorotov2, L. Torres1, G. Consolo2 and B. Azzerboni1. 1. Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 2. Department of Physics and Astronomy, University of California, Irvine, CA; 3. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain


AR-10. Spin Transfer Dynamics in Almost Symmetric Magnetic Nanopillars. W.L. Lim1, A.E. Higgins1 and S. Urazhdin1. West Virginia University, Morgantown, WV

AR-11. Relationship between free layer structure and asymmetry of current-induced magnetization switching in magnetic tunnel junction. T. Lee1, M. Kurasawa1, C. Yoshida1, M. Aoki1 and Y. Sugiyama1. 1. Fujitsu Laboratories Ltd., Atsugi, Japan

AR-12. Search for current-driven magnetoresistive effects in multilayers containing ferromagnetic and antiferromagnetic layers. Z. Wei1, A. Sharma2, J. Bass2 and M. Tsoi1. University of Texas at Austin, Austin, TX; 2. Michigan State University, East Lansing, MI

AR-13. Effect of polarized current on the exchange bias in a current-in-plane spin valve. X. Tang1, H. Zhang1, H. Su1, Y. Jing1, Z. Zhong1 and J. Sheng1. State Key Laboratory of Electronic Thin Films and Integrated Devices, Chengdu, Sichuan, China; 2. Department of Physics and Astronomy, Newark, DE

AR-14. Current—perpendicular-to-plane magnetoresistance of a domain wall confined in a nano-oxide-layer. J. Saro1, K. Matsushita1 and H. Imamura1. Nanotechnology Research Institute (NRI), Advanced Industrial Science and Technology (AIST), Tsukuba, Japan

AR-15. Effect of disorder on the bias dependence of spin torque in Magnetic Tunnel Junctions. Y. Tang1, A. Kalitsov2 and N. Kioussis1. Department of Physics, California State University, Northridge, Northridge, CA; 2. Institut Neel, Grenoble, France

AR-16. Spin induced excitations in coupled magnetic layers. D. Gusakova1,2, D. Housameddine1, U. Ebel1, M. Cyrille2, B. Delaër1, B. Dieny1 and L. Buda-Prejean1-3. 1. CEAT-INAC/CNRS/UPF/INPG, SPINTEC, Grenoble, France; 2. CEAE-LETI-MINATEC, Grenoble, France; 3. Institut Polytechnique de Grenoble, Grenoble, France

AR-17. Micromagnetic computation of interface conductance of spin-transfer driven ferromagnetic resonance in nanopillar spin valves. M. Carpentieri1 and L. Torres1. 1. Eletronica, Informatica e Sistemistica, University of Calabria, Arcavacata di Rende, Cosenza, Italy; 2. Fisica Aplicada, University of Salamanca, Salamanca, Salamanca, Spain

TUESDAY MORNING
8:00

Session AS

SPIN TORQUE AND OTHER EXCITATIONS IN MAGNETIC NANOSTRUCTURES
(POSTER SESSION)

Maxim Tsoi, Chair

AS-01. Modeling stability phase diagrams in spin-valves with perpendicular anisotropy Co/Ni layers. A.M. Deac1,2, W.H. Rippsd1, J.M. Shaw1, R. Heindl1 and M. Schneider3,1. Electromagnetics Division, National Institute of Standards and Technology (NIST), Boulder, CO; 2. Institut fuer Festkoerperforschung, Forschungszentrum Juelich GmbH, Juelich, Germany; 3. Department of Physics, University of Montana, Missoula, MT
AS-02. Current-Induced Magnetic Excitation of Synthetic Antiferromagnet. S. Lee1 and K. Lee1. Dept. of Mater. Sci. & Eng., Korea University, Seoul, South Korea


AS-04. Mode excitation by AC spin torque for point contacts with in- and out of plane magnetizations, M.R. Pufall1,2, W.H. Rippard3, M.L. Schneider4 and J. Shaw1. Dept. of Physics, University of Denver, Denver, CO; 2. Electromagnetics Division, NIST, Boulder, CO; 3. Dept. of Physics, University of Montana, Missoula, MT

AS-05. Analytical and Numerical Modeling of Nonlinear Spin-Transfer Frequency Modulators. G. Consolo1, V. Puliafito1, G. Finocchio1, L. Lopez-Diaz1 and B. Azzerboni1. Fisica della Materia e Ingegneria Elettronica, Università di Messina, Messina, Italy; 2. Departamento de Fisica Aplicada, University of Salamanca, Salamanca, Spain

AS-06. Precession modes excited by spin-transfer in a pinned synthetic antiferromagnetic layer. A.M. Deac1,2, T.J. Silva3, W.H. Rippard1, J.A. Katine1, M.J. Carey1 and M. Schneider1. Electromagnetics Division, National Institute of Standards and Technology (NIST), Boulder, CO; 2. Hitachi San Jose Research Center, San Jose, CA; 3. Institut fuer Festkuerperforschung, Forschungszentrum Juelich GmbH, Juelich, Germany; 4. Department of Physics, University of Montana, Missoula, MT


AS-08. Magnetic Coupled Spin-torque Devices and 400MHz Ring Oscillator Design. L. Leem1 and J.S. Harris1. Electrical Engineering, Stanford University, Stanford, CA

AS-09. Spin torque transfer operated spintronic logic circuit. X. Yao1, Y. Zhang1, X. Wang1 and J.P. Wang1. MINT Center, ECE Department, Univ. of Minnesota, Minneapolis, MN

AS-10. Detection of current-induced resonance of magnetic vortices using tunnel magnetoresistance. T. Nozaki1, H. Kubota1, S. Yuasa2, M. Shiraishi1, T. Shinjo1 and Y. Suzuki1. Materials Engineering, Tatung University, Taipei, Taiwan; 2. Department of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan

AS-11. Spin-polarized current stimulation of 100 nm dual vortex. A. Lyle1, Y. Hong1, B.C. Choi1, G.S. Abo1, H. Han1, J. Jalli1, S. Bae1, J. Lee1, P. LeClerc1, R. Syslo2, G.W. Donohoe3 and S. Gee1. MINT Center, University of Alabama, Tuscaloosa, AL; 2. Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL; 3. Physics and Astronomy, University of Victoria, Victoria, BC, Canada; 4. Electrical and Computer Engineering, University of Idaho, Moscow, ID; 5. Seagate Technology, Bloomington, MN

AS-12. Domain wall motion under spatially varying non-uniform transverse magnetic field for field driven memory applications. C. You1. Department of Physics, Inha University, Incheon, South Korea

AS-13. Domain wall depinning in half-ring series wires with varied linewidth. K. Cheng1, C. Yu1, S. Lee1, Y. Liou1, Y. Yao1 and J. Huang1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Materials and Science Engineering, National Tsing-Hua University, Hsinchu, Taiwan; 3. Department of Materials Engineering, Tatung University, Taipei, Taiwan

AS-14. Analysis of the domain wall resistance by magneto-transport in centipede-like structures consisting of different shape anisotropic Py wires. T. Chung1 and S. Hsu1. Department of Electrophysics, National Chiao Tung University, Hsinchu, Taiwan

AS-15. In-situ observation of magnetic domain wall motion in magnetic nanowires by magneto-optical imaging. Y. Miyamoto1, K. Machida1, N. Funabashi1, N. Kawamura1, K. Aoshima1, K. Kuga1 and N. Shimizu1. Science & Technical Research Labs., NHK (Japan Broadcasting Corporation), Tokyo, Japan

AS-16. Current-Driven Domain Wall Motion in Co/Ni Wires with Perpendicular Magnetic Anisotropy. H. Tanigawa1, T. Koyama1, N. Oshima1, S. Fukami1, N. Ishiwata1, S. Kasai1 and T. Ono1. Graduate School of Science, Institute for Chemical Research, Kyoto University, Uji, Kyoto, Japan; 2. Device Platforms Research Laboratories, NEC Corporation, Sagamihara, Kanagawa, Japan

TUESDAY MORNING
8:00

Session AT
CMR OXIDES II: FILMS AND HETEROSTRUCTURES (POSTER SESSION)
Tiffany Santos, Chair

AT-01. Strong photovoltaic effect at low temperature in La0.7Sr0.3MnO3–δ/SrTiO3-Nb heterojunction. J. Shen1,2, J. Gao1, F. Hu1 and J. Sun1. Department of Physics, The University of Hong Kong, Hong Kong, China; 2. Material Science and Engineering, Hebei University of Technology, Tianjin, China; 3. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China

AT-02. Voltage control of magnetic and electrical properties of La0.7Cs0.3MnO3/PMN-Pt structures. S. Zhigao1,2, G. Ju1, S. Yuping1 and S. Wenhai1. Department of Physics, The University of Hong Kong, Hong Kong, China; 2. Key Laboratory of Materials Physics, Institute of Solid State Physics, Chinese Academy of Science, Hefei, China
AT-03. Magneto-transport properties of c-axis oriented
La$_{0.6}$Sr$_{0.4}$MnO$_3$ thin films on MgO-buffered SiO$_2$/Si substrates.
Y. Kang$^1$, G. Shin$^1$, S. Lee$^1$, D. Yoo$^1$, A. Ulyanov$^1$ and S. Yoo$^1$.  
Materials Science and Engineering, Seoul National University, Seoul, South Korea

AT-04. Anomalous behaviors of the MnO$_6$ octahedron in perovskite
colloidal magnetoresistance material under strain effect.
C. Wu$^1$ and H. Chou$^1$. National Sun Yat-sen University, Kaohsiung, Taiwan

AT-05. Phase separation induced by cation disorder and strain in
(La$_{0.7}$Y$_{0.2}$)$_{0.7Ca}_{0.3}$MnO$_3$ films. H. Cai$^1$, X. Wu$^1$, B. Qian$^1$, Z. Wang$^1$, X. Lu$^1$ and J. Gao$^1$.  
Physics, Nanjing University, Nanjing, China; 2. Physics, The University of Hong Kong, Hong Kong, China

AT-06. Scanning Tunneling Microscopy and Spectroscopy (STM/STS)
studies of annealing effects in colossal magneto resistance
Nanotechnology Lab, Defence Institute of Advanced Technology (Deemed University), Pune, Maharashtra, India; 2. Physical and Materials Chemistry Division, National Chemical Laboratory (NCL), Pune, Maharashtra, India

AT-07. Electronic and Magnetic Reconstructions at the Interface
Department of Physics, Pohang University of Science and Technology, Pohang, Gyeongbuk, South Korea; 2. Pohang Accelerator Laboratory, Pohang, Gyeongbuk, South Korea; 3. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 4. Department of Physics, University of California, San Diego, CA; 5. Los Alamos National Laboratory, Los Alamos, NM; 6. School of Physics and Astronomy, University of Minnesota, Minneapolis, MN

AT-08. Thickness dependent weak ferromagnetism and insulator
metal transition in Nd$_{0.7}$Sr$_{0.3}$MnO$_3$ thin films. R. Prasad$^1$, P.K. Siwach$^1$, M.P. Singh$^3$, P. Fournier$^1$, A. Kaur$^2$ and H.K. Singh$^1$.  
1. Materials Science Division, Indira Gandhi Centre for Atomic Research, Kalpakkam, India; 2. Department of Physics, National Taiwan University, Taipei, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 4. Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan

AT-09. X-ray Photoemission study in ReO$_7$Ca$_3$MnO$_3$ epitaxial thin films. T. Hsu$^1$, A. Mani$^1$, C. Chuang$^1$, C. Chen$^1$, M. Lin$^1$ and J. Lin$^1$. Center for Condensed States, National Taiwan University, Taipei, Taiwan; 2. Materials Science Division, Indira Gandhi Centre for Atomic Research, Kalpakkam, India; 3. Department of Physics, National Taiwan University, Taipei, Taiwan; 4. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 5. Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan

AT-10. Magnetic and transport properties of epitaxial
La$_{0.6}$Ce$_{0.4}$Ca$_{0.1}$MnO$_3$ films. W.J. Ren$^1$, J.L. Yang$^1$, Y.Q. Zhang$^1$, D. Li$^1$, Z.H. Wang$^2$, X.G. Zhao$^1$ and Z.D. Zhang$^1$.  
Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China

AT-11. Anisotropic magnetoresistance and planar Hall effect in
epitaxial films of La$_{0.7}$Ca$_{0.3}$MnO$_3$. N. Naftali$^1$, Y. Bason$^4$, J. Hoffman$^2$, C. Ahn$^2$ and L. Klein$^1$. Physics, Bar-Ilan University, Ramat Gan, Israel; 2. Applied Physics, Yale University, New-Haven, CT

TUESDAY MORNING 8:00

AUSTIN BALLROOM

SESSION AU
MAGNETIC MICROSCOPY AND IMAGING I

(Poster Session)

Mihaela Tanase, Chair

AU-01. Structure and charge ordering behavior of the colossal
magnetoresistive manganite Nd$_{0.7}$Sr$_{0.3}$MnO$_3$. Z. Luo$^1$, D.J. Miller$^2$ and J.F. Mitchell$^3$. Microscopy and Imaging Center, Texas A&M University, College Station, TX; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL

AU-02. High-resolution transmission electron microscopy and bulk
magnetometry study of LaFe$_{11.5}$Si$_{1.5}$ compound. J. Zou$^1$, B. Shen$^2$ and W. Li$^1$. Division of Functional Materials, Central Iron and Steel Research Institute, Beijing, China; 2. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China

AU-03. Surface magnetic structure of epitaxial magnetite thin films
grown on MgO(001). E. Kaji$^1$, A. Subagyo$^1$ and K. Sueoka$^1$.  
Graduate School of Information Science and Technology, Hokkaido University, Sapporo, Japan

1. SSRL, 2. PULSE, SLAC, Menlo Park, CA; 3. ALS, LBNL, Berkeley, CA

AU-05. Instrumentation for the investigation of switching field
distribution on permalloy (Ni$_{81}$Fe$_{19}$) nanoscale structures.
J.R. Bates$^1$, C.V. Cojocaru$^1$, Y. Miyahara$^1$ and P. Grütter$^1$.  
1. Microscopy and Imaging Center, 2. Materials Science Division, Argonne National Laboratory, Argonne, IL

AU-06. Setup of a new Brillouin light scattering apparatus with
submicrometric lateral resolution and application to the study
of localised spin waves in nanomagnets. G. Gubbiotti$^1$, M. Madami$^1$, S. Tacchi$^1$, G. Capuzzo$^1$ and A. Mani$^2$.  
1. Physics, University of Perugia, Perugia, Italy; 2. Dipartimento di Fisica, University of Ferrara, Ferrara, Italy; 3. CIC nanoGUNE Consolider, San Sebastian, Spain
AU-07. Development and Testing of our In-situ Torque Apparatus for Magnetic Force Microscopy Measurements Comparing Solid and Hollow Torque Transducer Response for High Alloy Stainless Steel. C.L. Milby$^1$ and D.S. Boley$^1$. 1. Physics, Western Illinois University, Macomb, IL

AU-08. High-resolution and High-coercivity FePt L10 Magnetic Force Microscopy Nanoprobe to Study Next-generation Magnetic Recording Media. N. Amo$^1$, A. Lawrenov$^2$, R. Fernandez$^1$, R. Ikkawi$^1$, D. Litvinov$^3$ and S. Khizroev$^1$. 1. Electrical Engineering, University of California-Riverside, Riverside, CA; 2. Center for Nanomagnetic Systems, University of Houston, Houston, TX

AU-09. Heat-assisted high speed MOSLM with rare earth-transition metal in broadband wavelength. J. Heo$^1$, J. Kim$^1$, T. Miyazawa$^1$ and M. Inoue$^1$. Toyohashi University of Technology, Toyohashi, Aichi, Japan

TUESDAY MORNING 8:00

AUSTIN BALLROOM

Session AV

FERRITES, GARNETS I (POSTER SESSION)

Pavol Kabos, Chair

AV-01. Magnetic and structural properties of Co$_{0.8}$MnxFe$_{2.2-x}$O$_4$ (x=0.2, 0.4, 0.6, 0.8) polycrystalline powders synthesized by sol-gel process. Z. Lu$^1$, Z. Li$^1$ and Y. Li$^1$. Hebei University of Technology, Tianjin, China

AV-02. Structural and Magnetic Properties of Electrospun Nickel Zine Ferrite Nanofiber. J. Nam$^1$, Y. Joo$^1$, J. Cho$^1$, M. Chun$^1$ and B. Kim$^1$. Advanced Materials & Components Laboratory, Korea Institute of Ceramic Engineering and Technology, Seoul, South Korea

AV-03. Synthesis of thin ferrite films for RF applications by metal organic decomposition. V.V. Zagorodnii$^{1,2}$, A.J. Hutchison$^1$ and Z.I. Celinski$^1$. Center for Magnetism and Magnetic Nanostructures, University of Colorado at Colorado Springs, Colorado Springs, CO; 2. On leave from National Taras Shevchenko University, Kyiv, Ukraine

AV-04. Frequency-dependent Complex Permittivity and Permeability of Iron-based Powders in 2-18 GHz. R. Yang$^1$, S. Hsu$^1$ and C. Lin$^1$. Dept. of Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 2. Dept. of Materials Science and Engineering, Feng Chia University, Taichung, Taiwan

AV-05. The effect of proton irradiation on magnetic properties of lithium ferrites. S. Hsu$^1$, T. Kuhl$^1$, S. Kim$^1$ and C. Kim$^1$. Department of Physics, Kookmin University, Seoul, South Korea


AV-07. Microwave-Induced Combustion Synthesis of Li_{0.5}Fe_{2.5-x}MgxO_{4} Powder and Their Characterization. Y. Fu$^1$ and C. Lin$^1$. 1. Department of Materials Science and Engineering, National Dong-Hwa University, Hualien, Taiwan; 2. Department of Graduate School of Optomechatronic and Materials, Wu-Feng Institute of Technology, Chiayi, Taiwan

AV-08. Faceting and magnetic response of Mn$_3$-Mg$_x$O$_4$ (x=0 and 0.6) thin films grown on MgO(001) and (011) by molecular beam epitaxy. Y. Tseng$^1$, K. Kuo$^1$ and G. Chern$^1$. ITAE (former SCAPE), Moscow, Russian Federation

AV-09. Resonantly enhanced stripe-line technique to measure microwave permeability of thin films. S.N. Starostenko$^1$, K.N. Rozanov$^1$ and A.V. Osipov$^1$. 1, ITAE (former SCAPE), Moscow, Russian Federation

AV-10. Permeability calculation in composite media with low filler concentration: A new method based on effective media theory (EMT). J. Jiang$^1$, L. Zhen$^1$, X. Wei$^1$, Y. Gong$^1$, W. Shao$^1$ and C. Xu$^1$. School of Materials Science and Engineering, Harbin Institute of Technology, Harbin, China

AV-11. Magnetic and optical properties of RF- sputtered zinc ferrite thin films. M. Sultan$^1$ and R. Singh$^1$. School of Physics, University of Hyderabad, Hyderabad, Andhra Pradesh, India

AV-12. FEM Analysis on Power Loss Mechanism of Fe$_{55}$Al$_{18}$O$_{27}$ Thin Films for Conduction Noise through Microstrip Line. G. Ryu$^1$ and S. Kim$^1$. 1. Department of Materials Engineering, Chungbuk National University, Cheongju, South Korea

AV-13. Ab-initio study on manganese substituted barium M-type hexaferrite. X. Zuo$^1$, A. Geiler$^1$, A. Yang$^2$, C. Vittoria$^1$ and V.G. Harris$^1$. College of Information Technical Science, Nankai University, Tianjin, Tianjin, China; 2. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA

AV-14. Superparamagnetic polymer nanocomposites for microwave applications. M.J. Miner$^1$, S. Skidmore$^2$, T. Weller$^2$ and H. Srikanth$^1$. 1. Department of Physics, University of South Florida, Tampa, FL; 2. Electrical Engineering, University of South Florida, Tampa, FL

AV-15. Low loss Z-type Barium ferrite (Co2Z) for T-DMB antenna application. S. Bae$^1$, Y. Hong$^1$, J. Lee$^1$, J. Jalli$^1$, G.S. Abo$^1$, A. Lyle$^1$, W. Seong$^1$ and J. Keum$^1$. 1. Department of Materials Science and Engineering, Western Florida, University, Tallahassee, FL; 2. Electrical Engineering, University of South Florida, Tampa, FL
AV-16. Bounds on the dynamic magnetic properties of multiresonant composites in exchange resonance model. P. Zhou1 and L. Deng1. School of Microelectronics and Solidstate Electronics, University of Electronic Science and Technology of China, Chengdu, Sichuan, China

TUESDAY MORNING
8:00

Session AW
NEW APPLICATIONS
(POSTER SESSION)
Peter Mach, Chair


AW-02. Magnetorheological Carbonyl Iron Particles Doublely Wrapped with Polymer and Carbon Nanotube. S. Ko1, J. Lim1, B. Park1 and H. Choi1. Department of Polymer Science and Engineering, Inha University, Incheon, South Korea

AW-03. Magnetic field driven nanowire rotation in suspensions. L. Sun1, K. Keshoju1 and H. Xing1. Mechanical Engineering, University of Houston, Houston, TX

AW-04. Sagnac Interferometric Switch Utilizing Faraday Rotation. S. Kommer1, M. Mina1 and R.J. Weber1. Electrical and Computer Engineering, Iowa State University, Ames, IA

AW-05. Minimum Inductance Coils for Magneto-Optic Switching. J. Tioh1, M. Mina1 and R.J. Weber1. Electrical and Computer Engineering, Iowa State University, Ames, IA

AW-06. Development of new magnetic circuit for slim microspeakers. C. Lee1, J. Kwon1 and S. Hwang1. Mechanical Engineering, Pusan National University, Busan, Busan, South Korea

AW-07. FeCoCrV alloy by the powder metallurgy route. J. Leicht1, D. Rodrigues1, N.A. Castro1, F.G. Landgraf2 and V.C. Ferrao Jr1. Metallurgy, IPT, Sao Paulo, Sao Paulo, Brazil. 2. Metallurgy, EPUSP, Sao Paulo, Sao Paulo, Brazil. 3. TEMA, Jandira, Sao Paulo, Brazil

AW-08. Study of electromagnetic wave absorption characteristics and component parameters of laminating-type magnetic wood with stainless steel and ferrite powder for use as building materials. H. Oka1, K. Tanaka1, K. Kubota1, H. Osada1 and F.P. Dawson1. Electric & Electronic Engineering, Iwate University, Morioka, Japan. 2. Electrical & Computer Engineering, University of Toronto, Toronto, ON, Canada

AW-09. Magnetic field amplifier using high-Tc bulk superconductor. S. Choi1, S. Matsumoto1 and T. Kiyoshi1. Magnet development group, National Institute for Materials Science, Tsukuba, Ibaraki, Japan

TUESDAY SALON C
AFTERNOON
2:00

Session BA
SYMPOSIUM ON SPIN TRANSPORT AND SINGLE SPIN MANIPULATION
Nitin Samarth, Chair


BA-02. Control of electron and hole spins in self-assembled InGaAs quantum dots. (Invited) G. Abstreiter1, J.J. Finley1, D. Heiss1 and V. Jovanov1. Walter Schottky Institut, TUM, Garching, Germany

BA-03. Electrical control of single spins in semiconductor nanostructures. (Invited) M.E. Flatté1,2, J. Pingenot1,2, J. Tang1,2, J. Levy1, A. De1,2 and C.E. Pryor1,2. Physics and Astronomy, University of Iowa, Iowa City, IA. 2. Optical Science and Engineering, University of Iowa, Iowa City, IA. 3. Physics and Astronomy, University of Pittsburgh, Pittsburgh, PA

BA-04. Electrically tunable spin polarization in a carbon-nanotube spin diode. (Invited) C.A. Merchant1 and N. Markovic1. Physics and Astronomy, Johns Hopkins University, Baltimore, MD

BA-05. Coupling of Spin and Orbital Motion of Electrons in Carbon Nanotubes. (Invited) F. Kuemmeth1,2, S. Ilani1,2, D.C. Ralph1 and P.L. McEuen1. Department of Physics, Harvard University, Cambridge, MA. 2. Department of Physics, Cornell University, Ithaca, NY. 3. Department of Condensed Matter Physics, Weizmann Institute of Science, Rehovot, Israel
**Session BB**

**DOMAIN WALL MOTION**

Vitali Metlushko, Chair

**BB-01.** The four distinct dynamic modes in the field-driven domain wall motions in soft ferromagnetic nanowires. J. Yang¹, G.S. Beach¹ and J.L. Erskine¹. *Department of Physics, The University of Texas at Austin, Austin, TX*

**BB-02.** Effect of anisotropy constant distribution on domain wall motion. S. Lee¹, Y. Cho¹, U. Pi¹, J. Bae¹ and S. Seo¹. *SDL, SAIT, Youngin-si, Gyunggi-do, South Korea*

**BB-03.** Motion of a vortex domain wall in a rough magnetic nanowire. P. Mellado¹, D. Clarke¹ and O. Tchernyshyov¹. *Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD*

**BB-04.** Current and Field Induced Domain-Wall Depinning in Curved Permalloy Nanowires. G. Nahrwold², L. Bocklage¹, T. Matsuyama¹, B. Krüger², J.M. Scholtysssek¹, U. Merkt¹ and G. Meier¹. *Institute of Applied Physics, University of Hamburg, Hamburg, Germany; 2. I. Institute for Theoretical Physics, University of Hamburg, Hamburg, Germany*

**BB-05.** Thermal stability of domain wall memory. S. Bance¹, T. Schreff¹, G. Hrka³, A. Goncharov¹, J. Dean¹, M. Bashir¹ and D.A. Allwood¹. *Engineering Materials, University of Sheffield, Sheffield, United Kingdom*

**BB-06.** Magnetic configurations and magnetization reversal in thin ferromagnetic rings. G.D. Chaves-O’Flynn¹, A.D. Kent¹ and D.L. Stein¹. *Physics, New York University, New York, NY*

**BB-07.** Experimental suppression of Walker breakdown in transverse domain wall motion. E. Lewis¹, D. Petit¹, A.V. Jausovec¹, H.T. Zeng¹, D.E. Read¹, L.A. O’Brien¹, J. Sampaio¹ and R.P. Cowburn¹. *Physics, Imperial College London, London, United Kingdom*

**BB-08.** Current-excited magnetic domain and domain walls motion in small magnetic field observed by means of Lorentz microscopy. Y. Togawa¹, T. Kimura¹, K. Harada¹, T. Akashi¹, T. Matsuda¹, A. Tonomura¹ and Y. Otani¹. *Advanced Science Institute, Institute of Physical and Chemical Research (RIKEN), Wako, Saitama, Japan; 2. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 3. Advanced Research Laboratory, Hitachi, Ltd., Hatoyama, Japan; 4. Hitachi High-Technologies Co., Hitachinaka, Japan*

**BB-09.** Field- and Current-induced Domain Wall Motion in Permalloy Nanowires probed by single shot Kerr-microscopy. P. Möhrke¹, T.A. Moore¹, M. Kläui¹, S. Kryzk¹, J. Rhensius¹, D. Backes¹, L.J. Heyderman¹ and U. Rüdiger¹. *Fachbereich Physik, Universität Konstanz, Konstanz, Germany; 2. SPINTEC, CEA Grenoble, Grenoble, France; 3. Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, Villigen, Switzerland*

**BB-10.** Domain wall motion and spin structure transformations in Permalloy nanowires induced by current and field. T.A. Moore¹, M. Kläui¹, P. Möhrke¹, L. Heyne¹, D. Backes², J. Rhensius¹, U. Rüdiger¹, L.J. Heyderman¹ and J. Thiele². *SPINTEC, Grenoble, France; 2. Fachbereich Physik, University of Konstanz, Konstanz, Germany; 3. Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, Villigen, Switzerland; 4. Hitachi Global Storage Industries, San Jose, CA*

**BB-11.** Domain wall in ferromagnetic nanowires moving in a high applied field. D. Clarke¹, G. Chern¹ and O. Tchernyshyov¹. *Johns Hopkins University, Baltimore, MD*

**BB-12.** Magnetic domain wall velocity surge above Walker breakdown. G. Beach¹, J. Yang¹, C. Knutson¹, M. Tsol¹ and J. Erskine¹. *The University of Texas at Austin, Austin, TX*

BC-14. Tuning the domain-wall velocity by a perpendicular magnetic field. J. He and S. Zhang. Department of Physics, University of Arizona, Tucson, AZ

BC-15. Domain wall dynamics in the ferromagnetic semiconductor (Ga,Mn)As. V. Jeudy, A. Dourlat, A. Lemaître and C. Gourdon. Institut des Nanosciences de Paris, Université Pierre et Marie Curie-Paris 6 and CNRS, Paris, France; 2. Université de Cergy-Pontoise, Cergy-Pontoise, France; 3. Laboratoire de Photonic et Nanostructures, CNRS, Marcoussis, France

TUESDAY AFTERNOON

Session BC
RECORDING HEADS I
Adam Torabi, Chair


BC-04. Low noise dual free layer magneto-resistive sensor. Y. Zhou. R&D, Headway Technology, Milpitas, CA


BC-06. Effects of Pinning Defects on Current-Perpendicular-to-Plane Magnetic Recording Head. L.L. Chen, F. Liu, K. Stoev, S. Li, M. Ho and S. Mao. Western Digital Corp, Fremont, CA

BC-07. Intrinsic asymmetry and angular dependence of the junction resistance for high TMR read sensors. V.B. Sapozhnikov, K. Gao and Y. Chen. Seagate Technology, Minneapolis, MN


BC-10. Effect of Ion-beam Etching Damage in Fe-Co Tapered Main Pole. Y. Ohsawa, K. Yamakawa and H. Muraoka. CR&D center, Toshiba Corp., Kawasaki, Japan; 2. RIEC, Tohoku Univ., Sendai, Japan
BC-11. Analysis of Writer Pole Remanence of a Tapered Main Pole Head. M. Maeda¹, H. Kobayashi², J. Toda¹, Y. Sato² and S. Eguchi¹. Magnetic Device Laboratory, Fujitsu Laboratories Ltd., Atsugi, Kamagawa, Japan; 2. Autonomous System Laboratory, Fujitsu Laboratories Ltd., Atsugi, Kamagawa, Japan

TUESDAY AFTERNOON

Session BD

ANISOTROPY IN MULTILAYERS AND SURFACES

Dario Arena, Chair

2:00

BD-01. Voltage induced large magnetic anisotropy change in ultrathin Fe/MgO/Polyimide/ITO junctions. (Invited) T. Maruyama¹, K. Ohta¹, T. Nozaki¹, T. Shinjo¹, M. Shiraishi¹, S. Mizukami², Y. Ando¹ and Y. Suzuki¹. ¹. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan; 2. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan; 3. Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan

2:36

BD-02. 400-Fold Reduction in Saturation Field by Interlayering. J. Bonevich¹, P. Pong¹, C. Beauchamp¹, G. Stafford¹, W.F. Egelhoff¹, J. Unguris² and R.D. McMichael². ¹. Metallurgy Division, NIST, Gaithersburg, MD; 2. Center for Nanoscale Science and Technology, NIST, Gaithersburg, MD

2:48

BD-03. Ferromagnetic resonance study of ion irradiated Co/Ni multilayers with perpendicular magnetic anisotropy. J.L. Beaulieu¹, A.D. Kent¹, D. Ravelosona¹, E.E. Fullerton¹, Y. Samson² and C. Beigné¹. ¹. Department of Physics, New York University, New York, NY; 2. Institut d’Electronique Fondamentale, UMR CNRS 8622, Université Paris Sud, Orsay, France; 3. Center for Magnetic Recording Research, University of California, San Diego, CA; 4. CEA Grenoble, DRFMC/SP2M, Grenoble, France

3:00

BD-04. Magneto-optical measurement of spin dynamics in perpendicular anisotropy Co/Pd multilayers with varying Co layer thickness. Z. Liu¹, H. Schmidt¹, O. Hellwig¹ and B. Terris¹. ¹. Electrical Engineering, University of California Santa Cruz, Santa Cruz, CA; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA

3:12

BD-05. Domain wall dynamics in a spin-reorientation transition system Au/Co/Au. K.A. Seu², S. Roy³, S. Park³, C.M. Falco⁴ and S.D. Keve¹. ¹. Advanced Light Source, Lawrence Berkeley National Lab, Berkeley, CA; 2. Physics, University of Oregon, Eugene, OR; 3. Department of Physics, Pusan National University, Busan 609-735, South Korea; 4. College of Optical Sciences, University of Arizona, Tucson, AZ

3:24

BD-06. Magnetic anisotropy and the cone state in Co/Pt multilayer films. H. Stillich³, C. Menk¹, R. Frömer¹ and H. Oepen¹. ¹. Institut für Angewandte Physik, Universität Hamburg, Hamburg, Germany

3:36

BD-07. Frustrated magnetization reversal in Co/Pt multilayers. J.E. Davies¹,², O. Hellwig¹, E.E. Fullerton¹, M. Winklocher³, R.D. Shull¹ and K. Liu². ¹. Metallurgy/Magnetic Materials, NIST, Gaithersburg, MD; 2. Physics Department, University of California, Davis, CA; 3. Hitachi Global Storage Technologies, San Jose, CA; 4. Center for Magnetic Recording, University of California, San Diego, CA; 5. Department of Geosciences, University of Munich, München, Germany

3:48

BD-08. Design of Co/Pd multilayer system with antiferromagnetic-to-ferromagnetic phase transition. J. Thiele¹, T. Hauet² and O. Hellwig¹. Research & Technology Development, Seagate Technology, Fremont, CA; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA

4:00

BD-09. Strain-modulated Transition Temperatures in Epitaxial Thin Films of FeRh. J. Kim¹, P. Ryan¹, Y. Ding¹, D. Arena², L.H. Lewis³, C. Kinane³, B. Hickey³, C. Marrows³ and M. Ali¹. ¹. μ-CAT Consortium, Advanced Photon Source, Argonne, IL; 2. National Synchrotron Light Source, Brookhaven National Lab, Upton, NY; 3. Dept. of Chemical Engineering, Northeastern University, Boston, MA; 4. School of Physics and Astronomy, University of Leeds, Leeds, Yorkshire, United Kingdom

4:12

BD-10. Alternating out-of-plane and in-plane magnetization in (Rh/Fe₈₅Co₁₅)/Rh(001) multilayers. F. Yildiz¹, M. Przybylski³ and J. Kirschner¹. Experimental I, Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany
BD-11. Perpendicular magnetic anisotropy of ultrathin FeCo alloy films on Pd(001) surface: First principles study. D. Kim\textsuperscript{1} and J. Hong\textsuperscript{1}. Physics, Pukyong National University, Busan, South Korea

BD-12. Role of spin-orbit coupling in spin-spiral structures in Fe monolayer on W(110): A first-principles noncollinear magnetism study. K. Nakamura\textsuperscript{1}, T. Akiyama\textsuperscript{1}, T. Ito\textsuperscript{1} and A.J. Freeman\textsuperscript{1}. Physics Engineering, Mie University, Tsu, Mie, Japan; 2. Physics and Astronomy, Northwestern University, Evanston, IL

BD-13. Magnetic anisotropy of single 3d-spins on CuN surface. A.B. Shick\textsuperscript{1}, F. Maca\textsuperscript{1} and A.I. Lichtenstein\textsuperscript{1}. CMT, Institute of Physics ASCR, Prague, Czech Republic; 2. University of Hamburg, Hamburg, Germany

BE-04. Invar effect and non-collinear magnetism in CuFe alloys. M. Eisenbach\textsuperscript{1} and G. Stocks\textsuperscript{1}. National Center for Computational Sciences, Oak Ridge National Lab, Oak Ridge, TN; 2. Material Sciences and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN

BE-05. Oscillatory magnetic exchange coupling at the atomic level: A direct real-space study by a subkelvin spin-polarized STM. (Invited) L. Zhou\textsuperscript{1}, F. Meier\textsuperscript{1}, J. Wiebe\textsuperscript{1} and R. Wiesendanger\textsuperscript{1}. Institute of Applied Physics and Microstructure Research Center, University of Hamburg, Hamburg, Germany

BE-06. Femtosecond and sub-femtosecond magnetization dynamics in diluted ferromagnetic metals. A. Tagliaferri\textsuperscript{1}, V. Bisogni\textsuperscript{2} and N.B. Brookes\textsuperscript{1}. Politecnico di Milano, Milano, Milano, Italy; 2. ESRF, Grenoble, France

BE-07. High energy photoemission spectroscopy as a tool for non-destructive depth profiling of Heusler compounds. A. Gloskovskii\textsuperscript{1}, G.H. Fecher\textsuperscript{1}, S. Chadow\textsuperscript{1}, S. Ouardi\textsuperscript{1}, B. Balk\textsuperscript{1}, C.A. Jenkins\textsuperscript{1}, G. Stocks\textsuperscript{1}, S. Ueda\textsuperscript{3}, K. Kobayashi\textsuperscript{3}, M. Mertin\textsuperscript{4}, F. Schäfers\textsuperscript{4} and M. Chshiev\textsuperscript{1}. Institut für Anorganische Chemie und Analytische Chemie, Johannes Gutenberg-Universität Mainz, Mainz, Germany; 2. Japan Synchrotron Radiation Research Institute, SPring-8, Hyogo, Japan; 3. National Institute for Materials Science, SPring-8, Hyogo, Japan; 4. BESSY GmbH, Berlin, Germany

BE-08. Calculated Electronic and Magnetic Structure of Rutile Phase $V_{1-x}Cr_2O_4$. M.E. Williams\textsuperscript{2}, W.H. Butler\textsuperscript{1}, C.K. Mewes\textsuperscript{1}, H. Sims\textsuperscript{1} and M. Chshiev\textsuperscript{1}. MINT Center, University of Alabama, Tuscaloosa, AL; 2. Math and Computer Science, University of Maryland Eastern Shore, Princess Anne, MD

BE-09. Ferromagnetism in LaCoO$_3$ Epitaxial Thin Films. V.V. Mehta\textsuperscript{1} and J.M. Rejec\textsuperscript{1}. Physics, University of Texas at Arlington, Arlington, TX; 2. Material Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA; 3. School of Applied Physics, Cornell University, Ithaca, NY; 4. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA
 Session BF
NONLINEAR DYNAMICS
Radik Lopusnik, Chair

2:00
BF-01. New Nonlinear Modes Excited by Spin-Polarized Current in Ferromagnetic Nano-Contacts. (Invited) M. Hoefer1, T.J. Silva1 and M.D. Stiles1. NIST, Boulder, Boulder, CO; 2. NIST, Gaithersburg, Gaithersburg, MD

2:36
BF-02. Methods of nonlinear dynamics in the theory of spin-torque excitations. (Invited) C. Serpico1, G. Bertotti2, I.D. Mayergoyz3, M. d’Aquino4 and R. Bonin1. Dept. of Electrical Engineering, University of Naples Federico II, Napoli, NA, Italy; 2. INRIM, Torino, TO, Italy; 3. Dept. of Electrical and Computer Eng. and UMIACS, University of Maryland, College Park, MD; 4. Dip. per le Tecnologie, Università di Napoli Parthenope, Napoli, NA, Italy; 5. Osservatorio Astronomico della Valle d’Aosta, Nus, Aosta, Italy

3:12
BF-03. Influence of the Oersted field on the current-induced magnetization dynamics of nanodisks. A. Kakay1, R. Hertel1, S. Gliga1, R. Lehndorff1, D.E. Bürgler1 and C.M. Schneider1. 1. Institute of Solid State Research, Julich Research Center, Julich, Germany

3:24
BF-04. The Hamiltonian coefficients in nonlinear spin wave dynamics. P. Krivosik1,2 and C.E. Patton1. Colorado State University, Fort Collins, CO; 2. Slovak University of Technology, Bratislava, Slovakia

3:36

3:48
BF-06. Interaction of magnetic solitons with potential barriers and wells. U. Hansen1, V.E. Demidov1 and S.O. Demokritov1. University of Muenster, Muenster, Germany

4:00
BF-07. Stability of weakly dissipative Bose-Einstein condensate of parametrically pumped magnons. V. Tyberkevych1 and A. Slavin1. Department of Physics, Oakland University, Rochester, MI

4:12
BF-08. Microwave-assisted spin wave hybridization in patterned ferromagnets. V. Novosad1, S. Chui2, F.Y. Fradin1, M. Grimsditch1 and S.D. Bader1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Bartol Research Institute, University of Delaware, Newark, DE

4:24
BF-09. Time- and vector-resolved Kerr measurements of large angle precessional reorientation in a 2×2 μm² ferromagnetic element. P.S. Keatley1, V.V. Kruglyak1, A. Neudert1, R.J. Hicken1, J.R. Childress1 and J.A. Katine1. 1. School of Physics, University of Exeter, Exeter, United Kingdom; 2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA

4:36
BF-10. Direct Brillouin light scattering observation of microwave three magnon confluence process in nonlinear spin wave dynamics for yttrium iron garnet films. C.L. Ordóñez-Romero1,2, W. Tong1, B.A. Kalinikos1,3 and C.E. Patton1. Physics, Colorado State University, Fort Collins, CO; 2. Centro de Ciencias Aplicadas y Desarrollo Tecnológico, Universidad Nacional Autónoma de México, México D.F.; 3. St. Petersburg Electrotechnical University, St. Petersburg, Russian Federation

TUESDAY AFTERNOON
2:00
Session BG
MAGNETIC MICROSCOPY AND IMAGING II
June Lau, Chair

2:30
BG-01. Imaging of Vortex Gyration Driven by a DC Spin-Polarized Current. X. Yu1, V.S. Pribiag2, Y. Acremann1, A. Tulapurkar3, V. Chembroiu1, T. Tyliszczak1, K. Chou1, Z. Li1, R. Buhrman1, H.C. Siegmann1 and J. Stöhri1. Stanford University, Stanford, CA; 2. Cornell University, Ithaca, NY; 3. Pulse Institute, Menlo Park, CA; 4. Stanford Synchrotron Radiation Laboratory, Menlo Park, CA; 5. Advanced Light Source, Berkeley, CA
BG-02. X-ray diffraction study of magnetic states in patterned nanoscopic elements. F.Y. Ogrin¹, G. van der Laan², G. Beutier², C. Tieg³ and E. Sirotkin¹. 1. University of Exeter, Exeter, United Kingdom; 2. Diamond Light Source, Oxfordshire, United Kingdom; 3. ESRF, Grenoble, United Kingdom

BG-03. Remanent States and Magnetization Reversal of Nanopatterned Spin Valve Elements using Off-Axis Electron Holography. K. He¹, D.J. Smith² and M.R. McCartney². 1. School of Materials, Arizona State University, Tempe, AZ; 2. Department of Physics, Arizona State University, Tempe, AZ


BG-06. Observation of in-plane domain structure and magnetization process in writer pole for perpendicular recording heads by electron holography. K. Hirata¹; J. Kim¹, Y. Ishida¹, D. Shindo¹, M. Takahashi¹ and A. Tonomura². 1. Head Business Group, TDK Corporation, Saku, Nagano, Japan; 2. Initial Research Project, Okinawa Institute of Science and Technology, Okinami, Okinawa, Japan; 3. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Miyagi, Japan; 4. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan; 5. Advanced Research Laboratory, Hitachi Ltd., Hatoyama, Saitama, Japan

BG-07. Imaging submicron ferroelectric domains using slow electrons. S. Cherifi¹, S. Fusil², R. Hertel¹, H. Béa¹, M. Bibes² and A. Barthélémy¹. 1. Nanoscience, Institut Néel, CNRS-UJF, Grenoble, France; 2. Unité Mixte de Physique CNRS-Thales, Palaiseau, France; 3. Electronic Properties (IFF-9), Institut für Festkörperforschung, Forschungszentrum Jülich GmbH, Jülich, Germany

BG-08. Hot electron transport and quantitative study of ballistic electron magnetic imaging on Co/Cu multilayers. S. Rohart¹, K. Andreas¹, T. André¹ and M. Jacques¹. 1. Laboratoire de Physique des Solides, Orsay, France

BG-09. Ballistic electron emission on pyramidal ferromagnet-semiconductor heterostructures for spin-filtering STM. I.J. Vera Marín¹ and R. Iansen¹. 1. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands


BG-11. Growth, Interfacial Structure and Chemistry of CoFe2O4 Thin Films on SrTiO3 and MgO substrates. S. Xie¹,², J. Cheng¹, B.W. Wessels¹ and V.P. Dravid¹. 1. Department of Materials Science and Engineering, Northwestern University, Evanston, IL; 2. EPIC-NUANCE Center, Northwestern University, Evanston, IL; 3. Materials Research Center, Northwestern University, Evanston, IL

BG-12. Backscattered electron limitations on magnetic imaging resolution in SEMPA. J. Unguris¹ and S. Chung¹. 1. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD; 2. Maryland NanoCenter, University of Maryland, College Park, MD

BG-13. Dynamical Measurements with a Nuclear Magnetic Resonance Force Microscope. H. Chia¹, M. Monti¹, Y. Lee², W. Lu¹, J. Choi¹ and J.T. Markert¹. 1. Department of Physics, University of Texas at Austin, Austin, TX; 2. Department of Mechanical Engineering, University of Texas at Austin, Austin, TX; 3. Mechanical Metrology Group, Division of Physical Metrology, KRISS, Daejeon 305-340, South Korea

BG-15. Magnetic force microscopy of alternating magnetic field by frequency modulation of tip oscillation. H. Saito¹, S. Ishio¹, H. Ikeya¹, G. Egawa¹ and S. Yoshimura¹. 1. Faculty of Engineering and Resource Science, Akita University, Akita, Akita, Japan

TUESDAY AFTERNOON 2:00

Session BH
LOW-DIMENSIONAL SYSTEMS AND CRITICAL PHENOMENA
V. Dobrovitski, Chair

BH-01. Bose-Einstein condensation of magnons confined to a nanoparticle. L.H. Bennett¹, E. Della Torre¹, P.R. Johnson² and R.E. Watson¹. 1. ECE, George Washington University, Ashburn, VA; 2. CAS, American University, Washington, DC; 3. Physics, Brookhaven National Laboratory, Upton, NY; 4. Metallurgy, NIST, Gaithersburg, MD

BH-02. Exotic vortex effect on the alternating order around impurities in antiferromagnets. R. Vaili¹ and A. Cuccoli². 1. Istituto dei Sistemi Complessi, Consiglio Nazionale delle Ricerche, Sesto Fiorentino, FI, Italy; 2. Dipartimento di Fisica, Università di Firenze, Sesto Fiorentino, FI, Italy

BH-03. Thermal properties and critical behavior of transition-metal magnetic monoxides MnO, CoO, NiO. A. Otegà¹, M. Massot¹, A. Salazar¹, D. Prabhakaran², M. Martín¹, P. Berthet² and G. Dhakane². 1. Física Aplicada I, Escuela Técnica Superior de Ingeniería/Universidad del País Vasco UPV/EHU, Bilbao, Spain; 2. Department of Physics, Clarendon Laboratory, University of Oxford, Oxford, United Kingdom; 3. Institut für Physikalische Chemie, RWTH Aachen, Aachen, Germany; 4. UMR8182, ICMMO/LPCES, Université Paris Sud and CNRS, Orsay, France


BH-05. Exchange and dipolar interaction in ultrathin films and nanostructures. G. Bayreuther¹ and R. Meier¹. 1. Inst. f. Exp. Physik, Universität Regensburg, Regensburg, Germany

BH-06. Raman Studies of doped Magnetite above and below the Verwey Transition. L. Gasparov¹, A. Rush¹, T. Pekarek¹, N. Patel¹ and H. Berger¹. 1. Chemistry and Physics, University of North Florida, Jacksonville, FL; 2. EPFL, Lausanne, Switzerland

BH-07. On the origin of strong perpendicular anisotropy in Fe₁₋ₓCoₓ alloy films grown on Pd(001), Ir(001) and Rh(001). F. Yıldız¹, M. Przybylski and J. Kirschner¹. 1. Experimental I, Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany

BH-08. Comparative studies of Co nanowires of different diameters electroplated into porous aluminum oxide membranes. Z. Ye¹, H. Liu¹, Z. Luo², H. Lee¹, W. Wu¹, D.G. Naugle¹ and I. Lyuksyutov¹. 1. Physics, Texas A & M University, College Station, TX; 2. Microscopy and Imaging Center, Texas A & M University, College Station, TX

BH-09. Proximity effects in multilayered ferromagnet/superconductor nanostructures. N.G. Fazleev¹, Y.N. Proshin², M.G. Khusainov² and R.G. Luchkin². 1. Physics, University of Texas at Arlington, Arlington, TX; 2. Physics, Kazan State University, Kazan, Russian Federation; 3. Vostok Branch, Kazan State Technological University, Chistopol', Russian Federation

BH-10. Magnetic Phase Transition in Ultrathin Helimagnetic Ho Films. F. Cinti¹, A. Cuccoli¹ and A. Rettori¹. 1. Dipartimento di Fisica, Università di Firenze, Sesto Fiorentino (FI), Italy


TUESDAY AUSTIN BALLROOM
AFTERNOON
1:00

Session BP
MULTIFERROICS I: FILMS AND NANOSTRUCTURES (POSTER SESSION)
Christian Binek, Chair

BP-01. Surface magnetoelectric effect in ferromagnetic metal films. C. Duan, R.F. Sabirianov, Z. Zhu, J. Chu, S.S. Jaswal and E. Tsymbal. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Key Laboratory of Polarized Materials and Devices, Ministry of Education, East China Normal University, Shanghai, China; 3. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 4. Department of Physics, University of Nebraska, Omaha, NE

BP-02. Artificially controlled magnetic domain structures in ferromagnetic dots/ferroelectric heterostructures. T. Taniyama, K. Akasaka, D. Fu and M. Itoh. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan; 3. ERATO, Japan Science and Technology Agency, Kawaguchi, Japan

BP-03. Effect of the Ni80Fe20 inserted layers on multiferroic property for [NiFe/AlN]n multilayers. D. Wei, Y. Yao and D. Hung. Department of Mechanical Engineering, National Taiwan University of Technology, Taipei, Taiwan; 2. Department of Materials Engineering, Tatung University, Taipei, Taiwan; 3. Ming Chuan University, Taipei, Taiwan

BP-04. Relationships between magneto-capacitance-voltage characteristics and magneto-resistance of Au/FeCrO3/FeCrO2/FeCr/CoO2/Si MIS capacitor. T. Yokota, S. Murata, S. Kito and M. Gomi. Institute of Technology, Nagoya, Aichi, Japan

BP-05. Structural analysis of interfacial strained epitaxial BiMnO3 films fabricated by chemical solution deposition. T. Harima, H. Naganuma, H. Shima, S. Okamura, A. Kovacs and Y. Hirotsu. Tokyo University of Science, Tokyo, Japan; 2. ISIR Osaka University, Osaka, Japan

BP-06. Magnetic properties of SrTiO3-buffered Ba(Fe0.5Mn0.5)O3 single-crystal films on SrTiO3 substrates. K. Katsube and T. Matsu 1. Graduate School of Engineering, Osaka Prefecture University, Sakai, Osaka, Japan

BP-07. Effect of valence state on structure and magnetic properties of Ba(Fe0.8Mn0.2)O3 single-crystal films on SrTiO3 substrates. H. Naganuma, H. Shima, S. Okamura, A. Kovacs and Y. Hirotsu. Osaka University, Osaka, Japan

BP-08. Soft x-ray absorption spectroscopy and magnetic circular dichroism study of core@shell ferromagnetic nanoparticles: BaTiO3@X (X = γ-Fe2O3, Fe3O4, Fe, α-Fe2O3). D.H. Kim, H.J. Lee, G. Kim, Y.S. Koo, J.H. Jung, H. Lee, J.Y. Kim and J.S. Kang. Department of Physics, The Catholic University, Bucheon, South Korea; 2. Department of Physics, Inha University, Incheon, South Korea; 3. Pohang Accelerator Laboratory, POSTECH, Pohang, South Korea

BP-09. Wide-Bandwidth Vortex Electric Current Sensor Based on Ring-Shaped Magnetoelectric Laminate of Terfenol-D/Epoxy Magnetostrictive Composite and PZT Piezoelectric Ceramic. C. Leung, C. Lo and S. Oh. Department of Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, China

BP-10. Electromagnetic Properties of Ferroelectric/Ferromagnetic Composite Materials based on LTCC Technology. W. Ling, H. Zhang, Y. Li, Y. He and L. Peng. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China


TUESDAY AUSTIN BALLROOM
AFTERNOON
1:00

Session BQ
INTERMETALLIC AND OTHER HARD MAGNETIC MATERIALS I (POSTER SESSION)
Kevin Coffey, Chair

BQ-01. Effects of SiO2 underlayer on the formation of (001)-oriented FePt nanoparticles. Y. Wu, L. Wang and C. Lai. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan
**BQ-02.** Magnetic assembles of FePt (001) nanoparticles with ultrathin SiO2 addition. K. You1, D. Wu2 and Y. Yao1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Materials Engineering, Tatung University, Taipei, Taiwan; 3. Department of Materials Engineering, Tatung University, Taipei, Taiwan.

**BQ-03.** Microstructure and magnetic properties of FePt films on anodized aluminum oxide membranes. S. Chen1, Y. Yao2, J. Wu1 and C. Yu1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Materials Engineering, Tatung University, Taipei, Taiwan; 3. Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan.

**BQ-04.** Spacer layer effect and microstructure on multilayer [(FePt)/Os]n films. S. Chen1, Y. Yao2, J. Wu1, Y. Teng1 and C. Yu1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Materials Engineering, Tatung University, Taipei, Taiwan; 3. Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan.

**BQ-05.** Effects of heating rates of rapid thermal annealing on the microstructures and magnetic properties of FePt thin films. S. Chen1, T. Sun1, T. Kuo1 and P. Kuo1. Department of Materials Engineering, Ming Chi University of Technology, Taipei, Taiwan; 2. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan; 3. Institute of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan.

**BQ-06.** Evolution of residual strain with ordering transformation in FePt films via XRD analysis. S. Hsiao1, S. Chen1, H. Huang1, Y. Hsu1, F. Yau2 and H. Lee1. Materials Science and Engineering, Feng Chia University, Taichung, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. National Synchrotron Radiation Research Center, HsinChu, Taiwan.

**BQ-07.** A new metastable tetragonal phase in sputtered FePt thin films. S. Hsiao1, S. Chen1, Y. Hsu1, F. Yau2, T. Chiu1 and H. Lee1. Feng Chia University, Taichung, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. National Synchrotron Radiation Research Center, HsinChu, Taiwan.

**BQ-08.** Abnormal evolution of phase and magnetism in high temperature annealed CoPt thin films. F. Yuan1, H. Huang1, S. Hsiao1, W. Liao1, S. Chen2, H. Lee1 and Y. Yao1. Physics, Academia Sinica, Taipei, Taiwan; 2. Materials Science and Engineering, Feng Chia University, Taichung, Taiwan; 3. National Synchrotron Radiation Research Center, HsinChu, Taiwan; 4. Materials and Engineering, Tatung University, Taipei, Taiwan.

**BQ-09.** Thermal process effect on microstructure and magnetic properties of epitaxial FePd (001) multilayer films. S. Pong1, D. Wei1 and Y. Yao1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Mechanical Engineering, National Taiwan University of Technology, Taipei, Taiwan; 3. Department of Materials Engineering, Tatung University, Taipei, Taiwan.

**BQ-10.** Fabrication and characterization of novel ordered alloy “L12-FeNi”. M. Mizuguchi1, S. Sekiya1, S. Mitani1 and K. Takanashi1. Institute for Materials Research, Tohoku University, Sendai, Japan.

**BQ-11.** Anisotropic properties in Fe-Pt thick film magnets. S. Shibata1, T. Yanai1, M. Nakano1 and H. Fukunaga1. Electrical and Electronic Engineering, Nagasaki University, Nagasaki, Japan.

**BQ-12.** Fabrication and properties of FePt thick films for micro-undulator. P. Jiang1, K. Seomoon1, B. Lee1, S. Choi2 and K. Rhee1. Div. of Applied Science, Cheongju University, Cheongju, Chungcheongbuk-do, South Korea; 2. Department of Display, Semiconductor and Physics, Korea university, Chochiwon, South Korea.

**BQ-13.** Effect of B content on the magnetic properties, phase evolution, and aftereffect of nanocrystalline FeCoPtB ribbons. C.W. Chang1, H.W. Chang2, C. Hsieh1, Z.H. Guo1, C.W. Chang1. Department of Physics, National Chung-Cheng University, Chia-Yi, 621, Taiwan; 2. Department of Physics, Tunghai University, Taichung, 40704, Taiwan; 3. Institute of Functional Materials, Central Iron and Steel Research Institute, Beijing, 100081, China.

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**TUESDAY AFTERNOON**

**AUSTIN BALLROOM**

**Session BR**

**MAGNETIC TUNNEL JUNCTIONS - MgO BASED**

(POSTER SESSION)

Xiufeng Han, Chair

Seiji Mitani, Chair

**BR-01.** Half-metallic behavior of Co2MnSi/Co2CrAl/MgO junction and its coherent tunneling conductance: A first-principles study. Y. Miura1, K. Abe1 and M. Shirai1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan.


**BR-03.** Magnetic properties of MgO-based RE-TM perpendicular magnetic tunnel junctions. L. Ye1, C. Lee2, J. Lai1, T. Wu1. Taiwan SPIN Research Center, National Yunlin University of Science and Technology, Douliou, Taiwan; 2. Graduate School of Materials Science, National Yunlin University of Science and Technology, Douliou, Taiwan; 3. Graduate School of Optoelectronics, National Yunlin University of Science and Technology, Douliou, Taiwan.
BR-04. Fabrication of MgO-based Magnetic Tunnel Junctions with CoCrPt Perpendicularly Magnetized Electrodes. D. Watanabe1, S. Mizukami1, M. Oogane2, Y. Ando1 and T. Miyazaki1. WPI-AIMR, Tohoku University, Sendai, Miyagi, Japan; 2. Department of Applied Physics, Tohoku University, Sendai, Miyagi, Japan

BR-05. Inelastic tunneling spectra of MgO barrier magnetic tunnel junctions showing large magnon contribution. B. Do1, T. Nozaki1, A. Fukushima2, H. Kubota2, T. Nagahama3, S. Yuasa2, M. Shiraishi1 and Y. Suzuki1. 1. Graduate School of Engineering Science, Osaka University, Osaka, Japan; 2. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan

BR-06. Formation of hydroxide at an interface in CoFeB/MgO/CoFeB tunnel junction. S. Lee1, Y. Jung1, K. Lee1, S. Yoon1, B. Cho1, Y. Cho2, K. Kim3 and K. Kim1. Materials Science and Technology, Gwangju-Institute of Science and Technology, Gwangju, South Korea; 2. Material and Device Laboratory, Samsung Advanced Institute of Technology (SAIT), Suwon, South Korea

BR-07. Tunnel Magnetoresistance for Magnetic Tunnel Junctions with a Co2FeAl0.5Si0.5 Full Heusler Electrodes fabricated by MBE system. N. Tezuka1, N. Ikeda1, F. Mitsushashi1 and S. Sugimoto1. 1. Department of Materials Science, Tohoku University, Sendai, Japan

BR-08. Tunnel Magnetoresistance for Magnetic Tunnel Junctions with a Co2FeAl0.5Si0.5 Full Heusler Electrodes fabricated by MBE system. N. Tezuka1, N. Ikeda1, F. Mitsushashi1 and S. Sugimoto1. 1. Department of Materials Science, Tohoku University, Sendai, Japan

BR-09. MgO-based Double Barrier Magnetic Tunnel Junction with Very Thin Free Layer. G. Feng1, S. Dijken1 and J.M. Coey1. CRANN and Physics Department, Trinity College Dublin, Dublin, Ireland

BR-10. The influence of buffer layer on tunnel magnetoresistance in full-Heusler alloy Co2FeAl0.5Si0.5/MgO/Co2FeAl0.5Si0.5 tunnel junctions. M. Ishikawa1, T. Marukame1, T. Inokuchi1, H. Sugiyama1 and Y. Saito1. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan

BR-11. The effect of pinhole formation/growth on the tunnel magnetoresistance of MgO-based magnetic tunnel junctions. J.M. Teixeira1, J. Ventura1, F. Carpineiro1, J.P. Araújo1, J.B. Sousa1, P. Wisniowski2 and P.P. Freitas2. 1. Physics, IN, IFIMUP unit - Oporto University, Oporto, Oporto, Portugal; 2. Physics, IN, INESC-MN unit - IST, Lisbon, Lisbon, Portugal

BR-12. Influence of pinned layer coupling on magnetization switching of magnetic tunnel junction. C. Huang1, Y. Wu1, K. Wu1, J. Wu1 and L. Horng1. 1. Department of Physics, National Changhua University of Education, Changhua, Taiwan; 2. Taiwan SPIN Research Center, National Changhua University of Education, Changhua, Taiwan; 3. Graduate Institute of Photonics, National Changhua University of Education, Changhua, Taiwan

BR-13. Enhancement of tunneling magnetoresistance by optimization of magnetic and top layer thicknesses in CoFeB/MgO/CoFeB magnetic tunnel junctions. W. Pong1, M. Shmoueli1, A. Castillo2 and W.F. Egelhoff1. 1. Department of Electrical and Electronic Engineering, University of Hong Kong, Hong Kong, China; 2. Metallurgy Division, National Institute of Standards and Technology, Gaithersburg, MD

BR-14. Electrical and magnetic properties of defect-mediated magnetic tunnel junctions using MgO. K. Nam1, S. Oh1, W. Kim1, J. Jeong1, D. Kim1, S. Lee1, Y. Kim1, K. Kim1, J. Lee1, I. Yeo1, U. Chung1 and J. Moon1. 1. Process Development Team, Semiconductor R&D Division, Samsung Electronics Co., Ltd., Yongin-City, Gyeonggi-Do, South Korea

BR-15. Theoretical study on the stability of magnetic structures of Heusler alloys, Co2MnAl and Co2MnSi. A. Sakuma1, Y. Toga1 and H. Tsuchiura1. Applied Physics, Tohoku University, Sendai, Japan

BR-16. Tunnel magnetoresistance in MgO - Al2O3 composite magnetic tunnel junctions. O. Scheuba1, V. Drewello1, A. Auge1, A. Thomas1 and G. Reiss1. Thin films & physics of nanostructures, Bielefeld University, Bielefeld, Germany


BR-18. Influence of magnetic insulator in Tunneling Magnetoresistance of double-barrier tunnel junctions. P. Chang1 and C. Chang1. 1. Physics, National Taiwan University, Taipei, Taiwan

TUESDAY AFTERNOON 1:00

Session BS
BIOMAGNETISM
(POSTER SESSION)
Shoogo Ueno, Co-Chair
Frank Prato, Co-Chair

BS-01. Calculating the Electric Field in Real Human Head by Transcranial Magnetic Stimulation with Shield Plate. M. Lu1 and S. Ueno1. 1. University of Lisbon, Lisbon, Portugal; 2. Kyushu University, Fukuoka, Japan
**PROGRAM**

**BS-02.** Comparison of stem cells labeling using paramagnetic and superparamagnetic MRI contrast agents. C. Yang\(^1,3\), J. Hsiao\(^1,2\), M. Tai\(^2\), S. Chen\(^1\), Y. Wang\(^2\), Y. Chen\(^1\), J. Wang\(^1\) and H. Liu\(^2\). Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; 2. Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan; 3. Department of Medical Imaging, Yan-Lin Branch, National Taiwan University Hospital, Yan-Lin, Taiwan. 4. Department of Science, Taipei Municipal University of Education, Taipei, Taiwan. 5. Musculoskeletal Disease Center, J.L. Petits VA Medical Center and Department of Biochemistry, Loma Linda University, Loma Linda, CA.

**BS-03.** Quantitative MRI System Phantom. S.E. Russek\(^1\) and R. Usselman\(^2\). National Institute of Standards and Technology, Boulder, CO.

**BS-04.** Effect of Transcranial Magnetic Stimulation on Force of Finger Pinch. M. Odagaki\(^1\), H. Fukuda\(^1\) and O. Hiwaki\(^1\). Hiroshima City University, Hiroshima, Japan.

**BS-05.** Effects of stimulus parameters and tissue inhomogeneity on nerve excitation processes in magnetic stimulation of the brain. A. Hyodo\(^1,2\), S. Tsuyama\(^1\), K. Iramina\(^1\) and S. Ueno\(^1\). Kyushu University, Fukuoka, Japan; 2. Nihon Kohden Co., Tokyo, Japan.

**BS-06.** Brain activity during bilateral rapid alternate finger tapping measured with magnetoencephalography. H. Fukuda\(^1\), M. Odagaki\(^1\), A. Kodabashi\(^2\), T. Fujimoto\(^2\) and O. Hiwaki\(^1\). Graduate School of Information Sciences, Hiroshima City University, Hiroshima, Japan; 2. Fujimoto Hayasuzu Hospital, Miyakonojo, Japan.

**BS-07.** A Method for Estimation of Stimulated Brain Sites Based on Columnar Structure of Cerebral Cortex in Transcranial Magnetic Stimulation. O. Hiwaki\(^1\) and T. Inoue\(^1\). Graduate School of Information Sciences, Hiroshima City University, Hiroshima, Japan.

**BS-08.** Disturbance of Visual Search by Stimulation to PPC in the Brain using Transcranial Magnetic Stimulation. K. Iramina\(^1,3\), G. Sheng\(^1\), T. Hayami\(^1\), A. Hyodo\(^1\) and S. Ueno\(^1\). Department of Intelligent Systems, Kyushu University, Fukuoka, Fukuoka, Japan; 2. Department of Systems Life Sciences, Kyushu University, Fukuoka, Fukuoka, Japan; 3. Digital Medicine Initiative, Kyushu University, Fukuoka, Fukuoka, Japan; 4. Department of Applied Quantum Physics, Kyushu University, Fukuoka, Fukuoka, Japan.

**BS-09.** Effects of coil configurations on the induced eddy current by Transcranial Magnetic Stimulation. S. Tsuyama\(^1\), A. Hyodo\(^2\), T. Hayami\(^1\), S. Ueno\(^1\) and K. Iramina\(^1,2\). Department of Intelligent Systems, Kyushu University, Fukuoka, Fukuoka, Japan; 2. Department of Systems Life Sciences, Kyushu University, Fukuoka, Fukuoka, Japan; 3. Digital Medicine Initiative, Kyushu University, Fukuoka, Fukuoka, Japan; 4. Department of Applied Quantum Physics, Kyushu University, Fukuoka, Fukuoka, Japan.

**BS-10.** Measurements of Evoked EEG by Transcranial Magnetic Stimulation Applied to Motor Cortex and Posterior Parietal Cortex. M. Iwahashi\(^1\), Y. Koyama\(^1\), A. Hyodo\(^1\), T. Hayami\(^2\), S. Ueno\(^1\) and K. Iramina\(^1\). Kyushu Univ., Fukuoka, Japan.

**TUESDAY AFTERNOON**

**AUSTIN BALLROOM**

**Session BT**

**INTERMETALLICS AND OTHER HARD MAGNETIC MATERIALS II**

**POSTER SESSION**

J. Ping Liu, Chair

**BT-01.** Vanadium substitution effect on magnetic properties of NdFe10.5Mo1.5-xVx and their nitrides. Y. Shan\(^1\), H. Du\(^1\), G. Tian\(^1\), C. Wang\(^1\), S. Liu\(^1\) and Y. Yang\(^1\). School of Physics, Peking University, Beijing, China.

**BT-02.** Effects of hydrostatic pressure and substitutions on magnetism of Lu2Fe17-based intermetallics. E.A. Tereshina\(^1,2\), A.V. Andreev\(^1\), J. Kamarad\(^1\), O. Isnard\(^3\), T. Komatsubara\(^4\) and I. Satoh\(^1\). Institute of Physics ASCR, Prague, Czech Republic; 2. Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic; 3. Institut Néel, CNRS / University J. Fourier, Grenoble, France; 4. Institute for Materials Research, Tohoku University, Sendai, Japan.

**BT-03.** Change in the direction of anisotropy in PLD-fabricated Sm-Co thick film magnets. K. Yamaguchi\(^1\), T. Yanai\(^1\), M. Nakano\(^1\), H. Fukunaga\(^1\) and F. Yamashita\(^1\). Electrical and Electronic Engineering, Nagasaki University, Nagasaki, Japan; 2. Rotary Component Basic Technology Development Division, Minebea Co., Ltd, Shizuoka, Japan.

**BT-04.** Stabilization of TbCu5-type Sm-Co ribbons by Nb or Ta substitution and rapid quenching. Z.H. Guo\(^1,2\), H.W. Chang\(^3\), C.W. Chang\(^1\), C.C. Hsieh\(^1\), A.C. Sun\(^1\), W.C. Chang\(^1\), W. Pan\(^2\) and W. Li\(^2\). Department of Physics, National Cheng-Chung University, Chia-Yi, Taiwan; 2. Division of Functional Materials, Central Iron & Steel Research Institute, Beijing, China; 3. Institute of Nuclear Energy, Wuhan University, Wuhan, China; 4. Department of Physics, National Taiwan University, Taipei, Taiwan.

**BT-05.** Magnetic properties and Structure of bulk nanocrystalline Sm(Co,Fe,Cu,Zr)7.5 sintered magnet. D. Zhang\(^1\), M. Yue\(^1\), J. Yang\(^1\), G. Xu\(^1\), W. Liu\(^1\), J. Zhang\(^1\) and X. Liu\(^1\). Beijing University of Technology, Beijing, China; 2. McGill University, Montreal, QC, Canada.

**BT-06.** Sm2Co17-based magnets with superhigh fracture toughness and excellent hard-magnetic properties. L. Li\(^1\), A. Yan\(^1\), Y. Sun\(^1\) and G. Zhang\(^2\). Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Science, Ningbo, China; 2. The State Key Laboratory for Powder Metallurgy, The Central South University, Chang Sha, China.
BT-07. High temperature magnetic properties of nanocrystalline PrCo5 and YCo5 alloys obtained by mechanical milling, J.T. Elizalde Galindo1, F.J. Rivera-Gómez2 and J.A. Matutes-Aquino1 1. Física de Materiales, Centro de Investigación en Materiales Avanzados, S.C, México, Chihuahua, Mexico; 2. Ciencias Básicas, Universidad Autónoma de Ciudad Juárez, Chihuahua, Chihuahua, Mexico

BT-08. Nanocrystalline magnetic Y0.5Sm0.5Co5 ribbons obtained by Melt Spinning. J.L. Hidalgo-González1, F.J. Rivera-Gómez1 and J.A. Matutes-Aquino1 1. Física de Materiales, Centro de Investigación en Materiales Avanzados, S.C, México, Chihuahua, Mexico

BT-09. Pulse annealing of anisotropic SmFeN powder. Y. Shibata1, T. Yana1, M. Nakano1 and H. Fukunaga1 1. Department of Electrical Engineering and Electronics, Nagasaki University, Nagasaki 852-8521, Japan

BT-10. Co80Ni20 and Co anisotropic metal nanoparticles for the bottom-up preparation of new permanent magnets. Y. Souma1, J. Piquemal1, G. Viau2, C. Garcia3, T. Maurer3, F. Ott3 and G. Chaboussant3 1. Laboratoire IOTDIS, University of Paris Diderot (Paris 7), Paris Cedex 05, France; 2. Laboratoire de Physique et Chimie des Nano-objets, University of Toulouse, INSA, Toulouse, France; 3. Laboratoire Léon Brillouin, CEA Saclay, Gif sur Yvette, France

BT-11. Study on strengthening and toughening of Sintered rare-earth permanent magnets. A. Li1, H. Wang1, W. Pan1 and W. Li1 1. Central Iron & Steel Research Institute, Beijing, China


BT-13. The sintering properties and interfacial investigation of barium ferrite and ceramic Co-firing system for the application of LTCC technology. Y. Li1, Y. Liu1, H. Zhang1 and L. Han1 1. State Key Laboratory of Electronic Thin Film and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China

BT-14. The exchange biaslike effect in tetragonal spinels Cu12(ZnCr)O6(x=0.1, 0.3). L. Yan1, W. Ren1, Z. Sun1, J. Shen1 and F. Wang1 1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Hong Kong University of Science and Technology, Hong Kong, China

BT-01. Remote Triggered Drug Release System By Magnetic Nanoparticles For Combined Hyperthermia and Chemotherapy. D. Kim1,2, L.M. Blue1, D.E. Nikles1 and C.S. Brazel1 1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Department of Chemical and Biological Engineering, University of Alabama, Tuscaloosa, AL; 3. Department of Chemistry, University of Alabama, Tuscaloosa, AL

BY-02. Heating Characteristics of Thermosensitive Magnetic Powder in Agar Phantom for Hyperthermia Cancer Therapy. T. Takura1, F. Sato1,2, H. Matsuki2 and T. Sato1 1. Dept. of Electrical and Communication Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Dept. of Biomedical Engineering, Graduate School of Biomedical Engineering, Tohoku University, Sendai, Miyagi, Japan; 3. NEC Tokin Corp., Sendai, Miyagi, Japan

BY-03. Self-heating properties and their evaluation by ac/dc hysteresis loops of Fe3O4 and other nanoparticles for hyperthermia application. A. Hirukawa1, T. Yamada1 and Y. Takemura1 1. Yokohama National University, Yokohama, Japan

BY-04. Highly thermosensitive hyperthermia mediators of La3+Sr1.5Mn1-xCuxO3 (M=Mn, Fe, Co) Spinel Nanoparticles utilizing steep magnetization change by first order magnetic phase transition. T. Nakagawa1, N. Hirako1, M. Tada1, H. Handa2 and M. Abe1 1. Department of Electrical Electronics, Tokyo Institute of Technology, Meguro-ku, Japan; 2. Integrated Research Institute, Tokyo Institute of Technology, Yokohama, Japan

BY-05. Modeling of temperature profile during magnetic thermoferapy for cancer treatment. C.A. Sawyer1, A.H. Habib1, K.N. Collier1, K. Miller1, C.L. Ondeck1 and M.E. McHenry1 1. Materials Sc. and Engg., Carnegie Mellon University, Pittsburgh, PA

BY-06. Hydrogen Protons Relaxation Time and Heat Generation By Succimer M2Fe3O4 (M=Mn, Fe, Co) Spinel Nanoparticles Towards Multifunctional Nanoplatform For Cancer Treatment. D. Kim1,2, H. Zeng1, T. Ng2, D.E. Nikles1 and C.S. Brazel1 1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Department of Chemical and Biological Engineering, University of Alabama, Tuscaloosa, AL; 3. Department of Medicine and Comprehensive Cancer Center, University of Alabama at Birmingham, Birmingham, AL; 4. Department of Chemistry, University of Alabama, Tuscaloosa, AL
BU-07. Detection of a diabetic sural nerve from the magnetic field after electric stimulation. T. Hayano1, K. Irima1, A. Hyodo1, X. Chen1 and K. Sanagawa1. Digital Medicine Initiative, Kyushu University, Fukuoka, Japan; 2. Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan; 3. Graduate School of Systems Life Sciences, Kyushu University, Fukuoka, Japan

BU-08. Duplex Communicatable Implanted Antenna for Magnetic Direct Feeding Method FES. K. Kato1, Y. Kohata2, F. Sato3, H. Matsuki1, Y. Handa4 and T. Satoh1. 1. Department of Biomedical Engineering, Graduate School of Biomedical Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Department of Electrical and Communication Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 3. Graduate School of Medicine, Tohoku University, Sendai, Miyagi, Japan; 4. NEC TOKIN Corp., Sendai, Miyagi, Japan

BU-09. Effects of Radio Frequency Magnetic Fields on the Optical Absorption, Fluorescence and Titration Properties of Horse Spleen Ferritin. O. Cespedes1 and S. Ueno1. Department of Applied Quantum Physics, Kyushu University, Fukuoka, Japan

BU-10. Development of Wireless Communication System Using Magnetic Field in Real-time Internal Radiation Dose Measurement System. K. Shinohe1, T. Takura1, F. Sato1, H. Matsuki1, S. Yamada1 and T. Satoh1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Graduate School of Biomedical Engineering, Tohoku University, Sendai, Japan; 3. Graduate School of Medicine, Tohoku University, Sendai, Miyagi, Japan; 4. NEC TOKIN Corp., Sendai, Miyagi, Japan

TUESDAY AFTERNOON

AUSTIN BALLROOM

Session BV

AMORPHOUS AND NANOSTRUCTURED MATERIALS

(POSTER SESSION)

Maria Daniil, Co-Chair
Thomas Ambrose, Co-Chair

BV-01. Missing row and surface relaxation induced ferromagnetic phase stabilization of Fe(x)Pt(1-x) (110) surface alloy; first-principles calculation. M. Kim1 and H. Kim1. Energy System Research, Ajou University, Suwon, South Korea; 2. Physics, Sookmyung Women’s University, Seoul, South Korea

BV-02. Observation of two magnetic transition temperatures in ultra-thin Fe/Al nanostructures. R. Brajpuriya1, S. Tripathi1, A. Sharma1, S. Chaudhari1 and T. Shiripathi1. UDCSR, UDCSR, Indore, M.P., India

BV-03. Magnetooimpedance studies in Al and V doped FINEMET alloy. D. Sandhya1, K. Kamala Bharathi1 and M. Garimella1. 1. IIT Madras, Chennai, Tamil Nadu, India

BV-04. Magnetic properties of Fe-based ribbons with controlled permeability prepared by continuous pulse annealing under tensile stress. K. Takag1, T. Yama1, K. Takahashi1, M. Nakano1, Y. Yoshizawa1 and H. Fukunaga1. Department of Electrical Engineering and Electronics, Nagasaki University, Nagasaki 852-8521, Japan; 2. Advanced Electronics Research Laboratory, Hitachi Metals Ltd, Kumagaya, Japan


BV-06. To enhance an efficiency of power supply circuit by the use of Fe-P-B-Nb type ultra low loss glassy metal core. H. Matsumoto1, A. Urata2 and Y. Yamada1. Research and Development Unit, NEC TOKIN Corporation, Sendai, Japan

BV-07. New high Bs nanocrystalline alloys with high amorphous-forming ability. A. Urata1, H. Matsumoto1, S. Sato1 and A. Makino1. NEC TOKIN Corporation, Sendai, Miyagi, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan

BV-08. Magnetic properties and exchange bias in Mn2O3/Mn3O4 nanoparticles. W. Zhenhua1,2, G. Dianyu1,2, H. Weijin1,2, R. Weijun1,2 and Z. Zhi dong1,2. Institute of Metal Research, Shenyang, China; 2. International Centre for Materials Physics, Chinese Academy of Sciences, Shenyang, China

BV-09. Constant permeability of Fe-B-Si-Nb bulk glassy alloy by B2O3 flux melting and Cu mold casting. T. Bito1 and D. Shibata1. Department of Machine Intelligence and System Engineering, Akita Prefectural University, Yuriko, Japan

BV-10. Cluster spin-glass state and Kondo behavior in Sm-based bulk metallic glasses. C. Lu1, S. Dong1, K. Wang1 and J. Liu1. Physics, Nanjing University, Nanjing, China


BV-12. Effect of Annealing on the Magnetic and Microwave Electromagnetic Characteristics of Glass-covered Microwires. Y. Di1, B. Jia1 and X. Liao1. School of Metallurgy and Materials Engineering, Chongqing University of Science and Technology, Chongqing, China

BV-13. Crystallization Kinetics of Soft Magnetic Amorphous FeBsi Ribbons. O. Moscoso1, A. Rosales Rivera1 and P. Pineda Gómez1. 1. Laboratorio de Magnetismo y Materiales Avanzados, Universidad Nacional de Colombia, Sede Manizales, Manizales, Caldas, Colombia
**Session BW**

**MULTIFERROICS II: BiFeO₃**

**(POSTER SESSION)**

Pavol Krivosik, Chair

**BW-01.** Enhancement of magnetic properties in multiferroic BiFeO₃ films with excess iron. H. Nagamuna¹, T. Okubo¹, S. Sekiguchi¹ and S. Okamura¹. *Tokyo University of Science, Tokyo, Japan*

**BW-02.** Dielectric constant at x-band microwave frequencies for multiferroic BiFeO₃ thin films. *EB. Abdul-Ahadt², D. Hung², Y. Yao³, S. Lee⁴, F. Yuan⁵ and Y. Chen⁶*. 1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Information and Telecommunication Engineering, Ming Chau University, Taipei, Taiwan; 3. Department of Materials Engineering, Tatung University, Taipei, Taiwan

**BW-03.** Integration of Novel Multiferroic Thin Films on GaN/Sapphire and GaAs Substrates for High Frequency Device Applications. *P. Kou²*, S. Chakrabarti¹ and V.R. Palkar¹. 1. Center of Excellence in Nanoelectronics, Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India

**BW-04.** Spray Pyrolysis deposited multiferroic BiFeO₃ films. *P.K. Siwach¹, H.K. Singh¹, J. Singh² and O.N. Srivastava¹*. 1. QHRS and Superconducting Devices Group, National Physical Laboratory, New Delhi, India; 2. Physics Department, Banaras Hindu University, Varanasi, India

**BW-05.** Anomalous low-temperature magnetic ordering induced spin phonon coupling and magnon light scattering in Epitaxial BiFeO₃ thin films. *M.K. Singh¹, R. Katiyar¹ and W. Prellier²*. 1. University of Puerto Rico, San Juan, PR; 2. Laboratoire CRISMAT, CNRS UMR 6508, ENST CEN, 6 Bd du Maréchal Juin, F-14050, Caen Cedex, France

**BW-06.** Withdrawn

**BW-07.** Effect of diamagnetic Pb doping on the crystal structure and multiferroic properties of the BiFeO₃ perovskite. *X. Zhang¹, Y. Su¹, X. Wang¹, J. Mao¹ and R. Zhu¹*. 1. Physics, Harbin Institute of Technology, Harbin, Heilongjiang, China; 2. International Center for Materials Physics, Academia Sinica, Taipei 106, Taiwan

**BW-08.** Room temperature multiferroic properties of Eu doped BiFeO₃. *P. Uniya¹ and K.L. Yadav¹*. 1. Physics, IITR, Roorkee, Uttarakhand, India

**BW-09.** Crystal structure and multiferroic property of BiFeO₃ nanopowder. *S. Han¹, K. Kim¹, K. Kim¹, H. Kim¹, J. Kim² and C. Cheon¹*. 1. Materials Science and Engineering, KAIST, Daejeon, South Korea; 2. Semiconductor and Display Engineering, Hoseo University, Asan, South Korea

**BW-10.** Detailed Magnetic Studies of Magnetoelectrically coupled BF-LF-PT. *A. Singh¹ and R. Chatterjee¹*. 1. Physics, Indian Institute of Technology (Delhi), New Delhi, India

**BW-11.** Bi₀.₅Sr₀.₅FeO₃ – a novel room-temperature multiferroic material. *K. Balamurugan¹, N. Harish Kumar¹ and N. Santhosh P.¹*. 1. Physics, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India
BW-12. Comparative investigations of room temperature magnetoelectricity in (Bi0.9La0.1)FeO3-Sr(Fe0.5Nb0.5)O3 and (Bi0.9La0.1)FeO3-Pb(Fe0.5Nb0.5)O3 single-phase solid solution systems. H. Paik and K. No. Materials Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea

WEDNESDAY MORNING

Session CA

SYMPOSIUM ON NEW DEVELOPMENTS IN MAGNETIC MICROSCOPY
John Unguris, Chair

9:00

CA-01. Magnetic soft X-ray microscopy: A promising path towards imaging spin dynamics at fundamental length and time scales. (Invited) P. Fischer. CXRO, LBNL, Berkeley, CA

9:36

CA-02. Complex spin structures on the verge of instability—Imaging and manipulation by spin-polarized STM. (Invited) M. Bode. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL

10:12

CA-03. Magnetic Vortex/Antivortex Dynamics Probed by Micromagnetic Simulation and X-ray Microscopy. (Invited) M. Bolte. Institute of Applied Physics, University of Hamburg, Hamburg, Germany

10:48


10:54

WEDNESDAY MORNING

Session CB

SPIN-TRANSFER-TORQUE: FERROMAGNETS AND ANTFERROMAGNETS
Fred Mancoff, Chair

9:00

CB-01. Spin-wave interference in spin torque oscillators. X. Chen and R.H. Victora. Department of Physics, University of Minnesota, Minneapolis, MN; 2. Department of Electrical & Computer Engineering, University of Minnesota, Minneapolis, MN

9:12


9:24


9:36

CB-04. Antiferromagnetic spintronics. (Invited) P.M. Haney, R.A. Duine, A.S. Nunez, M.D. Stiles and A.H. MacDonald. Center for Nanoscale Science and Technology, National Institute for Standards and Technology, Gaithersburg, MD; 2. Institute for Theoretical Physics, Utrecht University, Utrecht, Netherlands; 3. Departamento de Fisica, Universidad de Santiago de Chile, Santiago, Chile; 4. Department of Physics, The University of Texas at Austin, Austin, TX

10:12


10:24

CB-06. Time domain studies of transient features of spin-torque driven vortex oscillations. V. Pribiag, B.J. Williams. Physics, Cornell University, Ithaca, NY; 2. Physics, Cornell University, Ithaca, NY; 3. Physics, UT Dallas, Dallas, TX

10:36


10:42
CB-08. Spin torques in antiferromagnetic spin valve and domain wall. *(Invited)* K. Xia, Y. Xu and S. Wang. Institute of Physics, Chinese Academy of Sciences, Beijing, China


CB-10. Current-induced spin wave Doppler shift. V. Vlaminck and M. Bailleul. Institut de Physique et Chimie des Matériaux de Strasbourg, CNRS-ULP, Strasbourg, France


Session CC

**HIGH ANISOTROPY PERPENDICULAR MEDIA I**

Shaoping Li, Chair

CC-01. Exchange coupled FePt-TiO2 composite media with small grain size. T. Zhou, B. Lim, J. Hu, P. Lwin and B. Liu. Data Storage Institute, Singapore, Singapore


CC-03. FePt:C ultra-thin films for perpendicular magnetic recording media. E. Liu, Y. Ding and J. Chen. School of Mechanical & Aerospace Engineering, Nanyang Technological University, Singapore, Singapore; 2. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore

CC-04. Magnetic Correlations in Nanocomposite FePt:Au and FePt:C Films. T.A. George, R. Skomski and D.J. Sellmyer. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE

CC-05. Perpendicular Magnetization of FePt:C thin film on a new underlayer of PtMgO(p) thin film. S. Lee and J. Park. Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, South Korea

CC-06. Granular L10 FePt:X (X= Ta2O5, TiO2, C) (001) nanocomposite films with small grain size for high density magnetic recording. J. Chen, B. Lim, J. Hu, Y. Ding, G. Chow and G. Ju. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore; 3. Seagate, Pittsburgh, PA


CC-08. Granular L10 FePt-X Media with High Anisotropy. Y. Peng, G. Ju, M. Nassirou and X. Wu. Seagate Technology, Pittsburgh, PA

CC-09. Underlayer and Interlayer Interdiffusion Control for the Development of FePt type Exchange Coupled Composite Media. H. Wang, H. Zhao, A. Das, M. Racine, M. Imakawa and J.P. Wang. The Center for Micromagnetics and Information Technologies (MINT) and Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; 2. Thin Film Materials Division, Hexeus Inc., Chandler, AZ

11:24

CC-11. Magnetic properties of pressure graded Co/Pd multilayers. J.E. Davies, S.M. Watson, B.J. Kirby, J. Lau, G.T. Zimanyi, K. Liu, D. Suess, R.D. Shull and J.A. Borchers. Metallurgy/Magnetic Materials, NIST, Gaithersburg, MD; 2. NIST Center for Neutron Research, NIST, Gaithersburg, MD; 3. Physics Department, University of California, Davis, CA; 4. Institute of Solid State Physics, Vienna University of Technology, Orsay, France

11:36

CC-12. Ultrahigh-\(H_c\) granular media with [CoB/Pt]_{n+oxygen} multilayer film. H. Nemoto, I. Takekuma, K. Tanahashi and R. Nakatani. Central Research Laboratory, Hitachi, Ltd., Odawara, Japan; 2. Graduate School of Engineering, Osaka University, Osaka, Japan

11:48

CC-13. Fabrication of \(L_1\) type (Co-Ni)-Pt ordered alloy films by sputter deposition for bit-patterned media. H. Sato, T. Shimatsu, H. Kataoka, H. Aoi, O. Kitakami and S. Okamoto. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. IMRAM, Tohoku University, Sendai, Miyagi, Japan; 3. Fugi Electric Device Technology Co., Ltd, Matsumoto, Nagano, Japan

WEDNESDAY MORNING

9:00

Session CD

MAGNETIC TUNNEL JUNCTIONS II

Evgeny Tsymbal, Chair

9:00

CD-01. Large tunnel magnetoresistance effect in double magnetic tunnel junctions using half-metallic Heusler alloy electrodes. Y. Ohdaira, M. Oogane and Y. Ando. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan

9:12

CD-02. Realization of large TMR using pure spin filtering barriers with no ferromagnetic electrodes involved. G. Miao, M. Muller, J. Chang and J.S. Moodera. 1. Francis Bitter Magnetic Laboratory, MIT, Cambridge, MA; 2. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, South Korea

9:24

CD-03. Spatially resolved measurements of magneto-Coulomb blockade in magnetic tunnel junctions. K. Dempsey, A.T. Hindmarch, H. Wei, C.H. Marrows, X. Han and Q. Qin. Leeds University, Leeds, United Kingdom; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China

9:36


9:48

CD-05. Tunnel magnetoresistance effect in magnetic tunnel junctions with Co-Mn-Si Heusler alloy electrode. M. Oogane, N. Hirose, Y. Sakuraba and Y. Ando. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan

10:00

CD-06. Double perovskite Sr2FeMoO6 thin films: Effect of Substrate and substrate temperature on structural, electrical and magnetic properties. D. Teotia and D. Kaur. Physics, IIT Roorkee, Roorkee, Uttrakhand, India

10:12

CD-08. Role of Interface Properties on Spin Polarized Tunneling in Cu/Al2O3/Co Junctions with Interfacial Ultra Thin Co layer.
D. Choi¹, J. Moodera², A. Michel¹ and T. Kim¹. 1, Department of Physics, Ewha Womans University, Seoul, South Korea; 2, Francis Bitter Magnet Lab, MIT, Cambridge, MA; 3. Department of Physics, Université de Poitiers, Futuroscope-Chasseneuil, France

CD-09. Field-Like Spin Torque Term Governs Enhanced Synchronization in Magnetic Tunnel Junction based Spin Torque Oscillator. Y. Zhou¹ and J. Åkerman¹. 1. Institute of Microelectronics and Information Technology, Royal Institute of Technology, Stockholm-Kista, Sweden

CD-10. Multiferroic tunnel junctions: prediction of four resistance states from first-principles. J. Velev³, C. Duan¹, A. Smogunov¹,², E. Tosatti¹,², S.S. Jaswal¹ and E.Y. Tsymbal¹. 1. Department of Physics and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 2. Key Laboratory of Polarized Materials and Devices, East China Normal University, Shanghai, China; 3. International Centre for Theoretical Physics (ICTP), Trieste, Italy; 4. International School for Advanced Studies (SISSA) and CNR/DEMOCRITOS National Simulation Center, Trieste, Italy

CD-11. The band gap of ultra-thin amorphous and well-ordered Al2O3 films on CoAl(100) measured by scanning tunneling microscopy. V. Rose¹ and R. Franchy¹. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 2. Institut des NanoSciences de Paris-Université Paris 6, Paris, France

CD-12. High spin polarization of Co75Fe25 bulk alloys using PCAR complemented by TMR measurements with an alumina barrier. S.V. Karthik¹, T.M. Nakatani¹, A. Rajanikanth³, Y.K. Takahashi¹ and K. Hono¹. 1. National Institute for Materials Science, Sengen, Tsukuba, Japan; 2. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan

CD-13. The influence of oxygen on structure and magnetic properties of full Heusler Co2MnAl films and magnetic tunnel junctions. J. Qiu¹, V. Ko¹, P. Luo¹, W. Ye¹, L. An¹, B. Zong¹ and G. Han¹. SMII Division, Data Storage Institute, Singapore, Singapore
CE-06. Intershell exchange and sequential electrically injected spin populations of InAs quantum dot shell state. G. Kioseoglou¹, C.H. Li¹, A.T. Hanbicki¹, B.T. Jonker¹, M. Korkusinski¹, P. Hawrylak², M. Yasar² and A. Petrou³. Code 6361, Naval Research Lab, Washington, DC; 2. Institute for Microstructural Sciences, National Research Council, Ottawa, ON, Canada; 3. Physics, SUNY Buffalo, Buffalo, NY

CE-07. Investigation of an effective magnetic field involved in photo-induced precession of magnetization in (Ga,Mn)As. S. Kobayashi¹, Y. Hashimoto¹ and H. Munekata¹. Imaging Science and Engineering Lab., Tokyo Institute of Technology, Yokohama, Japan

CE-08. Electrically-Pumped Spin-Polarized Lasers. (Invited) M. Holub¹. Naval Research Laboratory, Washington, DC

CE-09. Tunneling magnetoresistance in Fe/GaOₓ/Ga₁₋ₓMnₓAs magnetic tunnel diodes. H. Saito¹,², S. Yuasa¹ and K. Ando¹. Nanoelectronics, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan; 2. PRESTO, Japan Science and Technology Agency, Tokyo, Japan

CE-10. Magnetic tunnel junctions with Co:TiO₂ ferromagnetic semiconductor electrodes. Y.L. Lee¹, I.J. Vera Marín¹, M.P. de Jong¹ and R. Jansen¹. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands

CE-11. Corrections to spin lifetimes estimated by Hanle measurements in Fe/GaAs lateral spin transport heterostructures. C. Awo-Affouda¹, O.M. van't Erve¹, M. Holub¹, C.H. Li¹, A.T. Hanbicki¹, G. Kioseoglou¹ and B.T. Jonker¹. Naval Research Laboratory, Washington, DC
CF-05. Magnetic Circular Dichroism Spectroscopy of Epitaxial La0.7Sr0.3MnO3 Thin Films. G.A. Gehring, T.K. Nath and J.R. Neal. The Department of Physics and Astronomy, The University of Sheffield, Sheffield, United Kingdom; 2. Department of Physics and Meteorology, Indian Institute of Technology, Kharagpur, India

10:12


10:24


10:36

CF-08. Anisotropic magnetoresistance in La_0.65Ca_0.35MnO_3 polycrystalline and epitaxial thin film samples. M. Egilmez, R. Ma, K.H. Chow and J.A. Jung. Physics, University of Alberta, Edmonton, AB, Canada

10:48

CF-09. Magneto-Transmittance Spectra and Colossal Magnetoresistance Effect in La_{0.7}Pb_{0.3}MnO_{3-δ} Epitaxial Thin Film. S.T. Malak, T. Trypiniotis, J.R. Schueremann, J. Stelhik and J. Wang. Department of Physics, Applied Physics, and Astronomy, Binghamton University, Binghamton, NY

11:00

CF-10. Universal magnetic behavior of the electron-doped SrMnO_3 cubic perovskite by various A-site and B-site substitutions. S. Kolesnik, B. Dabrowski and O. Chmaissem. Department of Physics, Northern Illinois University, Dekalb, IL; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL

11:12


11:24

CF-12. Oxygen vacancy order, electronic orbital order and magnetism in La_{1-x}Sr_{x}MnO_{3-d}. B. Dabrowski. Physics, Northern Illinois University, DeKalb, IL

11:36


11:48

WEDNESDAY 400/402
MORNING
9:00

Session CG
APPLICATIONS OF MAGNETIC NANOPARTICLES TO BIOLOGY
Jian Ping Wang, Chair

9:00

CG-01. Magnetic Micro-Barcodes for High-Throughput Biological Assays. B. Hong, T. Hayward, J. Jeong, J. Palfreyman, J. Cooper, T. Mitrellas, J. Llandro, K.P. Kopper, S. Steinmüller, T. Trypiniotis, T. Bland and C. Barnes. Department of Physics, University of Cambridge, Cambridge, United Kingdom; 2. Department of Materials Engineering, Chungnam National University, Daejeon, South Korea
Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Department of Physics, Carnegie Mellon University, Pittsburgh, PA; 3. Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA.

CG-03. Synchronized swimming of magnetic micro-bead pairs.
S. Bhat¹, T. Kurzweg¹, A. Guez¹ and G. Friedman¹.
1. ECE Department, Drexel University, Philadelphia, PA.

CG-04. Ferromagnetic micro-swimmers: Experimental prototype.
F.Y. Ogrin¹, P.G. Petrov¹ and C.P. Winlove¹.
University of Exeter, Exeter, United Kingdom.

CG-05. Single molecule manipulation monitoring using magnetic tweezers and MR sensors.
R.C. Chavez¹,², S. Cardoso¹,² and P.P. Freitas¹,².
1. IST, Lisbon, Portugal; 2. INESC-MN & IN, Lisbon, Portugal.

CG-06. Functionalization-Induced Improvement of Technical Magnetic Properties in Fe₃O₄ Nanoparticles.
D.K. Nagesha¹, B.D. Plouffe², M. Phan², L.H. Lewis², S. Sridhar¹ and S.K. Murthy¹.
1. NIST, Gaithersburg, MD; 2. NCNR, NIST, Gaithersburg, MD; 3. Department of Materials Science and Engineering, University of Maryland, College Park, MD; 4. Triton BioSystems, Inc., Chelmsford, MA; 5. Key Lab for Nanomaterials, Ministry of Education, Beijing University of Chemical Technology, Beijing, China.

CG-07. The “sonic wave emission by magnetically stimulated particles” and its application to sentinel lymph node mapping.
K. Kakegawa¹, T. Ueda², M. Tada¹, T. Nakagawa¹, H. Handa¹,² and M. Abe¹,²,³.
1. Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. Integrated Research Institute, Tokyo Institute of Technology, Tokyo, Japan; 3. Biological Information, Tokyo Institute of Technology, Tokyo, Japan.

CG-08. An Fe-Based Novel Drug Delivery System with Heparin-Coated Magnetic Nanoparticles.
H. Khurshid¹, S.H. Kim¹, M.J. Bonder¹, G.C. Hadjipanayis¹, K.L. Kiick¹ and R.A. Sikes¹.
Physics and Astronomy, University of DE, Newark, DE; 2. Material Science and Engineering, University of DE, Newark, DE; 3. Biological Sciences, University of DE, Newark, DE.

H. Ma¹, M.A. DeCostre², J. McNamara², D. Caruntu¹, J. Chen¹, C.J. O’Connor³ and W. Zhou¹.
Advanced Materials Research Institute, University of New Orleans, New Orleans, LA; 2. Biomedical Engineering and Institute for Micromanufacturing, Louisiana Tech University, Ruston, LA; 3. Key Lab for Nanomaterials, Ministry of Education, Beijing University of Chemical Technology, Beijing, China.

CG-10. Investigation of the dynamic response of cells to locally applied forces using magnetic microropost arrays.
C.M. Lamb¹, N.I. Sniadecki², C.S. Chen¹ and D.H. Reich¹.

C. Dennis¹, A.J. Jackson²,³, J.A. Borchers², C. Lau¹,³, A.R. Foreman¹, C. Gruettner¹ and R. Ivkov⁴,⁶.
1. NIST, Gaithersburg, MD; 2. NCNR, NIST, Gaithersburg, MD; 3. Department of Materials Science and Engineering, University of Maryland, College Park, MD; 4. Triton BioSystems, Inc., Chelmsford, MA; 5. Micromod Partikeltechnologie GmbH, Rostock-Warnemuende, Germany; 6. Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University, Baltimore, MD.

CG-12. Experimental and theoretical investigation of cubic FeCo nanoparticles for magnetic hyperthermia.
Y. Jing¹, H. Sohn¹, T. Kline¹ and J.P. Wang¹.
Electrical Engineering, University of Minnesota, Minneapolis, MN.

CG-13. A Study Of The Dependence Of Tumor Volume On The Optimum Dosage Of Ferromagnetic Nanoparticles In Cancer Therapy Using MFH.
M. Pavel¹,² and A. Stancu¹.
“Alexandru Ioan Cuza” University, Iasi, Romania; 2. University of Medicine and Pharmacy “Gr. T. Popa”, Iasi, Romania.

CG-14. AC magnetically induced heating of solid state superparamagnetic ferrite nanoparticles and its physical characteristics for hyperthermia.
S. Lee², S. Bae¹, M. Jeun¹, T. Koshi¹ and Y. Takeamura¹.
1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Electrical and Computer Engineering, Yokohama National University, Yokohama, Japan.

WEDNESDAY MORNING

Session CH
MAGNETORESISTANCE, MAGNETOIMPEDANCE, AND HALL EFFECT
Ching-Ray Chang, Chair

9:00


9:12

CH-02. Current-perpendicular-to-plane giant magnetoresistance in Co-Cr granular film. X. Zhang, Z. Zhang, L. Wu and C. Wan. Laboratory of Advanced Materials, Department of Materials Science and Engineering, Tsinghua University, Beijing 100084, China; 2. Beijing National Center for Electron Microscopy, Beijing 100084, China.

9:24


9:36


9:48


10:00

CH-06. Weak Localization in Ferromagnetic Semiconductors. I. Garate and A. MacDonald. Physics Department, University of Texas at Austin, Austin, TX.

10:12

CH-07. Magnetoresistance and anomalous Hall effect in the variable range hopping transport of (In_xGa_x)O_y oxide ferromagnetic semiconductor. R. Qiao, T. Xu, L. Zhang, L. Mei, Y. Tian, Y. Qiang and S. Yuan. School of Physics, Shandong University, Jinan, Shandong, China; 2. State Key Lab Metastable Mat Sci & Technol, Yanshan University, Qinhuangdao, Hebei, China; 3. Department of Physics, University of Idaho, Moscow, ID.

10:24

CH-08. High Sensitivity, Multi-Functional Micro-Hall Sensors Fabricated using InAlSb/InAsSb/InAlSb Heterostructures. M. Bando, T. Ohashi, M. Dede, R. Akram, E. Oral, S. Park, M. Abe, H. Handa, I. Shibasaki and A. Sandhu. Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan; 2. Department of Physics, Bilkent University, Bilkent, Ankara, Turkey; 3. Faculty of Engineering and Natural Sciences, Sabanci University, Istanbul, Turkey; 4. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan; 5. Department of Physical Electronics, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan; 6. Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan; 7. Asahikasei Corporation, Fuji, Shizuoka, Japan; 8. Integrated Research Institute, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan; 9. Tokyo Tech Global COE Program on Evolving Education and Research Center For Spatio-Temporal Biological Network, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan.

10:36

CH-10. Spin-orbit scattering and anomalous Hall effect in the epitaxial L10-ordered ferromagnets FePd and FePt.
K.M. Seemann1, A. Aziz2, F. Kronast2, J. Miguel1, W. Kuch1, M.G. Blamire3, A.T. Hindmarch1, B.J. Hickey1 and C.H. Marrows1. 1. E.C. Stoner Laboratory, School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 3. BESSY, Berlin, Germany; 4. Institut für Experimentalphysik, Freie Universität Berlin, Berlin, Germany

CH-11. Electron-magnon scattering and magnetization switching detection in FePt thin films and nanostructures. A.P. Mihai1,2, J. Attané1,2, A. Marty1, L. Vila1, J. Pillet1, C. Beigné1, P. Warin1 and Y. Samson1. INAC, SP2M, CEA, Grenoble, France; 2. Université Joseph Fourier, Grenoble, France

CH-12. Spin valves based on L10 FePt fixed layer with tilted anisotropy. C. Zhu1, J. Persson1, S. Bonetti1 and J. Åkerman1. Department of Microelectronics and Applied Physics, Royal Institute of Technology (KTH), Stockholm, Sweden

CH-13. Effects of NiFe and Co insertion on the perpendicular anisotropy, soft coercivity and GMR in perpendicularly magnetized [Pd/Co]/Cu/[Co/Pd] pseudo spin-valves. N. Thiyagarajan1, S. Bae1, H. Joo1 and D. Hwang2. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Department of Computer and Electronic Physics, Sangji University, Wonju, South Korea

CH-14. Enhancement of the magnetorefractive effect in tunnelling nanocomposites due to multiple interference and substrate resonance features. R.T. Mennie1, A.E. Carmichael1, S.M. Thompson1, J.A. Matthew1, K. Takanashi2 and K. Yakushiji1. Physics, University of York, York, United Kingdom; 2. IMR, Tohoku University, Sendai, Japan
CP-08. Domain wall internal structure and dynamics in soft magnetic nanostripes. K. Gusliyenko, J. Lee and S. Kim. Research Center for Spin Dynamics & Spin-Wave Devices, Department of Materials Science and Engineering, Seoul National University, Seoul, South Korea

CP-09. Optimum conditions for microwave-assisted magnetization reversal of 30-nm-thick Permalloy film with lateral size of 2×0.2 μm² fabricated on 0.2-μm-wide coplanar waveguide. Y. Nozaki, K. Tateishi, S. Shiraishi and K. Matsuyama. Department of Electronics, Kyushu University, Fukuoka, Japan

CP-10. Generation of nanoseconds duration magnetic pulse field for switching experiments on a single nanodot. N. Kikuchi, S. Okamoto and O. Kitakami. IMRAM Tohoku University, Sendai, Japan

WEDNESDAY AUSTIN BALLROOM MORNING 8:00

Session CQ
CMR OXIDES III: TRANSPORT (POSTER SESSION)
Steve May, Chair

CQ-01. Rectifying behavior and interfacial potential in La₀.₇₅Ca₀.₂₅MnO₃/Si junctions. F. Hu, J. Wang, J. Shen and J. Sun. Department of Physics, The University of Hong Kong, Hong Kong, China

CQ-02. Correlation between electroresistance and magnetoresistance in slight oxygen-deficient Nd₀.₇Sr₀.₃MnO₃-δ polycrystalline ceramics. P.C. Yang, H. Den, H. Wang, C.J. Wen and F.X. Han. Faculty of Physics & Electronic Technology, Hubei University, Wuhan, China; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China

CQ-03. Effect of heat treatment on electroresistance in Nd₀.₆₇Sr₀.₃₃MnO₃ ceramics. Q. Dai, H. Deng and C. Yang. Hubei University, Wuhan, China


CQ-05. Resistive switching behavior in manganite oxides. T. Hsu, H. Lee and J. Lin. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan

CQ-06. Magnetotransport properties of Ru-layered perovskites: SrₓBrₓRuOₓ (B = Mn and Ti). S.S. Pillai and P.N. Santhosh. Physics, Indian Institute of Technology, Madras, Chennai, Tamil Nadu, India


CQ-09. Colossal Electroresistance Effect in La₁₋ₓCaₓMnO₃. Z.H. Zhou, X.J. Luo, G.H. Rao and C.P. Yang. Faculty of Physics & Electronic Technology, Hubei University, Wuhan, Hubei, China; 2. The Institute of Physics, Chinese Academy of Sciences, Beijing, Beijing, China

CQ-10. Effect of doping-induced local lattice distortion on charge transport mechanism of La₀.₈₅Zr₀.₁₅Mn₁₋ₓGaₓO₃. D. Ling, J. Cheng, C. Lee and F. Chien. Department of Physics, Tamkang University, Tamsui, Taiwan

CQ-11. Verification of percolating nature of ferromagnetic-paramagnetic transition in bulk manganite La₀.₇Ca₀.₃MnO₃ with current-pulse conductivity study. B. Belevtsev and V. Krasovskiy. Institute for Low Temperature Physics and Engineering, Kharkov, Ukraine; 2. Physics, Texas A&M University, College Station, TX

CQ-12. Correlated polaron transport and metal-insulator transition in La₀.₇Sr₀.₃MnO₃. N.B. Srivastava, C.M. Srivastava, L.N. Singh and C.M. Srivastava. Department of Physics, R.J. College, Univ. of Mumbai, Mumbai, Maharashtra, India; 2. Department of Physics, Dr. Babasaheb Ambedkar Technological University, Lonere 402103, Maharashtra, India; 3. Department of Physics, Indian Institute of Technology, Bombay, Mumbai 400076, Maharashtra, India

CQ-13. Effect of carrier density on the magnetically tunable properties in self-doped La₀.₉₂MnO₃/STO heteroepitaxial junctions. Z. Wang, Z. Gu, D. Gu, L. Liu, L. Wang and J. Gao. Physics Department, Nanjing University, Nanjing, China; 2. Physics Department, The University of Hong Kong, Hong Kong, China
CR-01. Does ferroelectric polarization in LiCu$_2$O$_2$ uniquely originate from spiral-spin order? M. Qin$^1$, Y. Guo$^1$, S. Dong$^1$, K. Wang$^1$ and J. Liu$^1$. Physics, Nanjing University, Nanjing, China


CR-03. Phase transitions in Er$_{1-x}$Lu$_x$FeO$_4$. J. Kim$^1$, J. Ahn$^1$, C. Jung$^1$ and B. Lee$^1$. Physics, Hankuk University of Foreign Studies, Yongin, Kyungki, South Korea


CR-05. Negative magnetization induced by proton irradiation in the CoCr$_2$O$_4$ Multiferroic materials. K. Cho$^1$, S. Kim$^1$ and C. Kim$^1$. Physics, Kookmin Univ., Seoul, South Korea


CR-07. Study of Multiferroic properties of Al doped CuFeO$_2$ by Mössbauer spectroscopy. D. Choi$^1$, I. Shim$^1$ and C. Kim$^1$. Physics, Kookmin University, Seoul, South Korea

CR-08. Structural and transport properties of Bi-substituted Co$_{1-x}$Mn$_x$O$_2$. R. Kumar$^1$, S.K. Arora$^2$, J.V. Shvet$^3$, N.E. Rajeevan$^1$, P.P. Pradynnman$^1$ and D.K. Shukla$^1$. Materials Science Division, IUAC, New Delhi 110067, India; 2. Centre for Adaptive Nanostructures and Nanodevices (CRANN), School of Physics, Trinity College Dublin, Dublin, Ireland; 3. Department of Physics, University of Calicut, Calicut 673635, Kerala, India; 4. Department of Physics, Aligarh Muslim University, Aligarh 202002, U.P., India

CR-09. Magnetic properties of oxide multiferroics Pb(Fe$_{1/2}$Nb$_{1/2}$)O$_3$ and 0.3 Pb(Fe$_{1/2}$Nb$_{1/2}$)O$_3$ - 0.7 Pb(Mg$_{1/2}$W$_{1/2}$)O$_3$. Z. Trontelj$^1$, Z. Jaglcič$^1$, J. Luznik$^3$, A. Levstik$^2$, C. Filipič$^2$, V. Bobnar$^2$, J. Holz$^2$, V. Laguta$^1$, P. Ceve$^2$ and R. Blinc$^1$. IMFM, Ljubljana, Slovenia; 2. IJS, Ljubljana, Slovenia; 3. IPMS, Ukrainian Academy of Sciences, Kijev, Ukraine

CR-10. Electric polarization enhancement in the multiferroic spinel CoCr$_2$O$_4$ with the site mixing effects. I. Kim$^1$, Y. Oh$^1$, S. Chun$^1$, K. Kim$^1$, J. Lee$^2$, K. Ko$^2$, J. Park$^2$ and J. Chung$^1$. FPRD & Department of Physics and Astronomy, Seoul National University, Seoul, South Korea; 2. FPRD & Department of Physics, Pohang University of Science and Technology (POSTECH), Pohang, South Korea; 3. Department of Physics, Korea University, Seoul, South Korea

WEDNESDAY AUSTIN BALLROOM MORNING 8:00

Session CS

4f-, 5f- AND STRONGLY CORRELATED SYSTEMS - I

(Poster Session)

Heinrich Nakotte, Chair

CS-01. Magnetic behaviour and phase diagram of Gd$_4$(Co$_{1-x}$Cu$_x$)$_3$ compounds. T.M. Seixas$^1$, M.A. Salgueiro da Silva$^1$, H.F. Braun$^1$ and G. Esch$^1$. Departamento de Física, Faculdade de Ciências da Universidade do Porto, Porto, Portugal; 2. Physikalisches Institut, Universität Bayreuth, D-95440 Bayreuth, Germany

CS-02. Field-induced and spontaneous magnetostriction in (Lu$_{0.8}$Ce$_{0.2}$)$_2$Fe$_{17}$. A.V. Andreev$^1$, K. Koyama$^2$, E.A. Tereshina$^1$,3 and K. Watanabe$^2$. 1. Institute of Physics, Academy of Sciences, Prague, Czech Republic; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic

CS-03. Temperature dependence of magnetic hyperfine interactions in anti-ferromagnetic compounds CeT$_2$Si$_2$ with T = Pd, Rh. G.A. Cabrera-Pascua$^1$, R.N. Saxena$^1$, A.W. Carbonari$^1$, J. Mestnik-Filho$^1$. 1. CRPq, IPEN-CNEN/SP, Sao Paulo, Sao Paulo, Brazil; 2. Instituto de Fisica, Universidade de Sao Paulo, Sao Paulo, Brazil

CS-04. Magnetic ground state at the ytterbium site in YbNiAl$_2$. B. Saensunon$^1$, K. Nishimura$^1$, D.H. Ryan$^1$, W.D. Hutchison$^1$, G.A. Stewart$^1$. 1. School of Physical, Environmental & Mathematical Sciences, University of New South Wales, Canberra, ACT, Australia; 2. Centre for the Physics of Materials and Physics Department, McGill University, Montreal, QC, Canada; 3. Graduate School of Science and Engineering, University of Toyama, Toyama, Japan
CU-01. Magnetic Markers Detection using PCB Fluxgate Array.
M. Janosek¹, P. Ripka¹ and A. Platil¹. 1. Dpt. of Measurement, Czech Technical University in Prague, FEE, Praha 6, Czech Republic

CU-02. Deducing Local ELF Field Values From Large Sense Coil Fluxmeter Measurements. A.A. Adly¹, M.M. Abdel-Aziz² and N.S. Hosny¹. J. Elect. Power & Machines, Cairo University, Giza, Egypt

CU-03. A miniature and ultra low-power search coil optimized for a 20 mHz to 2 kHz frequency range. E. Paperno¹ and A. Grosz¹. J. Electrical and Computer Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel

CU-04. Quantifiable Magnetic Beads Detection Using Cross Type Spin Valve Sensors. J. Suh¹, S. Jung¹ and M. Chung¹. J. Neural Interface Research Team, Electronics and Telecommunications Research Institute, Daejeon, South Korea

CU-05. Quantitative detection of magnetic particles in a chromatographic membrane by a giant magnetoresistance sensor. K. Lee¹, S. Lee¹, B. Cho¹ and J. Kim¹. J. School of Photonics, MSE, GIST, Gwangju, South Korea; 2. Advanced Technology Research Group, LG Micron, Ansan-si, South Korea

CU-06. Planar Hall single bead detection sensor for bio-applications. H. Tran Quang¹, S. Oh¹, L. Phong¹, B. Tu¹, N. Duc², J. Jeong³ and C. Kim¹. J. Department of Materials Science and Engineering, Chungnam National University, Daejeon, South Korea; 2. Department of Nano Magnetic Materials and Devices, Faculty of Physics Engineering, College of Technology, Vietnam National University, Hanoi, Viet Nam

CU-07. Planar Hall sensor detection of toxA gene DNA Hybridized with coloured magnetic microspheres. B. Bajaj¹, J.R. Jeong¹, C. Kim¹ and C. Lee¹. J. Department of Material Science and Engineering, Chungnam National University, Daejeon, South Korea; 2. Department of Chemical Engineering, Chungnam National University, Daejeon, South Korea

CU-08. Ultrasensistive Ni₇₇Fe₁₄Cu₅Mo/Co₅₀Fe₅₀/Al₂O₃/Co₅₀Fe₅₀/ Ni₇₇Fe₁₄Cu₅Mo magnetic tunnel junction field sensors. W. Pong¹, M. Shmoueli², A. Castillo² and W.F. Egelhoff². J. Department of Electrical and Electronic Engineering, University of Hong Kong, Hong Kong, China; 2. Metallurgy Division, National Institute of Standards and Technology, Gaithersburg, MD

CU-10. Planar coil type temperature sensor with thermosensitive magnetic ferrite core. T. Nonaka¹, K. Maita¹, H. Sato² and Y. Kim¹. J. Div. of Metrology for Quality Life, Korea Research Institute of Standards and Science, Daejeon, South Korea; 2. Department of Physics, Hannam University, Daejeon, South Korea; 3. Nuclear Materials Tech. Develop. Team, Korea Atomic Energy Research Institute, Daejeon, South Korea; 4. J. Div. of Physical Metrology, KRISS, Daejeon, South Korea; 5. J. Div. of Metrology for Quality Life, Korea Research Institute of Standards and Science, Daejeon, South Korea

CU-11. Reactance Simulation for Defects in Steam Generator Tube with Outside Ferrite Sludge. K. Ryu¹, H. Son¹, D. Park¹, J. Jung² and Y. Kim¹. J. Div. of Metrology for Quality Life, Korea Research Institute of Standards and Science, Daejeon, South Korea; 2. Department of Physics, Hannam University, Daejeon, South Korea; 3. Nuclear Materials Tech. Develop. Team, Korea Atomic Energy Research Institute, Daejeon, South Korea; 4. J. Div. of Physical Metrology, KRISS, Daejeon, South Korea; 5. J. Div. of Metrology for Quality Life, Korea Research Institute of Standards and Science, Daejeon, South Korea

CU-12. Haptic Sensor with Temperature And Electric Sensitivity Utilizing Magnetic Compound Fluid (MCF) Rubber. Z. Yaoyang¹, K. Shimada¹ and Y. Ido². J. Faculty of Symbiotic Systems Science, Fukushima University, Fukushima, Japan; 2. Nagoya Institute of Technology, Nagoya, Japan
CV-03. Enhancement of the spin wave lifetime in permalloy (Py) films by parametric pumping. G.A. Mekhov1, Y.V. Koblijanskij1, R.A. Slipec1, A.V. Talalaevskij1 and J.N. Slavin1. Faculty of Radiophysics, Kiev National Taras Shevchenko University, Kiev, Ukraine; 2. Department of Physics, Oakland University, Rochester, MI


CV-05. Nonreciprocal Isolator Using a Coplanar Waveguide and Ferromagnetic Nanowires. B.K. Kuan1,2, Y. Veerakumar1, R.E. Camley1 and Z.J. Celinski1. Center for Magnetism and Magnetic Nanostructures, University of Colorado, Colorado Springs, Colorado Springs, CO


CV-07. Electrostatically tunable (011)YIG/(011) PMN-PT microwave multiferroic composites with large tunable frequency range. J. Lou1,2, M. Liu1,2, D. Reed1,2, C. Pettiford1,2 and N.X. Sun1,2,1. Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Center for Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Boston, MA

CV-08. 1.5-μm-band, TM-mode waveguide optical isolator that uses nonreciprocal loss induced by ferromagnetic MnSb. T. Amemiya1, Y. Ogawa1, H. Shimizu1, H. Munekata1 and Y. Nakano1. Research Center for Advanced Science and Technology, Univ. of Tokyo, Tokyo, Japan; 2. Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 3. Department of Electrical and Electronic Engineering, Tokyo University of Agriculture and Technology, Tokyo, Japan


CV-10. Electric field tunable FMR frequency shift in a laminated Co2MnAl/GaAs/PMN-PT heterostructure. Y. Chen1,2, J. Lou1,2, M. Liu1,2, M.J. Nedorosck1,2, D. Heiman1, N.X. Sun1,2, C. Vittoria1,2 and V.G. Harris1,2,1. Center for Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Boston, MA; 2. Electrical and Computer Engineering, Northeastern University, Boston, MA; 3. Physics, Northeastern University, Boston, MA

CV-11. X-band dielectric variation of iron-epoxy composites under a magnetic field. D. Hung1, Y. Yao1, Y. Yang1, C. Lin1, C. Tsay4, S. Hsu1 and W. Liang1. Department of Information and Telecommunication Engineering, Ming Chuan University, Taipei, Taiwan; 2. Department of Materials Engineering, Tatung University, Taipei, Taiwan; 3. Department of Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 4. Department of Material Science and Engineering, Feng Chia University, Taichung, Taiwan

CV-12. Circular Patch Antennas with Multilayer Self-biased Ferrite Films at GHz. G. Yang1, X. Xing1, A. Daigle1, Y. Obi1, S. Stoute1, M. Liu1, K. Naishadham1 and N. Sun1. Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. RF Communications Group, Draper Laboratory, Cambridge, MA

CV-13. Withdrawn
CW-05. Modification of Magnetic Properties by Ion Beam Irradiation of CGC Perpendicular Media with CoCrPt-oxide.
J. Yasumori1,2, Y. Sonobe1, K. Miura3, H. Muraoaka4 and M. Aniya1. MD Division, Hoya Corporation, Akishima, Tokyo, Japan; 2. RIEC, Tohoku univ., Sendai, Miyagi, Japan

CW-06. Magnetic cluster formation with localized exchange interaction. H. Endo1, Y. Uesaka1, Y. Nakatani1, N. Hayashi1 and H. Fukushima1. Nihon University, Koriyama, Fukushima, Japan; 2. University of Electro-Communications, Chofu, Japan; 3. Individual Capacity, Tokyo, Japan; 4. Individual Capacity, Chiba, Japan

CW-07. Switching field and mechanism of cubic and flat particles. Y. Uesaka1, H. Endo1, Y. Nakatani1, N. Hayashi1 and H. Fukushima1. 1. Engineering, Nihon University, Kohriyama, Fukushima, Japan; 2. University of Electro-communications, Chofu, Tokyo, Japan; 3. Independent, Kichiyoji, Tokyo, Japan; 4. Independent, Chiba, Chiba, Japan

CW-08. Spherical Barium Ferrite (S-BaFe) 20~22 nm Sized Particles for Particulate Recording Media. J. Jalli1,2, Y. Hong1,2, S. Gee3, J.C. Sui4, K. An5 and T. Hyeon5. 1. Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL; 2. MINT Center, University of Alabama, Tuscaloosa, AL; 3. Seagate Technology, Bloomington, MN; 4. Division of Physics, Wonkwang University, Iksan, Joen-book, South Korea; 5. School of Chemical Engineering, Seoul National University, Seoul, South Korea

CW-09. Thermal Insulator Design for Improving Efficiency of Thermomechanical Actuation. H. Li1, C. Yin1 and F. Talke1. Center for magnetic recording research, La Jolla, CA

CX-02. Magnetocaloric effect around the magnetic phase transition. N.A. Oliveira1 and P.I. von Ranke1. Instituto de Fisica, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil

CX-03. Magnetocaloric effect in (R1, R2)2Co and under applied pressure. N.A. Oliveira1, Instituto de Fisica, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil

CX-04. Crystal structure and magnetic transition of MnFePGe compound prepared by spark plasma sintering. M. Yue1, Z. Li1, X. Wang1, D. Liu1, J. Zhang1, X. Liu1 and Z. Altounian1. College of Materials Science and Engineering, Beijing University of Technology, Beijing, China; 2. Department of Physics, McGill University, Montreal, QC, Canada

CX-05. The magnetocaloric effect in Fe-Zr-B-M (M=Mn, Cr, Co) amorphous systems. Y. Fang1,2, C. Yeh1, C. Hsieh1, C. Chang1, W. Chang1 and W. Li1. Department of Physics, National Chung Cheng University, Ming Huang, Chia-Yi, Taiwan; 2. Division of Functional Materials Research, Central Iron and Steel Research Institute, Beijing, China

CX-06. Effect of substitution of Co for Fe on the magnetic hysteresis loss and the refrigerant capacity in the La0.5Pr0.5Fe11.5Si1.5 compounds. J. Shen1,2, Y. Li1, F. Hu1 and J. Sun1. School of Material Science and Engineering, Hebei University of Technology, Tianjin, China; 2. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China

CX-07. Magnetic entropy change and magnetic properties on Ni-Mn-Ga alloy by substitution of V. S. Min1, Y. Zhang1, S. Yu1, K. Lee2 and Y. Kim1. BK21 Physics Program and Department of Physics, Chungbuk National University, Cheongiu, South Korea; 2. Industrial Consulting Team, Korean Research Institute of Standard and Science, Taejon, South Korea; 3. Division of Materials and Engineering, Korea Institute of Science and Technology, Seoul, South Korea

CX-08. Monte Carlo study of the coupled magnetostructural phase transitions in Heusler Ni-Mn-X (X= In, Sn, Sb) alloys. V. Buchelnikov1, S. Taskaev1, V. Sokolovsky1 and P. Entel2. Condensed Matter Physics Department, Chelyabinsk State University, Chelyabinsk, Russian Federation; 2. Physics Department, University of Duisburg-Essen, Duisburg, Germany

CX-09. Magnetic Properties and Magnetocaloric Effect of the Re-entrant ferromagnet PrMn2Ge0.8Si1.2. J. Wang1,2, S.J. Campbell1, R. Zeng1, S. Dou1 and S.J. Kennedy1. School of PEMS (Physics), UNSW@ADFA, Canberra, ACT, Australia; 2. Bragg Institute, ANSTO, Sydney, NSW, Australia; 3. Institute for Superconductivity and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia

CX-10. Magnetocaloric effects in the La(Fe, Si)13 intermetallics doped by different elements. L. Ju1, J. Sun1, J. Shen1, Q. Dong1, J. Zou1, B. Gao1, T. Zhao1, F. Hu1 and B. Shen1. Institute of Physics, Chinese Academy of Sciences, Beijing, China
CX-11. Influence of the substitution of Cu for Si on magnetic entropy change and hysteresis loss in LaFe_{11.8}Si_{1-x}Cu_{x} compounds. B. Gao¹, F. Hu¹, J. Shen¹, J. Wang¹, J. Sun¹ and B. Shen¹. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, Beijing, China

CX-12. Effect of structure and magnetic properties of LaFe_{13-x}SixHy intermetallic compounds by hydrogen absorption under negative pressure. F. Bin¹, S. Puj³, B. Bo¹, L. Yi¹, Y. Rongchang¹ and C. Youngqing¹. School of Materials Science and Engineering, University of Science and Technology of Beijing, 100083, P R China, Beijing, China

CX-13. Spin glass behavior and magnetocaloric effect in amorphous alloys Ce_{2}Fe_{23-x}Mn_{x}B_{3}. F. Wang¹, J. Shen¹,², J. Sun¹ and B. Shen¹. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. School of Material Science and Engineering, Hebei University of Technology, Tianjin, China

CX-14. Magnetocaloric effect and spin reorientation transition in single-crystal Er_{0.6}Fe_{9.4}B_{1.1}, M. Ilyn¹, A. Andreev², V. Zhukova¹, A. Tishin³ and J. Gonzalez¹. 1. Department of Material Physics, Chemistry Faculty, Universidad del Pais Vasco, San Sebastian, Spain; 2. Institute of Physics, Academy of Science, Prague, Czech Republic; 3. Department of Physics, Moscow Lomonosov State University, Moscow, Russian Federation

CX-15. Magnetic properties and magnetocaloric effect of (Mn_{1-x}Ni_{x})_{3}Sn_{2} (X = 0 to 0.5) compounds. R. Zeng¹, J. Wang², L. Lu¹, W. Li¹, J. Kim¹, J. Horvat¹, D. Shi¹, S. Campbell², H. Liu¹ and S. Dou¹. 1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. School of Material Science and Engineering, Hebei University of Technology, Tianjin, China

CX-16. Magnetic ordering in the rare earth intermetallic compound Tb,Ti,Ge. Magnetization and Neutron Diffraction Studies. S.K. Malik¹, J. Lamsal², R.L. de Almeida³, S. Quezado³, W.B. Yelon¹, V.O. Garlea¹, A.V. Morozkin¹ and R. Nirmala³. 1. International Center for Condensed Matter Physics (ICCMP), Brasilia, Brazil; 2. Department of Physics and Astronomy, University of Missouri-Columbia, Columbia, MO; 3. Materials Research Center and Department of Chemistry, Missouri University of Science and Technology, Rolla, MO; 4. Neutron Scattering Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN; 5. Department of Chemistry, Moscow Lomonosov State University, Moscow, Russian Federation; 6. Indian Institute of Technology Madras, Chennai, India

CX-17. Enhanced micro-hardness and large magnetic entropy change for Gd_{1-x}Ni_{x} alloys. W. Huang¹, X. Zhong¹, X. Zhou¹, H. Yu¹, D. Zeng¹ and Z. Liu¹. School of Materials Science & Engineering, South China University of Technology, Guangzhou, Guangdong, China

CX-18. Large magnetic entropy change with small thermal hysteresis near room temperature in metamagnetic alloys Ni_{93}Mn_{6}In. F. Hu¹, J. Wang¹, J. Shen¹, B. Gao¹, J. Sun¹ and B. Shen¹. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, Beijing, China

CX-19. The magnetocaloric effect in materials with a second order phase transition: Are T_{C} and T_{peak} necessarily coincident? V. Franco¹, A. Conde¹, M.D. Kuz’mín² and J.M. Romero-Enrique¹. Department of Condensed Matter Physics, Sevilla University, Sevilla, Spain; 2. Leibniz-Institut für Festkörper-und Werkstofforschung, Dresden, Germany; 3. Dpto. Física Atómica, Molecular y Nuclear, Área de Física Teórica, Sevilla University, Sevilla, Spain

WEDNESDAY SALON C

2:00

Session DA

SYMPOSIUM ON DISCRETE TRACK AND BIT-PATTERNED MEDIA

Jan-Ulrich Thiele, Chair

DA-01. Recording studies on discrete track media. (Invited) A. Moser¹. Western Digital Media, San Jose, CA

DA-02. From nano-imprint lithography to self-assembly - pattern generation for bit patterned media beyond 1 Tbit/in². (Invited) X. Yang¹, S. Xiao², K. Lee², D. Kuo² and D. Weller². Seagate Research, Pittsburgh, PA; 2. Seagate Technology, Fremont, CA

DA-03. Write Synchronization in Bit Patterned Media. (Invited) Y. Tang¹, K. Moon², H. Lee¹, M. Moneck¹, J. Zhu² and N. Takahashi³. Samsung Information Systems America, San Jose, CA; 2. ECE, Carnegie Mellon University, Pittsburgh, PA; 3. Fuji Electric Device Technology Co., Ltd., Naganuma, Japan

DA-04. Manufacturing Strategies for Discrete Track and Bit-patterned Media. (Invited) D. Kercher¹. Hitachi San Jose Research, San Jose, CA

DA-05. Patterned Magnetic Media Made by Self-Assembled Block Copolymer Lithography. (Invited) C. Ross¹. MIT, Cambridge, MA
PROGRAM 105

WEDNESDAY AFTERNOON
2:00

Session DB
SPIN-TORQUE INDUCED SWITCHING IN NANOMAGNETS
Guohan Hu, Chair

2:00


2:12


2:24

DB-03. Evidence for activated back-hopping in nanosecond time-domain studies of spin-torque switched MgO magnetic tunnel junctions. S. Serrano-Guisan, K. Rott, G. Reiss, B. Ocker and H.W. Schumacher.

2:36


3:12


3:24

DB-06. Parameter dependence of the spin transfer torque in magnetic tunnel junctions measured by time resolved magneto transport. S. Serrano-Guisan, K. Rott, G. Reiss, B. Ocker and H.W. Schumacher.

3:36


3:48


4:24


4:36


4:48


4:50
PROGRAM 106

WEDNESDAY AFTERNOON
2:00

Session DC
MRAM
Janusz Nowak, Chair

DC-01. Real-time reversal of a ferromagnetic-antiferromagnetic bilayer pinning direction. J. Hérault1, R.C. Sousa1, Y. Conraux2, C. Ducruet1, I.L. Prejbeanu2, B. Delaët1, M.C. Cyrille1, O. Redon1, J.P. Nozières1 and B. Dieny1
1. SPINTEC, CEA, CNRS, UJF, INPG ; CEA/INAC, Grenoble, France; 2. Crocus Technology, Grenoble, France
2:00

DC-02. A Scalable Field Switching MRAM Design. T. Min1, D. Heim1, Q. Chen1 and P. Wang1
1. MagIC Technologies, Milpitas, CA
2:12

DC-03. Thermal Stability of SPRAM (Spin transfer torque RAM) with CoFeB-based synthetic ferromagnetic free layers. K. Ito1, J. Hayakawa1, K. Miura1,3, M. Yamanouchi1, R. Sugano1, M. Ichinoura1, R. Takemura2, S. Ikeda1, H. Hasegawa1, T. Meguro3, R. Sasaki1, H. Takahashi1, H. Matsusuka1 and H. Ohno1
1. Advanced Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo, Japan; 2. Central Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo, Japan; 3. Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan
2:24

DC-04. Magnetic Reliability of Toggle MRAM. (Invited) D. Worledge1, D.W. Abraham1, S. Brown1, J.K. DeBrosse1, R. Forguites1, M.C. Gaidis1, E. Galligan1, G. Hu1, J. Hummel1, Y. Lu1, J. Nowak1, E.J. O’Sullivan1, R.P. Robertazzi1, P.L. Trouilloud1, G.P. Wright1 and W.J. Gallagher1
1. T.J. Watson Research Center, IBM Research Division, Yorktown Heights, NY
2:36

DC-05. Defects in 16Mb toggle MRAM. J.J. Nowak1, R. Robertazzi1, M. Gaidis1, E. O’Sullivan1, D.W. Abraham1, S.L. Brown1, E. Galligan1, G. Hu1, J. Hummel1, E. Joseph1, Y. Lu1, T. Maffit3, P. Rice3, T. Topuria3, P. Trouilloud1, G. Wright1, J. DeBrosse1, D. Worledge1 and W. Gallagher1
1. T.J. Watson Research Center, IBM, Yorktown Heights, NY; 2. Almaden Research Center, IBM, San Jose, CA; 3. System and Technology Group, IBM, Essex Junction, VT
3:12

1. IBM T.J. Watson Research Center, Yorktown Heights, NY
3:24

DC-07. Advantage of Perpendicular MRAM using Spin Transfer Torque Switching for a high density non-volatile memory. T. Kai1, J. Ozeki1, M. Nakayama1, H. Aikawa1, S. Ikegawa1 and H. Yoda1
1. Corporate R&D Center, Toshiba Corporation, Kawasaki, Japan
3:36

DC-08. Probing the write-disturb boundaries of toggle MRAM. P.L. Trouilloud1, D.C. Worledge1 and W.J. Gallagher1
1. IBM Research Division, T.J. Watson Research Center, Yorktown Heights, NY
4:00

1. Department of Electrical and Electronic Engineering, University of Hong Kong, Hong Kong, China; 2. Magnetic Materials Group, National Institute of Standards and Technology, Gaithersburg, MD; 3. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD; 4. U.S. Army Research Laboratory, Adelphi, MD; 5. Department of Physics and Astronomy, University of Delaware, Newark, DE
4:12

DC-10. Effect of patterning on the saturation magnetization in MgO based nanopillars. S. Cornelissen5,6, L. Bianchini2, A. Helmer2, T. Devolder1, J. Kim5, M. Op de Beeck1, G. Hrkac1, T. Schrefl3, L. Lagae1 and C. Chappert5
1. NEXTNS, IMEC, Heverlee/Leuven, Belgium; 2. Institut d’électronique fondamentale, UMR CNRS 8622, UPS, Orsay cedex, France; 3. Department of engineering materials, University of Sheffield, Sheffield, United Kingdom; 4. ESAT, KUleuven, Leuven, Vlaams Brabant, Belgium; 5. Natuurkunde en sterrekunde, KUleuven, Leuven, Vlaams Brabant, Belgium
4:24

DC-11. Novel type of reconfigurable magnetic logic created by ion bombardment induced magnetic patterning of magnetic tunnel junctions. V. Hoetink1, D. Meyners1, J. Schmalhorst1, G. Reiss1, D. Engel1, T. Weis1 and A. Ehresmann1
1. Bielefeld University, Bielefeld, Germany; 2. Kassel University, Kassel, Germany
4:42
4:36

DC-12. Oxidation of magnesium deposited by ion beam sputtering for STT-MRAM MTJs. K. Buchanan1, P. Lima1, Y. Zhou1, R. Trowell1, J. MacNeil1 and G. Proudfoot1. Aviza Technology, Newport, United Kingdom; 2. TFD Consulting Ltd, Wantage, United Kingdom

4:48

DC-13. Verilog-A Behavioral Model for Circuit Simulation of Toggle MRAM. L. Engelbrecht1, A. Jander1 and P. Dhagat1. Oregon State University, Corvallis, OR

WEDNESDAY SALON B
AFTERNOON
2:00

Session DD
HALFMETALLIC HEUSLER COMPOUNDS
Burkard Hillebrands, Chair

2:00


2:12

DD-02. Spin-dependent tunneling characteristics of Co2MnGe/MgO/CoFe tunnel junctions. T. Taira1, T. Ishikawa1, K. Matsuda1, T. Uemura1 and M. Yamamoto1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan

2:24

DD-03. Analysis of L21-ordering in full-Heusler Co2FeSi alloy thin films formed by rapid thermal annealing. Y. Takamura1, R. Nakane2 and S. Sugahara1,1. Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. Department of Electrical Engineering and Information Systems, The University of Tokyo, Tokyo, Japan; 3. CREST, Japan Science and Technology Agency, Kawaguchi, Japan

2:36

DD-04. Magnetic and Atomic Ordering in Polycrystalline Co2MnSi Films. S. Ladak2, N.P. Aley2 and A. Hirohata1. Department of Electronics, University of York, York, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom

2:48

DD-05. Current-perpendicular-to-plane giant magnetoresistance in spin valves with Co2FeAl0.5Si0.5 Heusler alloy. T. Furubayashi1, K. Kodama2, H. Sukegawa1, Y.K. Takahashi1, K. Inomata3 and K. Iono1,2. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Japan; 2. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan

3:00

DD-06. Brillouin Light Scattering Investigations on Co2MnAl1-xSi1-x Heusler Thin Films. T. Kubota1, J. Hamril1, Y. Sakuraba1, O. Gaiser1, M. Oogane1, A. Sakuma1, B. Hillebrands1, K. Takanashi1 and Y. Ando1. 1. Department of Applied Physics, Tohoku University, Sendai, Miyagi, Japan; 2. Fachbereich Physik und Forschungsschwerpunkt MINAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 3. Institute for Material Research, Tohoku University, Sendai, Miyagi, Japan

3:12

DD-07. Half-metallic electronic structure of Co2MnSi electrodes proved by tunneling spectroscopy. (Invited) T. Ishikawa1, N. Itabashi1, T. Taira1, K. Matsuda1, T. Uemura1 and M. Yamamoto1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan

3:48

DD-08. Magnetic properties of epitaxially-grown Fe3Si/Ge(111) layers with atomically flat interfaces. Y. Ando1, K. Kasahara1, K. Ueda1, K. Hamaya1, Y. Nozaki1, T. Sadoh1, Y. Maeda2, K. Matuyama1 and M. Miyao1. 1. Department of Electronics, Kyushu University, Fukuoka, Japan; 2. Department of Energy Science and Technology, Kyoto University, Kyoto, Japan

4:00

DD-09. Origin of the gap formation in half metallic half Heuslers. N. Charles1, C. Liu1, C.K. Mewes1 and W.H. Butler1. 1. Center for Materials for Information Technology, Tuscaloosa, AL; 2. Department of Physics, Grambling State University, Grambling, LA

4:12

Institute of Inorganic Chemistry, Johannes Gutenberg University, Mainz, Germany; 2. Solid State Chemistry, Max Planck Institute for Solid State Research, Stuttgart, Germany; 3. Department Chemie und Biochemie, Ludwig-Maximilians-Universität München, Munich, Germany

DD-12. Ferromagnetism and critical thickness of zinc-blende CrSb on NaCl and KCl substrates. S. Li1, J. Fang2, S. Cao3, Q. Chen3, B. Hu1, Z. Huang1, F. Zhang1 and Y. Du1.
1. Physics, Fujian Normal University, Fuzhou, Fujian, China; 2. Center for Materials Analysis, Nanjing University, Nanjing, Jiangsu, China; 3. Fujian Key Laboratory of Polymer Materials, Fujian Normal University, Fuzhou, Fujian, China; 4. National Laboratory of Solid State Microstructure, Nanjing University, Nanjing, Jiangsu, China

Session DE
MAGNETIC SEMICONDUCTORS
Connie Li, Chair

DE-01. Room temperature ferromagnetism without “element specific ferromagnetism”? A detailed XMCD study on doped ZnO.
E.J. Goering1, T. Tietze1, G. Schuetz1, G. Jakob2, S. Brück2 and H. Adrian2.
1. Schuetz, Max-Planck-Institute for Metals Research, Stuttgart, Germany; 2. Institute of Physics, Johannes Gutenberg-University, Mainz, Germany

DE-02. Magneto- optically observed hysteresis in ZnO Based Dilute Magnetic Semiconductors.
G.A. Gehring1, J.R. Neal1, D.S. Score1, A.J. Behan1, A. Mokhtari1, H.J. Blythe1 and A.M. Fox1.
The Department of Physics and Astronomy, The University of Sheffield, Sheffield, United Kingdom

DE-03. Electronic structure and magnetic interactions in highly Co doped ZnO.
R. Knut1, M. Wikberg2, V. Coleman1, D. Iusan1, B. Sanyal1, G. Westin2, K. Lashgari3, P. Svedlindh4, O. Eriksson5 and O. Karis1.
Department of Physics and Materials Science, Uppsala University, Uppsala, Sweden; 2. Department of Engineering Sciences, Uppsala University, Uppsala, Sweden; 3. Department of Materials Chemistry, Uppsala University, Uppsala, Sweden

H. Raebiger1, S. Lany1 and A. Zunger1.
1. National Renewable Energy Laboratory, Golden, CO

DE-05. Anomalous Ferromagnetism in Fe-implanted ZnO.
L.C. Pereira1,2,3, U. Wahl1,2, J.P. Araújo1 and J.G. Correia1,4,1.
1-IFIMUP, Universidade do Porto, Oporto, Portugal; 2. Instituto Tecnologico e Nuclear, Sacavém, Portugal; 3. Centro de Física Nuclear, Universidade de Lisboa, Lisbon, Portugal; 4. CERN-PH, Geneva, Switzerland

DE-06. Role of dopant, defect and host oxide in the observed room temperature ferromagnetism: Co-ZnO versus Co-CeO2.
L.R. Shah1, H. Zhu1, W. Wang1, T. Zhu2, Y.Q. Song1, Qy. Wen3, H.W. Zhang1, B. Ali1, I. Shah1,4 and J.Q. Xiao1.
Physics and Astronomy, University of Delaware, Newark, DE; 2. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 3. School of Microelectronic and Solid-state Electronic, University of Electronic Science and Technology of China, Chengdu, China; 4. Department of Materials Sciences, University of Delaware, Newark, DE

DE-07. Transition from n-type to p-type destroys ferromagnetism in semiconducting Sn1-xCo1-xO2 and Sn1-xCr1-xO2 nanoparticles.
C.B. Van Komen1, M.S. Seehra2 and A. Punnoose1.
1. Physics, Boise State University, Boise, ID; 2. Physics, West Virginia University, Morgantown, WV

X. Wei1,2, R. Skomski1,2, B. Balamurugan1,2, S. Ducharme1,2 and D.J. Sellmyer1,2.
Department of Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE

DE-09. Disorder and many-body effects in transport and optical conductivities of diluted magnetic semiconductors.
F. Kryuchenko1 and C.A. Ullrich1.
Department of Physics and Astronomy, University of Missouri - Columbia, Columbia, MO
**DE-10.** Hydrogenation enhanced magnetic and electrical properties in Mn-doped amorphous Si thin films. J. Yao\textsuperscript{1,} S. Li\textsuperscript{1} and T. Chiu\textsuperscript{1,2}. 1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Department of Materials Science and Engineering, Feng Chia University, Taichun, Taiwan. 3. National Nano-Devices Lab., National Applied Research Laboratories, Hsinchu, Taiwan

**DE-11.** Origins of ferromagnetism in high-T\textsubscript{c} Mn-ions implanted Si. V. Ko\textsuperscript{1,2}, K. Teo\textsuperscript{1}, M. MacKenzie\textsuperscript{1}, I. MacLaren\textsuperscript{2}, T. Liu\textsuperscript{2}, J. Chapman\textsuperscript{1}, T. Liew\textsuperscript{1} and T. Chong\textsuperscript{1}. Data Storage Institute, Singapore, Singapore; 2. NUS Graduate School for Integrative Sciences and Engineering, National University of Singapore, Singapore, Singapore; 3. Information Storage Materials Laboratory, Electrical & Computer Engineering Department, National University of Singapore, Singapore, Singapore; 4. Singapore Synchrotron Light Source, National University of Singapore, Singapore, Singapore; 5. Department of Physics and Astronomy, University of Glasgow, Glasgow, Scotland, United Kingdom

**DE-12.** Magnetic moments of Mn in amorphous Si and Ge: theory and experiment. L. Zeng\textsuperscript{1}, E. Helgren\textsuperscript{1}, J. Cao\textsuperscript{4}, R. Wu\textsuperscript{4}, C. Piamonteze\textsuperscript{3}, E. Arenholz\textsuperscript{3}, D.J. Smith\textsuperscript{2} and F. Hellman\textsuperscript{1}. 1. Physics, UC Berkeley, Berkeley, CA; 2. Physics, Arizona State University, Tempe, AZ; 3. Advanced Light Source, Lawrence Berkeley National Lab, Berkeley, CA; 4. Physics, UC Irvine, Irvine, CA

**DE-13.** Inhomogeneous Cr distribution and superparamagnetic properties of (Zn,Cr)\textsubscript{Te}. S. Kuroda\textsuperscript{1}, K. Ishikawa\textsuperscript{1}, M. Mitome\textsuperscript{2} and Y. Bando\textsuperscript{1}. Institute of Materials Science, University of Tsukuba, Tsukuba, Ibaraki, Japan; 2. Advanced Materials and Nanomaterials Laboratories, National Institute for Materials Science, Tsukuba, Ibaraki, Japan

**SESSION DF**

**VORTEX DYNAMICS**

Konstantin Guslienko, Chair

**DF-01.** Vortex random access memory (VRAM) as new MRAM scheme. S. Kim\textsuperscript{1}, K. Lee\textsuperscript{1}, Y. Yu\textsuperscript{1}, Y. Choi\textsuperscript{1}, H. Jung\textsuperscript{1} and D. Jeong\textsuperscript{1}. Research Center for Spin Dynamics & Spin-Wave Devices and Nanospinics Laboratory, Department of Materials Science and Engineering, College of Engineering, Seoul National University, Seoul, South Korea

**DF-02.** SIMULTANEOUS CURRENT- AND FIELD-INDUCED MAGNETIC ANTIVORTEX CORE SWITCHING AS WRITE PROCESS IN RANDOM ACCESS MEMORIES. A. Drews\textsuperscript{1}, B. Krüger\textsuperscript{1}, S. Bohlen\textsuperscript{2}, T. Kamionka\textsuperscript{1}, B. Güde\textsuperscript{1}, G. Meier\textsuperscript{1} and M. Bolte\textsuperscript{1}. Institut für Angewandte Physik und Zentrum für Mikrostrukturforschung, Universität Hamburg, Hamburg, Germany; 2. Institut für Theoretische Physik, Universität Hamburg, Hamburg, Germany

**DF-03.** A Current Controlled Random-Access Memory Based On Magnetic Vortex Handedness. S. Bohlen\textsuperscript{2}, B. Krüger\textsuperscript{1}, A. Drews\textsuperscript{1}, M.A. Bolte\textsuperscript{1}, G. Meier\textsuperscript{1}, U. Merkt\textsuperscript{1} and D. Pfannkuch\textsuperscript{1}. Institut für Theoretische Physik, Universität Hamburg, Hamburg, Germany; 2. Institut für Angewandte Physik, Universität Hamburg, Hamburg, Germany

**DF-04.** Universal criterion for vortex-core reversal in soft magnetic nanodots: Critical velocity of vortex gyrotropic motion. K. Lee\textsuperscript{1}, S. Kim\textsuperscript{1}, Y. Yu\textsuperscript{1}, K. Guslienko\textsuperscript{1} and P Fischer\textsuperscript{2}. Research Center for Spin Dynamics & Spin-Wave Devices and Nanospinics Laboratory, Department of Materials Science and Engineering, College of Engineering, Seoul National University, Seoul, South Korea; 2. Center for X-Ray Optics, Lawrence Berkeley National Lab, 1 Cyclotron Road, Mail Stop 2R0400, Berkeley, CA

**DF-05.** Reversal of the vortex core polarization by rotating magnetic fields. M. Curcic\textsuperscript{1}, B. Van Waeyenberge\textsuperscript{2,3}, M. Weigand\textsuperscript{1}, A. Vansteenkiste\textsuperscript{2}, V. Sackmann\textsuperscript{1}, H. Stoll\textsuperscript{1}, M. Fachhle\textsuperscript{1}, T. Tyliszczak\textsuperscript{3}, G. Woltersdorf\textsuperscript{4}, C. Back\textsuperscript{4} and G. Schuetz\textsuperscript{4}. Max Planck Institute for Metals Research, Stuttgart, Germany; 2. Department of Subatomic and Radiation Physics, Ghent University, Ghent, Belgium; 3. Advanced Light Source, LBNL, Berkeley, CA; 4. Department of Physics, Regensburg University, Regensburg, Germany

**DF-06.** Polarity reversal of magnetic vortex core by in-plane pulsed magnetic field. X. Cheng\textsuperscript{1}, D.J. Keavney\textsuperscript{1} and K.S. Buchanan\textsuperscript{2,3}. Advanced Photon Source, Argonne National Lab, Argonne, IL; 2. Center for Nanoscale Materials, Argonne National Lab, Argonne, IL; 3. Department of Physics, Colorado State University, Fort Collins, CO

DF-08. Reduction of the vortex core switching current with an elliptic nanodot. Y. Nakatani, A. Thiaville, K. Yamada, S. Kasai, K. Kobayashi and T. Ono. Department of Computer Science, University of Electro-Communications, Chofu, Tokyo, Japan; 2. LPS, CNRS & Universite Paris Sud, Orsay, France; 3. Kyoto University, Uji, Kyoto, Japan


DF-11. Spin-Transfer Induced Vortex Oscillations in Circular Nanopillar Spin Valves: Comparison between Micromagnetic and Analytical Calculations. A. V Khvalkovskiy, J. Grollier, K. Zvezdin, V. Cros and A. Fert. UMP CNRS-Thales, Palaiseau, France; 2. A.M. Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russian Federation


DG-03. Magnetic field-induced electric polarization in an organic quantum magnet. V. Zaqif, F. Wolff-Fabris, M. Kenzelmann, F. Balakirev and Y. Chen. Los Alamos National Lab, Los Alamos, NM; 2. Paul Scherrer Institute, Villigen, Switzerland; 3. NIST Center for Neutron Research, Gaithersburg, MD
DG-04. Predicted and Measured Permeability Variations of Bi-Layered Magnetostriective/PVDF Composite Materials for Tunable Microwave Applications. R. Smaali1, S. De Blasi1, P. Gelin1, P. Quéffélec1 and B. Viala1. LabSTICC UMR-CNRS 3192, 29238 Brest Cedex 3, France; 2. CEA-LETI-MINATEC, 38054 GRENoble Cedex 9, France

DG-05. Structural, magnetic and ferroelectric properties of MPB phase of BiCoO3-BiFeO3 solid solution film. H. Naganuma1, S. Yasui2, K. Nishida3, T. Iijima4, H. Funakubo2, S. Okamura5 and Y. Ando1. Tohoku University, Sendai, Japan; 2. Tokyo Institute of Technology, Yokohama, Japan; 3. National Defense Academy of Japan, Yokosuka, Japan; 4. AIST, Tsukuba, Japan; 5. Tokyo University of Science, Tokyo, Japan

DG-06. Magnetoelectric effect at the Fe3O4/BaTiO3 (001) interface: A first-principles study. M.K. Niranjan1, J.P. Velev1, C.G. Duan2, S.S. Jaswal1 and E.Y. Tsymbal1. 1. Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE; 2. Key Laboratory of Polarized Materials and Devices, East China Normal University, Shanghai 200062, China, Shanghai, China

DG-07. Fabrication and Properties of Multiferroic Nanowire Heterostructures. G. Kim1,2, A. Gupta1, A. Tatarenko3 and G. Srinivasan1. 1. MINT Center, U of Alabama, Tuscaloosa, AL; 2. Department of Electrical and Computer Engineering, U of Alabama, Tuscaloosa, AL; 3. Department of Physics, Oakland University, Rochester, MI

DG-08. Reentrant spiral magnetic order and ferroelectricity in Multiferroic Mn1-xFe2O4 (x=0.035). R.P. Chaudhury1, B. Lorenc1, Y. Wang1, Y. Sun1, C. Chu1,2, F. Ye1, J. Fernandez-Baca1, H. Mook3 and J. Lyn1. Physics and Astronomy, University Of Houston, Houston, TX; 2. Hong Kong University of Science and Technology, Hong Kong University, Hong Kong, China; 3. Oak Ridge National Laboratory, Oak Ridge National Laboratory, Oak Ridge, TN; 4. NIST, Center for Neutron Research, Gaithersburg, MD

DG-09. Magnetoelectric effects in Fe3O4 – BaTiO3 heterostructures. G.E. Sterbinsky1,2, D.J. Keavney3 and B.W. Wessels1,2. 1. Dept. of Materials Science and Engineering, Northwestern University, Evanston, IL; 2. Materials Research Center, Northwestern University, Evanston, IL; 3. Advanced Photon Source, Argonne National Laboratory, Evanston, Argonne, IL

DG-10. Multiferroic nature of the BLZT-CFO composite thin films. E. Delgado1,2, C. Osto1, M.L. Martinez-Sarrion1, L. Mestres1, D. Lederman1, P. Prieto1, G. Abril1, J.M. Hernandez2 and J. Tejada1. 1. Departamento de Fisica, Universidad del Valle, Cali, Colombia; 2. Department of Physics, West Virginia University, Morgantown, WV; 3. Departamento de Quimica Inorganica, Universidad de Barcelona, Barcelona, Spain; 4. Centro de Excelencia de Nuevos Materiales, Universidad del Valle, Cali, Colombia; 5. Departamento de Fisica Fundamental, Universidad de Barcelona, Barcelona, Spain

DG-11. (Sr,Mn)TiO3 - a magnetoelectric multiglass. V.V. Shvartsman1, S. Bedanta1, P. Borisov1, W. Kleemann1, A. Tkach2 and P.M. Vilarinho2. 1. Angewandte Physik, Universität Duisburg-Essen, Duisburg, Germany; 2. Department of Ceramics and Glass Engineering, University of Aveiro, Aveiro, Portugal

DG-12. Ferroelectric and ferromagnetic properties of Gd and Nd doped nickel ferrite. K. Kamala Bharathi1, J. Arout Chelvane2 and M. Garimella1. 1. IIT Madras, Chennai, Tamil Nadu, India; 2. Advanced Magnetics Laboratory, DMRL, HYDERABAD, India

DG-13. Resonant Magnetoelectric Effect in Composite of Piezoelectric Ceramic and Ferromagnetic Constant-elasticity Alloy. L. Bian1, Y. Wen1,2 and P. Li1,2. 1. The Key Laboratory for Optoelectronic Technology & Systems, Ministry of Education, Chongqing, China; 2. College of Optoelectronic Engineering, Chongqing University, Chongqing, China

DG-14. C-V Characteristics of Multiferroic Bi1-xDy1-xFeO3 thin films directly integrated on <100>Silicon. P. Kovur1, S. Chakraborti1 and V.R. Palkar1. Center of Excellence in Nanoelectronics, Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India

DG-15. Giant microwave tunability in FeGaB/PMN-PT multiferroic composites. J. Lou1,2, D. Reed1,2, C. Pettiford1,2, M. Liu1,2 and N.X. Sun1,2. 1. Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Center for Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Boston, MA
Session DH
EXCHANGE BIAS I
Kai Liu, Chair

2:00

DH-01. The magnetic depth profile of an exchange biased magnetic multilayer. S. Langridge1, T.R. Charlton1, M. Ali2, C.H. Marrows2 and B.J. Hickey1. Rutherford Appleton Laboratory, ISIS, Didcot, United Kingdom; 2. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom

2:12

DH-02. Origin of uncompensated moments in antiferromagnets and their role in exchange bias. I.V. Roshchin1,2, Z. Li3, C.W. Miller2,5, Z. Li4, C.W. Miller2,3, M. Varela4, S.J. Pennycook4, M. Zhernenkov6, M.R. Fitzsimmons6 and I.K. Schuller2. 1. Physics Department, Texas A&M University, College Station, TX; 2. Physics Department, University of California, San Diego, La Jolla, CA; 3. Physics Department, University of South Florida, Tampa, FL; 4. Oak Ridge National Laboratory, Oak Ridge, TN; 5. Brion Technologies, Santa Clara, CA; 6. Los Alamos Neutron Science Center, Los Alamos National Laboratory, Los Alamos, NM

2:24

DH-03. Correlation between exchange anisotropy and interfacial uncompensated antiferromagnetic spins in Mn-Ir/Co100-xFex bilayers. M. Tsunoda1, H. Takahashi1, T. Nakamura2, C. Mitsumata3 and M. Takahashi1. 1. Department of Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. JASRI/SPring-8, Sayou-cho, Japan; 3. Advanced Electronics Research Labo., Hitachi Metals, Kumagaya, Japan

2:36

DH-04. Magnetic Anisotropy of Exchange-Biased Co/FeF2, Ni/FeF2 and Fe/FeF2 Bilayers. D. Lederman1, P. Dutta1, H. Shi1,2 and M.S. Seehra1. Department of Physics, West Virginia University, Morgantown, WV; 2. Department of Physics and Astronomy, Sonoma State University, Rohnert Park, CA

2:48

DH-05. Chemical Order-Induced Magnetic Exchange Bias in FePt3 Films. D. Lott1, F. Kloese1, H. Ambaye1, G.J. Mankey1, P. LeClair4, M. Walock1, Z. Lu1, M. Wolf1, H.M. Christen1, B.C. Sales1, A. Schreyer1 and V. Lauter1. GKSS Research Center, Geesthacht, Germany; 2. Brugg Institute, ANSTO, Menai, NSW, Australia; 3. Oak Ridge National Laboratory, Oak Ridge, TN; 4. MINT Center, University of Alabama, Tuscaloosa, AL; 5. Department of Physics, Ruhr-University Bochum, Bochum, Germany

3:00

DH-06. Temperature dependence of the training effect in exchange coupled all ferromagnetic bilayers. S. Polisetty1, S. Sahoo1, A. Berger2 and C. Binek1. Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. CIC nanoGUNE Consolider, Donostia, Spain

3:12

DH-07. Coercivity Enhancement for FeMn/SmCo/FeMn Trilayers. S. Demirtas1, M.R. Hossu1, A.R. Koymen1 and M.B. Salamon1. Department of Physics, University Texas at Dallas, Richardson, TX; 2. Department of Physics, University of Texas at Arlington, Arlington, TX

3:24

DH-08. Mechanisms for “exchange bias” in exchange spring superlattices. K. Dumesnil1, M.R. Fitzsimmons2 and C. Dufour1. 1. LPM, V＃andeuvre les Nancy, France; 2. LANSCE, Los Alamos National Laboratory, Los Alamos, NM

3:36


3:48

DH-10. Correlation between the exchange bias and ferromagnetic domain size in Mn-Ir/CoFe bilayers. H. Takahashi1, M. Tsunoda1, K. Fukumoto1, T. Nakamura2, K. Arai3, T. Kinoshita1,4 and M. Takahashi3,5. 1. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. JASRI/SPring-8, Sayou-cho, Japan; 3. Institute for Solid State Physics, University of Tokyo, Tokyo, Japan; 4. CREST, Japan Science and Technology Agency, Saitama, Japan; 5. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan

4:00

DH-11. Defect mediated tuning of exchange bias in IrMn/CoFe nanostructure. N.N. Shams1, M. Rahman1 and C. Lai1. Department of Materials Science and Engineering, National Tsing-hua University, Hsinchu, Taiwan
DP-01. Critical Behavior of the Magnetization in the Spin-gapped System NiCl$_2$-4SC(NH$_2$)$_2$ by R. D. Shull, F. J. Castaño, B. Ng, C. A. Ross, and F. Q. Zhu

DP-02. Effect of particle size on magnetic and magneto-optical properties of CoFe$_2$O$_4$ nanoparticles by K. Mohankant, M. K. Surendra, and S. Sharma

DP-03. Thermal properties and critical behaviour of K$_2$MnF$_4$ by A. Salazar, M. Massot, A. Oleaga, and P. C. Searson

DP-04. $^{119}$Sn Mössbauer Spectroscopy investigation of Nd$_2$Cu$_4$Sn$_4$, Nd$_4$Ag$_6$Sn$_4$, and Ho$_3$Cu$_4$Sn$_4$ by C. J. Vokey and D. H. Ryan

DP-05. Studying of the influence of γ radiation on magnetic properties of Sr$_0$Ba$_2$O$_2$.Fe$_{1.7}$Co$_{0.3}$O$_3$ by M. G. Nguyen, K. T. Doan, T. T. Co, and P. H. Le

DP-06. Breaking of a certain replica symmetry of metamagnetic character by M. Zateh, A. Yazdani, S. Zarin, M. Hesami, and M. Ghazanfari


DP-08. Magnetic ordering in the spinel compound LiMn$_2$Li$_4$O$_7$ by J. Y. Gaddy, J. Lamml, M. Petrović, W. Montfort, and T. Vojta

DP-09. Dynamics of three electrons in a quantum wire by J. Lee and L. E. Reichl

DP-10. Long range magnetic ordering with giant magnetic moments in Fe$_3$Cd$_x$Cr$_{1-x}$S$_4$ (0.1 ≤ x ≤ 0.9) by C. Basaran, B. Aktas, and T. Sato

DP-11. Studies on magnetic dynamical behaviors of Fe$_3$Cd$_x$Cr$_{1-x}$S$_4$ by L. Yan, W. Ren, J. Shen, and F. Wang
DP-12. Electron paramagnetic resonance insights in to the suppression of charge order in nanoscale manganites.
S.K. Bhat1, S.S. Rao2, K.N. Anuradha3 and A. Sharma1. 1. Physics, Indian Institute of Science, Bangalore, Karnataka, India

DP-13. Mössbauer study of First Order Phase Transition in LaVO3
S. Yoon1. 1. Department of Physics, Gunsan National University, Gunsan, South Korea

S. Ha1,J. Yoon1, S. Lee1, C. You2, M. Jung2 and Y. Kim1. 1. Physics, Inha University, Incheon, South Korea; 2. Physics, Sogang University, Seoul, South Korea

S. Sun1, C. Yu1 and H. Chou1. 1. Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan; 2. Applied Physics, National Chiao Tung University, Hsinchu, Taiwan; 3. Physics, National Sun Yat-sen University, Kaohsiung, Taiwan

DP-16. Mössbauer study of magnetic structure of cation-deficient iron sulfide Fe0.92S.
S. Yoon1, K. Kim1, 1. Physics, Kookmin University, Seoul, South Korea; 2. Department of Physics, Inha University, Incheon, South Korea; 3. Institute of Innovative and Engineered Materials, Tokyo Institute of Technology, Yokohama, Japan

DP-17. Theoretical and Experimental Results of Electronic Transport of Spin Quantum Cross Structure Devices.
K. Kondo1, H. Kaiju1 and A. Ishibashi1. 1. Laboratory of Quantum Electronics, Research Institute for Electronic Science, Hokkaido University, Sapporo, Japan

J. Li1, R. Zhang1, R. Peng1, X. Wu1, D. Li1, Q. Hu1 and M. Wang1. 1. National Laboratory of Solid State Microstructures, Nanjing, China

D. Parker1, S.J. Clarke1. 1. Inorganic Chemistry, University of Oxford, Oxford, United Kingdom

DP-20. Superconducting and magnetic properties of Ni/Pt multilayer nanowires.
L. Lin1, Y. Chi1, T. Chen1, S. Shyu1 and S. Lee1. 1. Physics, Academia Sinica, Taipei, Taiwan; 2. Chemistry, Academia Sinica, Taipei, Taiwan; 3. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan

Z. Jiang1, S. Yoon1, K. Han1 and B. Suh1. 1. Physics, Kookmin University, Seoul, South Korea

S. Yoon1, B. Suh1 and Z. Jiang1. 1. Physics, The Catholic University of Korea, Bucheon, South Korea
DQ-08. Poly(styrene-co-vinylbenzylchloride-co-divinylbenzene) Coated Iron Oxide: Synthesis and Effects on Size and Morphology. J.R. Marin1,2, M.D. Shultz1, S.H. Naik1, J. Wilkins1, J.M. Laza2, J.L. Vilas2, L.M. Leon2 and E.E. Carpenter3 1. Formulación y Transformación de Polímeros, GAIKER Centro Tecnológico, Zamudio, Bizkaia, Spain; 2. Basque Country University, Leioa, Bizkaia, Spain; 3. Chemistry, Virginia Commonwealth University, Richmond, VA

DQ-09. Detection of magnetic nanoparticle labeled HeLa cells using MgO based magnetic tunnel junction sensors. W. Shen1, B.D. Schrag1, M.J. Carter1, C. Xu1 and G. Xiao1 1. Physics Department, Brown University, Providence, RI; 2. Chemistry Department, Brown University, Providence, RI; 3. Micro Magnetics, Inc., Fall River, MA

DQ-10. Magnetic properties of ferritin nanoparticles in PVA fiber. Y. Hyun1, M. Seo1, N. Dai1, Y. Lee1, K. Kim2, M. Shin1 and S. Kim1 1. Department of Physics, Hanyang University, Seoul, South Korea; 2. Department of Physics, Sunmoon University, Asan, South Korea; 3. Biomedical Engineering, Hanyang University, Seoul, South Korea

DQ-11. Pharmacokinetics of intravenously injected Tc-99m labeled ferrite nanobeads. C. Fu1, Y. Wang1,2, M. Chuang1, Y. Guo1 and T. Cham1 1. Physics Department, National Taiwan University, Taipei, Taiwan; 2. Department of Nuclear Medicine, Buddhist Dalin TzuChi General Hospital, Chia-Yi, Taiwan; 3. Faculty of Pharmacy, Kaohsiung Medical University, Kaohsiung, Taiwan

DQ-12. Application of Radical Chain Reactions to Drug Release Controlling of Liposomal Carriers Under High Magnetic Fields. H. Nakagawa1, S. Ueno2, T. Shiina3, M. Kotani4 and H. Nakagawa1 1. Department of Physics, Hanyang University, Seoul, South Korea; 2. Department of Physics, National Tsing Hua University, Hsinchuang, Taipei Hsien, Taiwan; 3. Department of Materials Engineering, Tatung University, Taipei, Taiwan

WEDNESDAY AFTERNOON

AUSTIN BALLROOM

Session DR

MAGNETIC FLUIDS AND SEPARATION

(PAPER SESSION)

Valentyn Norosad, Chair

DR-01. RF transmission properties of magnetic fluid with transverse magnetic field. Y. Kim1, H. Kim2 and K. Shin1 1. Department of Multimedia Engineering, Kyungyang University, Pusan, None, South Korea; 2. Department of Electrical Engineering, Pukyong University, Pusan, South Korea

DR-02. Magnetic-field modulated light transmission in suspension of ferromagnetic microdisks. Y. Novosad2, S. Chui3, V.G. Yefremenko1, J. Pearson1 and S.D. Bader1 1. Materials Science Division, Argonne National Laboratory, Argonne, IL; 2. Bartol Research Institute, University of Delaware, Newark, DE

DR-03. Variations of optical transmittance with magnetic fields in nano-size FePt ferrofluid. K. Wu1, Y. Yao2 and C. Chang1 1. Department of Physics, Fu Jen University, Hsinchuang, Taipei Hsien, Taiwan; 2. Department of Materials Engineering, Tatung University, Taipei, Taiwan


DR-05. Origin of Magnetic Anomalies in the Liquid, Mixed and Frozen States of Ferrofluids. M.B. Morales1, N.A. Frey1, M.H. Phan2 and H. Srikanth1 1. Department of Physics, University of South Florida, Tampa, FL

DR-06. AC SUSCEPTIBILITY STUDY OF A MAGNETITE MAGNETIC FLUID. O.E. Ayala-Valenzuela1, J.T. Elizalde Galindo2, C.E. Botzet2 and J.A. Mataes-Aquino1 1. Física de Materiales, Centro de Investigación en Materiales Avanzados, S.C., Chihuahua, Chihuahua, Mexico; 2. Departamento de Ciencias Básicas, Universidad Autónoma de Ciudad Juárez, Ciudad Juárez, Chihuahua, Mexico; 3. Department of Physics, University of Texas at El Paso, El Paso, TX

DR-07. Finite-Element Analysis for Cooling Effect of Magnetic Fluid with Alternating Magnetic Field. S. Lee1, J. Joo1 and N. Kim1 1. School of Electrical Eng. and Computer Science, Kyungpoook National University, Daegu, South Korea

DR-08. Numerical modeling of magnetic liquids in EWOD devices by multiphase lattice Boltzmann equation. L. Clime1, D. Brassard1 and T. Veres1 1. Industrial Materials Institute, NRC, Boucherville, QC, Canada

DR-09. Real observation and computer simulation of microstructure formation of magnetic and nonmagnetic particles in magnetic functional fluids. Y. Ido1, T. Inagaki2, H. Kikura3 and M. Aritomi3 1. Física de Materiales, Centro de Investigación en Materiales Avanzados, S.C., Chihuahua, Chihuahua, Mexico; 2. Departamento de Ciencias Básicas, Universidad Autónoma de Ciudad Juárez, Ciudad Juárez, Chihuahua, Mexico; 3. Department of Physics, University of Texas at El Paso, El Paso, TX

DR-10. Magnetic fluid micromixer with rotating magnetic field. C. Lee1, C. San2 and M. Lai1 1. Institute of NanoEngineering and MicroSystems, National Tsing Hua University, Hsinchu, Taiwan; 2. Department of Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan
SESSION DS
FERRITES, GARNETS II
(POSTER SESSION)
Mingzong Wu, Chair

DS-01. Growth and Characterization of 144 μm Thick Barium Ferrite Single Crystalline Film for Microwave Device Application. J. Jalli1, Y. Hong1, S. Bae1, J. Lee1, M. Kothakonda1, G.S. Abo1, A. Lyle1, S. Gee2, Y. Liu1, T. Mewes2, J.C. Sur3 and S. Lee1. Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL; 2. MINT Center, University of Alabama, Tuscaloosa, AL; 3. Seagate Technology, Bloomington, MN; 4. Physics and Astronomy, University of Alabama, Tuscaloosa, AL; 5. Division of Physics, Wonkwang University, Iksan, Jeon-book, South Korea; 6. Department of Physics, Sogang University, Seoul, South Korea


DS-03. Study on Microwave properties of Low Temperature Fired NiZnCu Gyromagnetic Ferrite. Y. Liu1, Y. Li1, H. Zhang1 and Q. Yang1. State Key Laboratory of Electronic Thin Film and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China

DS-04. The Magnetic and Electrical Properties of Fe3-xCryO4 Films Grown on MgO(001) by Molecular Beam Epitaxy. R. Yang1, Y. Hong1, S. Bae1, J. Jalli1, W. Liang1, C. Tsay2, D. Hung3 and Y. Yao1. 1. Department of Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 2. Dept. of Materials Science and Engineering, Feng Chia University, Taichung, Taiwan; 3. Institute of Physics, Academia, Taipei, Taiwan

DS-05. Gigahertz Range Complex Permittivity and Permeability of Iron-based Composite Absorbers by Cavity Perturbation Method. R. Yang1, W. Liang1, C. Tsay2, D. Hung3 and Y. Yao1. 1. Dept. of Aerospace and Systems Engineering, Feng Chia University, Taichung, Taiwan; 2. Dept. of Materials Science and Engineering, Feng Chia University, Taichung, Taiwan; 3. Institute of Physics, Academia, Taipei, Taiwan

DS-06. One Parameter Control of the Size of Iron Oxide Nanoparticles Synthesized in Reverse Micelles. M.D. Shulz1, W. Braxton1, C. Taylor2 and E.E. Carpenter1. Anvil: the materials forge, Inc., Ashland, VA; 2. Chemistry, Virginia Commonwealth University, Richmond, VA; 3. Chemistry and Physics, Virginia State University, Petersburg, VA

DS-07. Mossbauer Study of MnFe2-xAl2xO4 (0 ≤ x ≤ 0.5). K.M. Batoo1, S. Kumar2, C.G. Lee3 and Alimuddin1. Department of Applied Physics, Aligarh Muslim University, Aligarh, UP, India; 2. School of Nano & Advanced Materials Engineering, Changwon National University, Changwon, Gyeongsangnam, South Korea

DS-08. Magnetic Properties of Monodisperse Magnetite and Cobalt-Substituted Ferrite Nanoparticles. V. Calero-DdelC1 and C. Rinaldi1. Chemical Engineering, University of Puerto Rico, Mayaguez, Mayaguez, PR

DS-09. Magnetization studies on 200 MeV Ag ion irradiated nanocrystalline Co0.6Zn0.4Fe2O4. S.N. Dohal1, M.S. Dhawan1, A.S. Prasad2, R. Kumar2, M.P. Sharma3, S. Chander1, R.K. Singh1 and V.R. Reddy1. 1. Department of Physics, University of Rajasthan, Jaipur, Rajasthan, India; 2. Material Science Division, Inter-University Accelerator Centre, New Delhi 110 067, India; 3. Sobsasaria Engineering College, Sikar, Rajasthan, India; 4. UGC-DAE Consortium for Scientific Research, Khandwa Road, Indore 452 017, MP, India

DS-10. Tuning magnetic properties of yttrium iron garnet (YIG) film with oxygen partial pressure in sputtering and annealing process. Q. Yang1, H. Zhang1, Y. Liu1 and Q. Wen1. University of Electronic Science and Technology of China, Chengdu, Sichuan, China

DS-11. The Effect of CeO2 buffer layer to the magnetic and microstructure of yttrium iron garnet (YIG) film on Si substrate. Q. Yang1, H. Zhang1, Y. Liu1 and Q. Wen1. University of Electronic Science and Technology of China, Chengdu, Sichuan, China

DS-12. Domain-acoustic echo phenomenon in europium garnet and iron borate. G.I. Mamniashvili1, Y.G. Sharimanov1, A.M. Pohorily2 and O.M. Kuzmak2. 1. Department of Condensed Matter Physics, Andronikashvili Institute of Physics, Tbilisi, Georgia; 2. Department of Thin Films, Institute of Magnetism, Kyiv, Ukraine


DS-15. Tunable Magnetic and Magnetotransport Properties in Epitaxial FeCo/ZnO Thin Films. D. Venkateshvaran1,2, A. Boger1, S.B. Goennenwein1, M. Rao1,3, M. Opel1 and R. Gross1,4. 1. Walther-Meissner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany; 2. Materials Science Research Centre, Indian Institute of Technology Madras, Chennai, India; 3. Department of Physics, Indian Institute of Technology Madras, Chennai, India; 4. Physik-Department, Technische Universität München, Garching, Germany

WEDNESDAY AUSTIN BALLROOM
AFTERNOON
1:00
Session DT
RECORDING HEADS II
(POSTER SESSION)
Samuel Yuan, Chair

DT-01. Spin-polarized electronic structures and transport properties of Fe–Co alloys: ab initio study. Y. Kota1, T. Takahashi1, H. Tsuchiya1 and A. Sakuma1. Applied Physics, Tohoku University, Sendai, Japan

DT-02. Direct resistive measurement on nano-conductive channel in Nano-Oxide-Layer. S. Kawasaki1, Y. Watanabe1, T. Hino1, M. Doi1 and M. Sahashi1. Graduate School of Engineering, Tohoku University, Sendai, Japan

DT-03. Significant enhancement of electromigration-induced failure lifetime due to an ultra-thin Co insertion at the NiFe/Cu interface in GMR spin-valve read sensors. J. Jiang1, S. Bae1 and H. Ryu1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. IT Convergence & Components Laboratory, ETRI, Dajeon, South Korea

DT-04. Writer Pole Structure and Materials for High Density and High Data Rate Perpendicular Recording Heads With Robust Reliability. D. Han1, C. Rea1, J. Xue1, P. Czoschke1, L. Jia1, J. Fernandez-de-Castro1, V. Inturri1, M. Kierf1, H. Yin1, J. Price1, T. Clinton1 and N. Benatmane1. Recording Heads, Seagate Technology, Minneapolis, MN; 2. Seagate Research, Seagate Technology, Pittsburgh, PA

DT-05. Damping constants for FeCo single crystal thin films investigated by Q-band ferromagnetic resonance analysis. Y. Sudo1, K. Kobayashi1, N. Fujita1, M. Ohtake1, N. Inaba1, M. Futamoto1 and F. Kirino1. Yamagata University, Yamagata, Yonezawa, Japan; 2. Chuo University, Tokyo, Bunkyo-ku, Japan; 3. National University of Fine Arts and Music, Tokyo, Taito, Japan

DT-06. Measurement of high data rate performance in perpendicular magnetic recording. W. Liu1, J. Zhu1 and T. Pan1. ECE, CMU, Pittsburgh, PA; 2. Western Digital Corporation, Fremont, CA

DT-07. Preparation of Soft Magnetic FeCo-based Films for Writers. X. Wang1, F. Zheng1, Z. Liu1, X. Liu1, D. Wei1 and F. Wei1. Research Institute of Magnetic Materials, Lanzhou University, Lanzhou, Gansu, China; 2. Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou, Gansu, China; 3. Dept. of Materials Science and Engineering, Tsinghua University, Beijing, China

DU-01. Magnetic, Structural, and Electronic Properties of Nanosized LaFeO3 Powders. D.A. Landinez Tellez1, J.V. Barros2, J. Albino Aguira2, J. Arbey Rodriguez2 and J. Roa-Rojas1. Fisica, Universidad Nacional de Colombia, Bogota, DC, Colombia; 2. Fisica, Universidade Federal de Pernambuco, Recife, PE, Brazil

DU-02. Electronic structures and magnetic properties of La0.65MnNiO4; a ferromagnetic insulator. B. Kim1, J. Lee1, H. Choi1, B. Kim1 and B. Min1. Physics, POSTECH, Pohang, South Korea

DU-03. The magnetic hyperfine interaction in FeCr0.8Al0.2S4(x=0.3, 0.5). C. Kim1, S. Kim1 and C. Kim1. Physics, Kookmin University, Seoul, South Korea

DU-04. Mössbauer studies for spinel-type ACR6S4 (A=Cd and Fe). B. Son1, B. Lee1 and C. Kim1. Department of Physics, Kookmin University, Seoul, South Korea; 2. Physics, Hankuk University of Foreign Studies, Jung-gu, Kyungki, South Korea

DU-05. Soft X-ray Synchrotron Radiation Spectroscopy Study of Cubic Perovskite SrMnFexOy. H. Lee1, D.H. Kim1, G. Kim1, J.S. Kang1, B. Dabrowski4, S. Kolesnik2, H. Lee4, Y.J. Kim4, J.E. Lee1 and B.I. Min1. Physics, The Catholic Univ. of Korea, Bucheon, South Korea; 2. Department of Physics, Northern Illinois University, Dekalb, IL; 3. Pohang Accelerator Laboratory, Pohang, South Korea; 4. Department of Physics, POSTECH, Pohang, South Korea

DU-06. Electronic structures and magnetic properties of the compounds Ce0.6Co0.4B2n (n=0, 1, 2, 3 and ∞). T. Ito1 and H. Ido1. 1. Electronic Engineering, Tohoku Gakuen University, Taijo, Miyagi, Japan

DU-07. Incommensurate spiral structure and competing exchange interactions in Mn3Si1. H. Tsuchiura1, A. Sakuma1. Theory, Max Planck Institute of Microstructure Physics, Halle, Germany

DU-08. Stability of ferromagnetic state of epitaxially grown ordered FeRh thin films. J. Suzuki1, T. Koike1, M. Itoh1 and T. Taniyama1,2. 1. Tokyo Institute of Technology, Yokohama, Japan; 2. PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan
DU-09. First-principles calculations for the electrical conductivities of transition metal alloys. A. Sakum1, T. Takahashi1, Y. Koga1 and H. Tsuchiya1. Applied Physics, Tohoku University, Sendai, Japan

DU-10. Metal-insulator transition in NdNiO3 thin films under anisotropic strain. Y. Chang1, B. Lee1 and C. Jung1. Physics and Astronomy, Seoul National University, Seoul, South Korea; 2. Department of Physics, Hankuk University of Foreign Studies, Yongin, Gyonggi-Do, South Korea

DU-11. Electronic Structures and Hall effect in a low-doped La0.86Hf0.1MnO3 Epitaxial Film. L. Wang1 and J. Gao1. Physics, The University of Hong Kong, Hong Kong, China

DU-12. Predicted half-metallicity with no net magnetization in Ca0.85Cr0.25As from a first-principle study. J. Lee1, B. Bialek1 and M. Kim1. Physics, Inha University, Incheon, South Korea; 2. Division of Energy Systems Research, Ajou University, Suwon, South Korea

DU-13. Magnetic and electronic properties of α-NaMnO2. G. Zhang1, Z. Zeng1, L. Zou1 and H. Lin1. Key Laboratory of Materials Physics, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 2. Department of Physics and Institute of Theoretical Physics, The Chinese University of Hong Kong, Hong Kong, China

DU-14. Large anisotropic magnetoresistance in ruthenium based Heusler alloys. S. Mizukami1, A. Douzono1, T. Ohnishi1, Y. Nagata1, T.C. Ozawa2 and Y. Nono1. EEE, Aoyama Gakuin University, Sagamihara, Japan; 2. Nanoscale Materials Center, National Institute for Materials Science, Tsukuba, Japan; 3. Kawazoe Frontier Technologies, Co. Ltd., Yokohama, Japan


WEDNESDAY AFTERNOON

AUSTIN BALLROOM

1:00

Session DV

INSTRUMENTATION AND MEASUREMENT TECHNIQUES

(POSTER SESSION)

Joachim Ahner, Chair


DV-02. A broad-band ferromagnetic resonance system based on a vector network analyzer. A.J. Hutchison1, T. O’Keenan1 and Z. Celsinski1. Center for Magnetism and Magnetic Nanostructures, UCCS, Colorado Springs, CO

DV-03. Rough measurement of thin film permeability by contacting probes. S. Tabukami1. Tohoku-Gakuen University, Tagajo, Japan

DV-04. Giant Asymmetry in Reflectivity from Magnetic Thin Films near Critical Incidence Angle between Opposite Circular Polarizations. D. Jeong1, S. Kim1, K. Lee1, Y. Yu1, S. Mun2 and J.B. Korntig1. Research Center for Spin Dynamics & Spin-Wave Devices and Nanopinics Laboratory, Department of Materials Science and Engineering, College of Engineering, Seoul National University, Seoul, South Korea; 2. Department of Applied Physics, Hanyang University, Ansan, Keonggyug Gyeonggi 426-791, South Korea; 3. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA


DV-06. Advances in Kerr Magnetometry: Deep sub-millimeter resolution combined with high magnetic fields. C. Mathieu1 and F. Vajda1. Seagate, Bloomington, MN; 2. ADE, KLA-Tencor, Westwood, MA

DV-07. 1D/2D loss measurements up to high inductions. C. Appino1, F. Fiorillo1 and C. Ragusa1. INRIM, Torino, Italy; 2. Electrical Engineering Department, Politecnico di Torino, Torino, Italy

DV-08. Fatigue damage assessment by the continuous examination of the magnetomechanical and mechanical behavior. L. Vandenbosche1 and L. Dupre1. Electrical Energy, Systems and Automation, Ghent University, GENT, Belgium


DW-02. Meso hysteresis model for ferromagnetic materials by minimization of the micromagnetic free energy. A. van den Berg1, L. Dupré1, B. Van de Wiele1 and G. Crevecoeur1. Electrical Energy, Systems & Automation, Ghent University, Gent, Belgium

DW-03. Hysteresis modeling of exchange-bias nanoscale spin valves. B. Azzerboni1, E. Cardelli2 and G. Finocchio1. Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 2. Ingegneria Industriale, University of Perugia, Perugia, Italy

DW-04. Micromagnetic calculation of hysteresis loops in exchange-coupled nanolayers. G. Zhao1, C. Huang1,2 and L. Chen2. College of Physics and Electronic Engineering, Sichuan Normal University, Chengdu, Sichuan, China; 2. School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore

DW-05. Non-iterative parameter identification technique for the Energetic Model of hysteresis. A. Petru1 and A. Adedoyin1. Electrical and Computer Engineering, Florida State University, Tallahassee, FL

DW-06. Time and temperature effects on the magnetic memory of vector Preisach-type models of hysteresis. A. Adedoyin1 and A. Petru1. Florida State University, Tallahassee, FL


DW-08. Effects of Crystalline and Elastic Anisotropies on Coercivity of Longitudinally Oriented CoCrPt Thin Films Grown on CrW Underlayer. X. Liu1, Z. Li1, W. Shi1, F. Wei1 and X. Liu1. Research Institute of Magnetic Materials, Lanzhou University, Lanzhou, China; 2. Lab of Advanced Materials, Dept. of Materials Science and Engineering, Tsinghua University, Beijing, China; 3. Key Lab of Education Ministry on Magnetism and Magnetic Materials, Lanzhou University, Lanzhou, China

DW-09. Dynamic hysteresis of non-integer dimensional magnetic aggregates. M. Sun1, S. Dong2 and J. Liu1. Physics, Nanjing University, Nanjing, China

DW-10. Harmonic Iron Loss Analysis for Electrical Steel Under Alternating Magnetic Field. S. Hong1, Y. Eum2, C. Koh2 and T.M. Jahns3. System and Control, Hoseo University, Asan, Chungnam, South Korea; 2. Electrical Engineering, Chungbuk National University, Cheongju, Chungbuk, South Korea; 3. WEMPEC, UW Madison, Madison, WI

DW-11. Single-domain ferromagnetic particle hysteresis investigated with a Random Anisotropy Ising model. C. Enechescu1 and A. Stancu1. Department of Physics, Alexandru Ioan Cuza University, Iasi, Romania

DW-12. FORC analysis of magnetostrictive materials. P. Postolache1, I. Dumitru1, O.F. Caltun1 and A. Stanca1. Department of Solid State and Theoretical Physics, “Alexandru Ioan Cuza” University, Iasi, Iasi, Romania

DW-13. Shape Formation of Ferrofluid Under External Magnetic Fields using Level Set Method. Y. Kim1, H. Choi2 and I. Park1. School of Information and Communication Engineering Sungkyunkwan University, Siwon, Kyeonggi-do, South Korea; 2. School of Electronic and Electrical Engineering Kyungpoook National University, Sangju, Kyungpook-do, South Korea

DW-14. Utilizing Particle Swarm Optimization In The Field Computation Of Nonlinear Media Subject To Mechanical Stress. A.A. Adly1 and S.K. Abd-El-Hafiz2. Elect. Power & Machines, Cairo University, Giza, Egypt; 2. Engineering Mathematics, Cairo University, Giza, Egypt

WEDNESDAY SALON G EVENING

SESSION XB
OPEN FORUM ON MICROMAGNETIC MODELING
Paul Crowell, Co-Chair
Ned Tabat, Co-Chair

THURSDAY MORNING
SESSION EA
SYMPOSIUM ON RECONSTRUCTION AND EMERGENCE AT INTERFACES OF COMPLEX OXIDES
Anand Bhattacharya, Chair

9:00

EA-01. Exchange Bias with Multiferroic BiFeO3 Epitaxial Thin Films. (Invited) A. Barthélémy1, H. Béa1,4, M. Bibes1, G. Catalan2, S. Fusil1, D. Wei1,2 and X. Liu1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 2. Center for Ferroics, University of Cambridge, Cambridge, United Kingdom; 3. LLB CEA/CNRS, Saclay, France; 4. DPMC, University of Geneva, Geneva, Switzerland; 5. CEMES, Toulouse, France

9:36

EA-02. Electrical Field control of ferromagnetism using Multiferroics. (Invited) R. Ramesh1. Materials Science and Engineering and Physics, University of California, Berkeley, CA
10:12

EA-03. Interfaces and Tunable Conductivity in LaTiO₃ Thin Films. (Invited) Y. Suzuki¹, F. Wong¹, R. Chopdekar¹, V. Mehta¹, S. Baek² and C. Eom². 1. Materials Science & Engineering, UC Berkeley, Berkeley, CA; 2. Materials Science & Engineering, University of Wisconsin, Madison, WI

10:48

EA-04. Structural Studies of The Interfaces Between Insulating Metal Oxides. (Invited) S.A. Pauli¹, C.M. Schlepütz¹, D. Martoccia¹, M. Björck¹ and P.R. Willmott¹. 1. Swiss Light Source, Villigen, Switzerland

11:24

EA-05. Emergence of a Fermi resonance with ferromagnetism at the LaMnO₃-SrMnO₃ interface. (Invited) P. Abbamonte¹. 1. Physics, University of Illinois, Urbana, IL

THURSDAY MORNING

9:00

Session EB

SPIN TRANSFER TORQUE: THEORY AND EXPERIMENT

Daniel Worledge, Chair

9:00

EB-01. Nonequilibrium Properties of Spin Transfer Torque and Tunnel Magnetoresistance in Magnetic Tunnel Junctions. M. Chshiev¹,², A. Kalitsov¹, I. Theodonis¹, N. Kioussis¹ and W.H. Butler¹. SPINTEC, URA 2512 CEA/CNRS/INAC, Grenoble, France; 2. MINT Center, University of Alabama, Tuscaloosa, AL

9:12

EB-02. Influence of bulk magnons on spin transfer torque in magnetic tunnel junctions. A. Manchon¹ and S. Zhang¹. Department of Physics, University of Arizona, Tucson, AZ

9:24

EB-03. Invariant Form of the Spin-Transfer Switching Condition. I.A. Sodemann¹ and Y.B. Bazaliy². 1. Physics and Astronomy, University of South Carolina, Columbia, SC; 2. Institute of Magnetism, National Academy of Science, Kyiv, Ukraine

9:36

EB-04. Slonczewski windmill with dissipation and asymmetry. Y. Bazaliy¹. 1. Physics and Astronomy, University of South Carolina, Columbia, SC

9:48

EB-05. Spin torques in ferromagnets with Rashba interactions. S. Zhang¹ and A. Manchon¹. 1. Department of Physics, University of Arizona, Tucson, AZ

10:00

EB-06. Perpendicular Spin Torques in Magnetic Tunnel Junctions. Z. Li¹, Z. Diao¹, S.M. Watts¹, X. Tang¹, D. Apalkov¹, S. Wang¹, A. Driskill-Smith¹, E. Chen¹, Y. Huai¹ and S. Zhang¹. 1. Grandis, Inc., Milpitas, CA; 2. Physics, University of Missouri-Columbia, Columbia, MO

10:12

EB-07. Critical Properties of MgO Tunnel Junctions for Spin-Transfer MRAM. (Invited) F. Mancoff¹, N. Rizzo¹, R. Dave¹, P. Mather¹, B. Butcher¹, K. Smith¹, J. Slaughter¹ and S. Tehrani¹. EverSpin Technologies, Inc., Chandler, AZ

10:48

EB-08. Dependence of critical current of spin transfer torque-driven magnetization dynamics on free layer thickness. T. Taniguchi¹,² and H. Imamura¹. 1. Nanotechnology Research Institute, National Institute of Advanced Science and Technology, Tsukuba, Ibaraki, Japan; 2. Institute of Applied Physics, University of Tsukuba, Ibaraki, Japan

11:00

EB-09. The characterization of thermal stability for spin transfer torque RAM (STT-RAM). S.M. Watts¹, Z. Li¹, D. Apalkov¹, S. Wang¹, X. Tang¹, Z. Diao¹, E. Chen¹ and Y. Huai¹. 1. Grandis, Inc., Milpitas, CA

11:12

EB-10. Understanding of Correlations between Switching Field and Switching Current in Spin Transfer Torque Magnetic Tunnel Junction. X. Zhu¹ and S. Kang¹. Qualcomm Incorporation, San Diego, CA
EB-11. Magnetoresistance and spin torque study of dual spin valve devices. A. Aziz1, M.C. Wu1, M.G. Blamire1, M.C. Hickey2, M. Ali2 and B.J. Hickey2. 1. Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom; 2. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom


THURSDAY SALON A MORNING
9:00 Session EC
ALTERNATIVE MAGNETIC RECORDING
Mourad Benakli, Chair


EC-02. Effect of gradient alignment in heat assisted magnetic recording. N.J. Gokemeijer1, H. Zhou1, D. Karns1, S. Batra1, M. Mallary1, T. McDaniel1, M. Seigler1, G. Ju1, Y. Peng1, M. Xiao1 and E. Gage1. 1. RDI, Seagate Technology, San Jose, CA

EC-03. Thermally assisted magnetic recording characteristics in granular perpendicular media. H. Shino1, M. Kawana1, E. Miyashita1, S. Watanabe1 and N. Hayashi1. 1. NHK Science & Technical Research Laboratories, Setagaya-ku, Tokyo, Japan; 2. Fuji Electric Advanced Technology Co., Ltd., Matsusato, Nagano, Japan

EC-04. Heat-Assisted Domain Transfer in Magnetic Nanowires with Perpendicular Anisotropy. O. Ozatay1, A. Moser1, J. Katine1, T. Hauel1, L. Folks1, R. Payne1 and B. Terris1. 1. Hitachi Global Storage Technologies, San Jose, CA

EC-05. Temperature Distribution and Response to Heat Pulse for Thermally Assisted Recording for Particle Recording Media with Surface Plasmon Antenna. K. Nakagawa1, Y. Ashizawa1 and A. Itoh1. 1. College of Science and Technology, Nihon University, Fanabashi, Japan


EC-07. Excitation and Dephasing of Circularly Polarized Plasmon Modes in Spherical Nanoshells for Application in All-Optical Magnetic Recording. I. Mayergoyz1, P. McAvoy1, G. Lang2, D. Bowen1 and C. Krafft1. 1. Electrical and Computer Engineering and UMIACS, University of Maryland College Park, College Park, MD; 2. Laboratory for Physical Sciences, College Park, MD

EC-08. Simulations of RF field-assisted recording in 3 Tb/in2 patterned media. S. Greaves1, H. Muraoka1 and Y. Kanai1. 1. RIEC, Tohoku University, Sendai, Japan; 2. IEE, Nippon Institute of Technology, Kashihara, Japan

EC-09. Microwave-assisted 3D multilayer magnetic recording. M.A. Bashir1, T. Schrefl1, D. Suess2, J. Dean2, G. Hrkac1, A. Goncharov1, A. Allwood2, S. Bance2 and J. Fidler1. 1. Department of Engineering Materials, University Of Sheffield, Sheffield, United Kingdom; 2. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria
EC-10. Microwave assisted magnetization reversal and multilevel recording in composite media. S. Li1,2, B. Livshitz1,2, E.E. Fullerton1,2, H. Bertram1,2, M. Schabes and V. Lomakin1,2. 1. Department of Electrical and Computer Engineering, University of California San Diego, La Jolla, CA; 2. Center of Magnetic Recording Research, University of California San Diego, La Jolla, CA; 3. Hitachi San Jose Research Center, Hitachi GST, San Jose, CA

10:48


11:00

EC-12. Microwave assisted magnetic recording at lower transverse oscillating field. C. Goh1, Z. Yuan1, T. Zhou1, L. Wang1 and B. Liu1. Data Storage Institute, Singapore, Singapore

11:12


11:24

EC-14. Numerical study on microwave-assisted magnetization reversal of several-tens-nm-wide magnetic particle with perpendicular anisotropy. Y. Nozaki1, M. Ohta1, N. Narita1 and K. Matsuyama1. Dept. of Electronics, Kyushu University, Fukuoka, Japan

11:48

EC-15. Influences of Eddy Current in Microwave Oscillation Layer of MAMR. E. Uda1, N. Udagawa1, K. Yoshida1 and Y. Kanai1. Electrical Engineering and Electronics, Kogakuin Univ., Tokyo, Japan; 2. Information and Electronics Engineering, Niigata Institute of Technology, Kashiwazaki, Japan

11:50

EC-16. Influences of Microwave Oscillation Layer Parameters on MAMR Properties. T. Nakatani1, Y. Takahashi1, K. Hono1, T. Ishikawa1 and M. Yamamoto1. University of Tsukuba, Tsukuba, Japan; 2. National Institute for Materials Science, Tsukuba, Japan; 3. Hokkaido University, Sapporo, Japan

12:00

THURSDAY MORNING

10:00

Session ED

MAGNETIC TUNNEL JUNCTIONS III

Markus Muenzenberg, Chair

10:00

ED-01. Tunnel magnetoresistance properties of double MgO barrier magnetic tunnel junctions with CoFeB electrodes. S. Ikeda1, W. Shiga1, J. Hayakawa2, K. Miura1, H. Hasegawa1, J. Park2, H. Gan1, H. Yamamoto2, F. Matsukura1 and H. Ohno1. RIEC, Tohoku Univ., Sendai, Japan; 2. Advanced Research Laboratory, Hitachi, Ltd., Tokyo, Japan

10:12

ED-02. Current induced resistance change of magnetic tunnel junctions with ultra-thin MgO tunnel barriers. P. Krzysteczko1, X. Kou1, K. Rott1, A. Thomas1 and G. Reiss1. Thin Films & Physics of Nanostructures, Bielefeld University, Bielefeld, Germany; 2. School of Physical Science and Technology, Lanzhou University, Lanzhou, China

10:24

ED-03. A first principles study of the impact of oxide layer boron on tunneling magnetoresistance in FeCoB/MgO(B)/FeCoB junctions. D. Stewart1. Cornell Nanoscale Facility, Cornell University, Ithaca, NY

10:36

ED-04. The role of boron in obtaining high magnetoresistance in ultra-thin Mg(B)O tunnel junctions. (Invited) J.C. Read1, J.J. Cha1, W.F. Egelhoff, Jr.1, P.Y. Huang1, H. Tseng1, Y. Li1, A.M. Castillo2, P.J. Chen2, D.A. Muller1 and R.A. Buhrman1. School of Applied & Engineering Physics, Cornell University, Ithaca, NY; 2. Magnetic Materials Group, National Institute of Standards and Technology, Gaithersburg, MD; 3. Department of Physics, Carleton College, Northfield, MN

10:48

ED-05. Structural characterizations of Co$_2$MnSi/MgO/Co$_2$MnSi magnetic tunnel junctions. T. Nakatani1, Y. Takahashi1, K. Hono1, T. Ishikawa1 and M. Yamamoto1. University of Tsukuba, Tsukuba, Japan; 2. National Institute for Materials Science, Tsukuba, Japan; 3. Hokkaido University, Sapporo, Japan
ED-06. Tunnel magnetoresistance effect and tunneling conductance in magnetic tunnel junctions with full-Heusler Co$_2$FeAl$_{0.5}$Si$_{0.5}$ Electrodes. H. Sukegawa$^1$, W. Wang$^1$, R. Shan$^1$ and K. Inomata$^1$. Magnetic Material Center, National Institute for Materials Science (NIMS), Tsukuba, Ibaraki, Japan

ED-07. Tunneling spectroscopy of Co$_2$Cr$_{0.6}$Fe$_{0.4}$Al/MgO/CoFe magnetic tunnel junctions. K. Yonemura$^1$, T. Ishikawa$^1$, N. Itabashi$^1$, K. Matsuda$^1$, T. Uemura$^1$ and M. Yamamoto$^1$. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan

ED-08. Tunnel magnetoresistance in Co$_2$FeAl$_{0.5}$Si$_{0.5}$/MgO/Co$_2$FeAl$_{0.5}$Si$_{0.5}$ magnetic tunneling junctions prepared on Si/SiO$_2$ substrates. W. Wang$^1$, H. Sukegawa$^1$, R. Shan$^1$ and K. Inomata$^1$. Magnetic Material Center, National Institute for Materials Science (NIMS), Tsukuba, Japan

ED-09. High energy high resolution photoemission spectroscopy of Heusler compounds. A. Gloskovskii$^1$, G.H. Fecher$^1$, S. Chadov$^1$, S. Ouadi$^1$, B. Balke$^2$, C.A. Jenkins$^1$, C. Felser$^1$, T. Ishikawa$^2$, M. Yamamoto$^1$, K. Inomata$^1$, Y. Maeshita$^1$, H. Yoshikawa$^1$, S. Ueda$^1$ and K. Kobayashi$^1$. Institut für Anorganische Chemie und Analytische Chemie, Johannes Gutenberg-Universität Mainz, Mainz, Germany; 2. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan; 3. National Institute for Materials Science, Tsukuba, Japan; 4. National Institute for Materials Science, SPring-8, Hyogo, Japan

ED-10. Investigations on the MTJ interface Co$_2$MnSi-MgO using electron spectroscopy with x-ray standing waves and hard x-rays. B. Balke$^2$, C. Papp$^1$, C.A. Jenkins$^2$, A. Gloskovskii$^1$, G.H. Fecher$^1$ and C.S. Fadley$^1$. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA; 2. University of Mainz, Mainz, Germany

ED-11. Oscillatory tunnel magnetoresistance in MgO magnetic tunnel junctions with a synthetic free layer. B. Min$^1$, I. Shin$^1$, J. Lee$^1$, K. Shin$^1$, J. Langer$^2$, J. Wrona$^2$, B. Ocker$^1$, K. Lee$^1$ and H. Lee$^1$. Korea Institute of Science and Technology (KIST), Seoul, South Korea; 2. Singulans Nano Deposition Technologies GmbH, Kahl am Main, Germany; 3. Korea University, Seoul, South Korea; 4. Pohang University of Science and Technology (POSTECH), Pohang, South Korea

ED-12. Relation between Barrier and Transport Properties of Heusler based Tunneling Junctions. C. Herbort$^1$, E. Arbelo Jorge$^1$ and M. Jourdan$^1$. Institute of Physics, Johannes Gutenberg University, 55099 Mainz, Germany

ED-13. Experimental study of time-dependent switching current in MgO based magnetic tunnel junction. W. Zhu$^1$, X. Wang$^1$ and D. Dimitrov$^1$. Seagate, Bloomington, MN

EE-01. Non-Local Spin Transport and Spin Motive Force in Magnetic Nanostructures. (Invited) S. Maekawa$^1$. Institute for Materials Research, Tohoku University, Sendai, Japan

EE-02. Magnetic thermopower effect in single Cobalt nanowires. R.A. Silva$^1$, L.C. Sampaio$^1$, A.P. Guimaraes$^1$ and J. Wegrowe$^1$. CBPF, Rio de Janeiro, RJ, Brazil; 2. Laboratoire des Solides Irradiés, Ecole Polytechnique, Palaiseau, France

EE-03. Nonlinear effective spin-mixing conductance in NiFe/Pt thin films. R. Cao$^1$, X. Fan$^1$, T. Moriymama$^1$ and J.Q. Xiao$^1$. Department of Physics and Astronomy, University of Delaware, Newark, DE

EE-04. Effect of DC bias on the spin signal in metallic lateral spin valves with transparent junctions. F. Casanova$^1$, A. Sharam$^1$ and J.K. Schuller$^1$. Physics, University of California, San Diego, La Jolla, CA

EE-06. Observation of the spin Hall effect via negative non-local resistance in mesoscopic gold Hall bars. G. Mihajlovic, J.E. Pearson, A. Hoffmann and S.D. Bader. 1. Materials Science Division, Argonne National Laboratory, Argonne, IL

EE-07. Spin Hall and Nernst-Ettingshausen effects in FePt/Au lateral structures. T. Seki, Y. Hasegawa, S. Mitani, I. Sugai, K. Takanashi, S. Takahashi and S. Maekawa. 1. Institute for Materials Research, Tohoku University, Sendai, Japan


EE-09. Effect of chemical ordering on interlayer exchange coupling in Co-Mn-Si based epitaxial trilayer structures. S. Bosu, Y. Sakuraba, K. Saito, H. Wang, S. Mitani and K. Takanashi. 1. Institute for Materials Research, Tohoku University, Sendai, Japan

EE-10. High spin polarization of Co$_2$MnGa$_{0.5}$Sn$_{0.5}$ Heusler alloy. B. Varaprasad, A. Rajanikanth, Y.K. Takahashi and K. Honjo. 1. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Ibaraki, Japan; 2. NIMS, Tsukuba, Ibaraki, Japan

EE-11. Spin Hall Effects in Nb, Mo, Pd, and Pt nanowires. M. Morota, K. Ohnishi, T. Kimura and Y. Otani. 1. Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan; 2. Advanced Science Institute, RIKEN, Wako, Japan; 3. Institute of Applied Physics, University of Tsukuba, Tsukuba, Japan
EF-04. Fabrication of Heuslar Fe3Si Nanoparticles. Y. Jing, Y. Xu and J.P. Wang. Electrical Engineering, University of Minnesota, Minneapolis, MN

EF-05. Magnetic and structural properties of Co and CoPt nanoparticles grown in the presence of nitrogen. A. Brenac, D. Le Roy, L. Notin, R. Morel, O. Plantévin and O. Bikondoa. INAC, CEA-Grenoble, Grenoble, France; 2. CSNSM, CNRS/IN2P3 – Université Paris XI, Orsay, France; 3. Surface and Interface Science Group, ESRF, Grenoble, France

EF-06. Site Determination of Zn Doping in Protein Encapsulated ZnFe2O4 Nanoparticles. V. Pool, M. Klem, J. Holroyd, H. Li, T. Harris, E. Arenholz, T. Douglas, M. Young and Y.U. Idzerda. 1. Dept. of Physics, Montana State University, Bozeman, MT; 2. Dept. of Chem. and Biochem., Montana State University, Bozeman, MT; 3. Dept. of Plant Sciences and Pathology, Montana State University, Bozeman, MT; 4. Center for Bio-inspired Nanomaterials, Montana State University, Bozeman, MT; 5. Advanced Light Source, Lawrence Berkeley Nat. Lab., Berkeley, CA

EF-07. The effect of the sputtering gas (Ar, Xe) on FePt clusters formation, structural and magnetic properties. V. Cantelli, J. Grenzer, J. von Borany and J. Fassbender. Institute of Ion Beam Physics and Materials Research, Forschungszentrum Dresden-Rosshofen, Dresden, Germany


EF-09. Magnetic and Structural Properties on Nano-composites of FePt/FeRh. Y. Hnin, T. Ajay and T. Suzuki. Toyota Technological Institute, Nagoya, Japan

EF-10. Size dependence of magnetic parameters and surface disorder in magnetite nanoparticles. M.S. Seehra, S. Pal, P. Dutta, N. Shah and G.P. Huffman. 1. Physics Department, West Virginia University, Morgantown, WV; 2. Chemical Engineering, University of Kentucky, Lexington, KY

EF-11. Millimeter wave absorption of ε-GaFe2O3 nanoparticles. A. Namai, S. Sakurai and S. Ohkoshi. 1. School of Science, The University of Tokyo, Tokyo, Japan; 2. School of Engineering, The University of Tokyo, Tokyo, Japan

EF-12. Spin dynamics in CoFe2O4 nanoparticles. R.D. Desautels and J. van Lierop. Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada

EF-13. Size control and huge magnetic coercive field of ε-Fe2O3 nanoparticle. S. Sakurai, K. Hashimoto and S. Ohkoshi. School of Science, The University of Tokyo, Tokyo, Japan; 2. School of Engineering, The University of Tokyo, Tokyo, Japan

EF-14. Magnetic Properties of Fe deposited on a MnAs/GaAs(001) template. S. Tacchi, J. Milano, M. Madami, G. Gubbiotti, G. Carlotti, M. Marangolo, V.H. Etgens, M. Pini and R. Stamps. 1. Dipartimento di Fisica, CNISM, Università di Perugia, Perugia, Italy; 2. CNEA-Centro Atomico Bariloche and Instituto Balseiro-UNCuyo, Bariloche, Argentina; 3. Institut des NanoSciences de Paris, Université Paris 6, Paris, France; 4. Istituto dei Sistemi Complessi, CNR, Firenze, Italy; 5. School of Physics, University of Western Australia, Crawley, WA, Australia

EF-15. Fast Superparamagnetic Response of Mono-Dispersed Fe Nanoparticle Assembly. T. Ogawa, H. Yang, D. Hasegawa and M. Takahashi. Center for Research Strategy & Support (CRESS), Tohoku University, Sendai, Japan; 2. Department of Electronic Engineering, Tohoku University, Sendai, Japan; 3. New Industry Creation Hatchery Center (NICHe), Tohoku University, Sendai, Japan
EG-01. Neutron Reflectivity Study of Magnetic Correlations within Spintronic Nanopillars. K.L. Krycka\(^1\), B.B. Maranville\(^1\), J.A. Borchers\(^1\), F.J. Cañasto\(^2\), B.G. Ng\(^2\) and C.A. Ross\(^2\).\(^1\) Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; \(^2\) Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA

9:12

EG-02. Delocalized versus localized magnetization reversal in template-grown Ni and Ni\(_{80}\)Fe\(_{20}\) nanowires. D.C. Leitão\(^1,2\), C.T. Sousa\(^1\), J. Ventura\(^1\), J.B. Sousa\(^1\), K.R. Pirota\(^1\), M. Vazquez\(^2\) and J.E. Araujo\(^1\). IN-IFIMUP, Porto, Portugal; \(^2\) ICMM-CSIC, Madrid, Spain

9:24

EG-03. Thermal stability of single nanoplatelets: beyond the coherent reversal model. J. Adam\(^1,2\), S. Rohart\(^1\), J. Jamet\(^1\), A. Mougin\(^1\), J. Ferré\(^1\), H. Bernas\(^3\) and G. Faini\(^4\). Laboratoire de Physique des Solides, Orsay, France; \(^2\) GEMAC, Versailles, France; \(^3\) CSNSM, Orsay, France; \(^4\) LPN, Marcoussis, France

9:36

EG-04. Properties of Ferromagnetic Film with Embedded Magnetic Nanowires. S. Goolaup\(^1\), A. Adeyeye\(^1\) and N. Singh\(^2\).\(^1\) National University of Singapore, Singapore, Singapore; \(^2\) Institute of Microelectronics, Singapore, Singapore

9:48

EG-05. Nonuniform magnetization in the thickness dependence of the FMR of permalloy nanellipse arrays. M. Purdavi-Horváth\(^1\), F.J. Cañasto\(^2\), B.G. Ng\(^2\) and C.A. Ross\(^2\). \(^1\) SEAS ECE, The George Washington University, Washington, DC; \(^2\) Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA

10:00

EG-06. Angular Dependence of Vortex Annihilation Fields in Asymmetric Co Nanodots\(^2\). R.K. Dumas\(^1\), T. Gredig\(^2\), C. Li\(^2\), I.K. Schuller\(^2\) and K. Liu\(^1\). UC Davis Physics, Davis, CA; \(^2\) Physics Department, UC San Diego, La Jolla, CA

10:12

EG-07. Nano-optics with spin waves at microwave frequencies. V.E. Demidov\(^1\), S.O. Demokritov\(^1\), K. Rott\(^2\), P. Krzyżewski\(^2\) and G. Reiss\(^1\). Institute for Applied Physics, University of Muenster, Muenster, Germany; \(^2\) Department of Physics, Bielefeld University, Bielefeld, Germany

10:24

EG-08. Ferromagnetic resonance study in electrodeposited cobalt antidot arrays. L.G. Abracado\(^1\), J.P. Sinnecker\(^2\), A.P. Guimarães\(^3\), E.R. Spada\(^1\), A.S. da Rocha\(^2\), E.F. Jasinski\(^1\) and M.L. Sartorelli\(^1\). CBPF, Rio de Janeiro, RJ, Brazil; \(^2\) Instituto de Fisica, UFRJ, Rio de Janeiro, RJ, Brazil; \(^3\) Depto. de Fisica, UFSC, Florianopolis, SC, Brazil

10:36

EG-09. Detecting dynamic magnetic information beyond the optical spatial resolution in a Ni nanomagnet array. Z. Liu\(^1\), R. Brandt\(^1\), H. Schmidt\(^1\), B. Hansen\(^2\), A. Hawkins\(^3\), B. Hartenbeck\(^3\), S. Cabrini\(^3\) and J. Bokor\(^3\). Electrical Engineering, University of California Santa Cruz, Santa Cruz, CA; \(^2\) Electrical and Computer Engineering, Brigham Young University, Provo, UT; \(^3\) Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA

10:48

EG-10. Field Dependence of Collective Spin Modes in Transversely Magnetized Stripes with Homogeneous and Alternating Width. G. Gubbiotti\(^1\), S. Tacchi\(^1\), M. Madami\(^1\), G. Carlotti\(^1\), S. Goolaup\(^2\), A.O. Adeyeye\(^2\), H.T. Nguyen\(^3\) and M.G. Cotton\(^3\). Università di Perugia, Perugia, Italy; \(^2\) National University of Singapore, Singapore, Singapore; \(^3\) University of Western Ontario, London, ON, Canada

11:00

EG-11. Engineering coercivity in epitaxial Laves phase rare earth - transition metal multilayers. J.R. Buckingham\(^1\), K. Wang\(^1\), D. Wang\(^1\), G.J. Bowden\(^1\), R.C. Ward\(^2\) and P.A. de Groot\(^3\). Physics and Astronomy, University of Southampton, Southampton, United Kingdom; \(^2\) Clarendon Laboratory, University of Oxford, Oxford, United Kingdom

11:12

11:12

EG-13. Permalloy Arrays via Stenciling and Magnetron Sputtering to Investigate Nanoscale Magnetic Switching. C.V. Cojocaru, J.R. Bates, Y. Miyahara and P. Grutter. Physics Department, McGill University, Montreal, QC, Canada

11:24


11:36


11:48

THURSDAY MORNING

9:00

Session EH

NUMERICAL METHODS AND MAGNETIC SIMULATIONS

Olle Heinonen, Chair

9:00


10:00

EH-06. Image Treatment of an Axial Magnetic Dipole in the Presence of Two Fused Superconducting Spheres. D. Palaniappan. Mathematics, Texas A&M University, College Station, TX

10:12


9:24

EH-03. A new approach to (quasi) periodic boundary conditions: the macro geometry. G. Bordignon, T. Fischbacher, M. Franchin, A. Knittel, P. de Groot and H. Fangohr. School of Physics & Astronomy, University of Southampton, Southampton, United Kingdom; 2. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom

9:36


9:48

EH-05. Compression of Boundary Element Matrix in Micromagnetic Simulations. A. Knittel, M. Franchin, G. Bordignon, T. Fischbacher, S. Bending and H. Fangohr. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom; 2. School of Physics and Astronomy, University of Southampton, Southampton, United Kingdom; 3. Department of Physics, University of Bath, Bath, United Kingdom

10:00


10:12
EH-08. Investigation of slanted and V-shaped domain walls in MnAs films. R.H. Engel-Herbert1 and T. Hesjedal2. 1. Materials Department, UCSB, Santa Barbara, CA; 2. ECE Department, University of Waterloo, Waterloo, ON, Canada

EH-09. Dzyaloshinski-Moriya Micromagnetics of Magnetic Surface Alloys. R. Skomski1, J. Honolka2, S. Bornemann3, H. Ebert4 and A. Enders1. 1. Nebraska Center for Materials and Nanoscience and Department of Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany; 3. Ludwig-Maximilians Universität München, München, Germany

EH-10. Analytical and Experimental Analysis of Noise Passage through Hysteretic Systems. M. Dimian1, E. Coca1 and V. Popa1. 1. Electrical and Computer Engineering, Stefan cel Mare University, Suceava, Romania

EH-11. Micromagnetic simulation of Henkel plots and recoil loops of the Nd2Fe14B/α-Fe exchange-coupled nanocomposite magnets. C. Rong1 and J. Liu1. 1. Department of Physics, University of Texas at Arlington, Arlington, TX

EH-12. Magnetization-dependent vector model and single domain nanostructures. A. Faba1, E. Cardelli1, E. Della Torre1, M. Carpentieri2 and G. Drisaldi1. 1. Industrial Engineering, University of Perugia, Perugia, Italy; 2. Institute for Magnetic Research, The George Washington University, Washington, WA; 3. University of Calabria, Arcavacata di Rende (CS), Calabria, Italy

EH-13. Experimental properties of an efficient stress-dependent magnetostriiction model. D. Davino1, A. Giustiniani2 and C. Visone1. 1. Engineering Department, University of Sannio, Benevento, Italy; 2. DIIE, University of Salerno, Salerno, Italy


EH-15. A behavioral model of axisymmetrically configured magnetorheological fluid with Lekner summation. K. Jang1, J. Seok2, B. Min3 and S. Lee1. 1. Mechanical Engineering, Yonsei University, Seoul, South Korea; 2. Mechanical Engineering, Chung-Ang University, Seoul, South Korea

Session EP

EP-01. Hybridization effects and magnetism in UPdSn and UCuSn. K. Kothapalli1,2, F. Nasreen1, S. El-Khatib3, S. Vogel4, A. Llober4, H. Reiche4, I. Swainsson5, E. Bruck6, J. Peterson7 and H. Nakotte1. 1. Physics, New Mexico State University, Las Alamos, NM; 2. Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN; 3. LANSC- LC, Los Alamos National Laboratory, Los Alamos, NM; 4. Van der Waals-Zeeman Institute, University of Amsterdam, Amsterdam, Netherlands; 5. Chalk River Laboratories, AECL, Chalk River, ON, Canada


EP-03. Effect of hydrogen doping in UTX compounds. S. Maskova1, L. Havela1, E. Santava2 and M. Siltanen3. 1. Department of Condensed Matter Physics, Charles University, Prague, Czech Republic; 2. Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czech Republic; 3. Department of Inorganic Chemistry, Ivan Franko National University of Lviv, Lviv, Ukraine

EP-04. Magnetic phase transitions in CePdSn under ambient and hydrostatic pressures. J. Prokeska1, M. Misek1, B. Detlefs2, P. Javorsky1 and V. Sechovsky1. 1. Dept. of Condensed Matter Physics, Charles University, Prague, Czech Republic; 2. ESRF, Grenoble, France

EP-05. Electronic structures and magnetic properties of RB4 (R= Gd, Tb, Dy, Yb, Pr). H. Choi1, A. Laref1, J. Shim2, S. Kwon2 and B. Min1. 1. Pohang University of Science and Technology, Pohang, Kyangbuk, South Korea; 2. Rutgers University, Piscataway, NJ
EP-06. Anisotropic magnetic phase transition and magnetoresistance of HoB$_2$ single crystal. J. Kim$^1$, N. Sung$^1$ and B. Cho$^1$.1. School of Photonics, Dept. of Materials Science and Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, South Korea

EP-07. Magnetic order of the rare earth sub-lattice in h-YbMnO$_3$. H.A. Salama$^1$, D.H. Ryan$^2$ and G.A. Stewart$^3$.1. School of Physical, Environmental & Mathematical Sciences, University of New South Wales, Canberra, ACT, Australia; 2. Centre for the Physics of Materials and Physics Department, McGill University, Montreal, QC, Canada

AUSTIN BALLROOM
THURSDAY MORNING

SESSION EQ

MAGNETIC SEMICONDUCTORS GROUP IV AND III-V

(PAPER SESSION)

Aubrey Hanbicki, Chair

EQ-01. Spectra broadening in Point-Contact Andreev Reflection Measurement on (Ga,Mn)As. Y. Chiu$^1$, T. Chiang$^{2,3}$, S. Huang$^{1,3}$, H. Jiufes$^{2,3}$, A. Lemaître$^5$, J. George$^4$ and S. Lee$^1$.1. Institute of Physics, Academia Sinica, Nankang, Taipei, Taiwan; 2. Department of Physics, National Taiwan University, Taipei, Taiwan; 3. National Taiwan University, Taipei, Taiwan; 4. Department of Physics, National Chiao Tung University, Hsinchu, Taiwan; 5. Unité Mixte de Physique CNRS/Thales, Palaiseau, France; 6. Université Paris-Sud 11, Orsay, France;

EQ-02. Magneto-transport properties of (Ga,Mn)As based trilayer structures with different thicknesses of (In,Ga)As spacer layer. H. Lee$^1$, S. Chung$^1$, S. Lee$^1$, X. Liu$^1$ and J.K. Furdyna$^1$.1. Physics, Korea University, Seoul, South Korea; 2. Physics, University of Notre Dame, Notre Dame, IN

EQ-03. Transport properties of (Ga,Mn)As under local magnetic field induced by Co nanodot. J. Sub$^1$, J. Chang$^1$, S. Han$^1$, E. Kim$^2$. M.V. Sapozhnikov$^3$ and A.A. Fraerman$^3$.1. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, South Korea; 2. Quantum-Function Spinics Lab. And Dept. of Physics, Hanyang University, Seoul, South Korea; 3. Institute for physics of microstructures, Russian academy of sciences, Nizhny Novgorod, Russian Federation

EQ-04. Quantitative analysis of angle dependence of planar Hall effect observed in ferromagnetic GaMnAs film. J. Kim$^1$, T. Yoo$^1$, S. Chung$^1$, S. Lee$^1$, X. Liu$^1$ and J.K. Furdyna$^1$.1. Physics, Korea University, Seoul, South Korea; 2. Physics, University of Notre Dame, Notre Dame, IN

EQ-05. Ac susceptibility of (Ga,Mn)As probed by the anomalous Hall effect. Y. Nishitani$^4$, D. Chiba$^{1,2}$, F. Matsukura$^{1,2}$ and H. Ohno$^{1,2}$. Laboray for Nanoeelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan; 2. Semiconductor Spintronics Project, Exploratory Research for Advanced Technology, Japan Science and Technology Agency, Tokyo, Chiyoda-ku, Japan

EQ-06. Mapping a magnetization switching field in Ga$_{0.98}$Mn$_{0.02}$As wires with a scanning laser magneto-optical microscope. J. Aoyama$^1$, Y. Hashimoto$^1$, S. Kobayashi$^1$ and H. Munekata$^1$. Imaging Science and Engineering Lab., Tokyo Institute of Technology, Yokohama, Japan

EQ-07. High-temperature ferromagnetism in highly Mn doped [(In$_{x}$Ga$_{1-x}$)$_{1-y}$Mn$_{y}$]As ($x$=0.20-0.40) with inhomogeneous Mn distribution. M. Yokoyama$^1$, S. Ohy$^2$ and M. Tanaka$^1$. Department of Electrical Engineering and Information Systems, The University of Tokyo, Tokyo, Japan

EQ-08. FMR investigations on Ga$_{0.955}$Mn$_{0.045}$As. M. Chipara$^1$, S. Balascuta$^2$, X. Liu$^3$, R. Skomski$^4$, J.M. Furdyna$^3$ and D.J. Sellmyer$^4$.1. Physics and Geology, The University of Texas Pan American, Edinburg, TX; 2. Physics, Arizona State University, Tempe, AZ; 3. Physics, University of Notre Dame, Notre Dame, IN; 4. Physics and Astronomy, University of Nebraska, Lincoln, NE

EQ-09. Ferromagnetism in Un-doped GaN Nanowires. H. Xing$^1$, S. Delikani$^1$ and H. Zeng$^1$. Department of Physics, University at Buffalo, SUNY, Buffalo, NY

EQ-10. Synthesis of Co-doped AlN nanorods by arc discharge. Y. Song$^1$, G. Ruan$^2$ and Y. Ronghai$^1$. Department of Materials Science and Engineering, Tsinghua University, Beijing, China

EQ-11. Weak Ferromagnetism in Mn-doped GaN thin films grown by RF magneto-sputtering. W.A. Iwamoto$^1$, P.G. Pugliu$^1$, C. Rettori$^1$, H. da Silva$^2$, A. Pereira$^2$ and S. Oseroff$^2$.1. DEQ, FFGW - Unicamp, Campinas, São Paulo, Brazil; 2. Departamento de Fisica, Unesp, Bauru, São Paulo, Brazil; 3. San Diego State University, San Diego, CA

EQ-12. Electronic and magnetic properties of GeMn nanocolumns probed by x-ray spectroscopy and magnetic circular dichroism. S. Cherfi$^1$, S. Tardif$^{1,2}$, J. Cibert$^1$, M. Jamet$^2$, T. Devillers$^2$, A. Barski$^2$, V. Favre-Nicolin$^2$, P. Bayle-Guillemaud$^2$, N. Darowski$^2$ and D. Schmitz$^1$.1. Nanoscience, Institut Neel, CNRS-UJF , Grenoble, France; 2. DSM / INAC / SP2M, CEA, Grenoble, France; 3. BESSY, Hahn-Meitner-Institut, Berlin, Germany

EQ-13. First-principles investigation of pressure effects on Ge$_{1-x}$Mn$_x$ wires. X. Wang$^1$, M. Ni$^2$, Z. Zeng$^1$ and H. Lin$^1$. Key Laboratory of Material Physics, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei, China; 2. Department of Physics and Institute of Theoretical Physics, The Chinese University of Hong Kong, Shatin, Shatin, Hong Kong, China
EQ-15. Magnetic Properties of M-doped (M = Mn, Cr, or V) ZnSiN₂
J. Rufinuš 1. Science Division, Widener University, Chester, PA

EQ-16. The singlet model calculations for the layered III-VI Diluted Magnetic Semiconductor Inₙ_xMnxSe (x = 0.01 and 0.10)*
T. Pekarek 1, D. Meda 1, J. Brewer 1, J. Blackburn 1, J. Garner 1, I. Miotkowski 2 and A. Ramdas 2. 1. Superconductivity and Cryogenics, National Institute of Science and Technology, New Delhi, India; 2. School of Physics, the University of Melbourne, Melbourne, Victoria, Australia

ER-01. Electrically driven spin-polarization in Pr₀.₇Ca₀.₃MnO₃/YBa₂Cu₃O₇ heterostructure. J. Lin 1, D. Hsu 1, C. Chiang 1, W. Chan 2. 1. Physics, Purdue, West Lafayette, IN; 2. Physics, Purdue, West Lafayette, IN

ER-02. Magnetic field dependent critical current density of Bi-Sr-Ca-Cu-O superconductor in bulk and tape form with addition of Fe₃O₄ magnetic nanoparticles. R. Abd-Shukor 1 and W. Kong 1. 1. School of Applied Physics, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia

ER-03. Superconductivity of various borides: The Role of stretched c-parameter. M. Mudgett 1,2, V. Awana 1, G.L. Bhalla 1 and H. Kishan 2. 1. Superconductivity and Cryogenics, National Physical Laboratory, New Delhi, India; 2. Department of Physics and Astrophysics, Delhi University, Delhi, India

ER-04. Perpendicular applied magnetic field dependence of Josephson current and measurement of trapped magnetic flux in Nb superconducting thin film by vibrating sample magnetometer. N. Watanabe 1, A. Nakayama 1, S. Abe 1, M. Suda 1, Y. Nishi 1, K. Masuda 1 and C. Sugaya 1. Kanagawa University, Yokohama, Japan

ER-05. Analysis of the proximity effect and the interface transparency with perpendicular current in Nb/Ni system. S. Huang 1,2, Y. Chiu 1, J. Li 1, T. Tsai 1, S. Hsu 1 and S. Lee 1. 1. Physics, Academia Sinica, Taipei, Taiwan; 2. Institute of Electrophysics, National Chiao-Tung University, Hsinchu, Taiwan; 3. Department of Physics, Fu Jen Catholic University, Taipei, Taiwan

ER-06. Unconventional Kondo-like effect induced by coexistence of superconductivity and magnetism. Y. Gao 1. ShangCheng Technology Co. Ltd., ShangHai, China

ER-07. Coexistence of ferromagnetic and cluster glass state in superconducting ferromagnet: Ru₄Sr₂Eu₁.₄Ce₀.₆Cu₂O₁₀
R. Nigam 1, A.V. Pan 1 and S.X. Dou 1. Institute for Superconducting and Electronic Materials, University of Wollongong, Northfields Avenue, Wollongong, NSW, Australia

ER-08. High-Tc superconductivity related to deep inner orbital coupling in Fe₃As based compounds. N. Chen 1, Y. Liu 1 and Y. Li 1. School of Material Science and Engineering, University of Science and Technology Beijing, Beijing, China; 2. University of Puerto Rico at Mayaguez, Mayaguez, PR

ER-09. Vortex lattice pinning effects in amorphous Mo₃Si superconducting films with ordered arrays of magnetic dots. D. Pérez de Lara 1, A. Alija 1, A. Pérez-Juñquera 2, J.M. Colino 3, J.I. Martín 3, E. Navarro 3, M. Vélez 3, J.V. Anguita 3 and J.L. Vicent 1. Física de Materiales, Universidad Complutense, Madrid, Spain; 2. Física, Universidad de Oviedo, Oviedo, Asturias, Spain; 3. Física, Universidad de Castilla - La Mancha, Ciudad Real, Spain; 4. Instituto de Microelectronica de Madrid - CSIC, CTS Cantos, Madrid, Spain

ER-10. Structural, Magnetic and Transport Properties for single crystal of (Sr₀.₉Ca₀.₁)₃Ru₂O₁₀. B. Qian 1,2, Z. Qu 1, J. Peng 1, X. Wu 1 and Z. Mao 1. Physics, the university of Tidane, New Orleans, LA; 2. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 3. Physics, Changsha Institute of Technology, Changsha, China

ER-11. Strong Increase of Critical Field and Current in Magnet-Superconductor Hybrids. A.E. Ozmetin 1, D. Rathnayaka 1, D.G. Naugle 1 and I. Lyuksyutov 1. Department of Physics, Texas A&M University, College Station, TX

ER-12. Magnetic field-dependent resistance measurements in the superconducting ferromagnets (Ru₁-xNbx)Sr₂Eu₁.₄Ce₀.₆Cu₂O₁₀. M.E. Botello-Zubiate 1, O.E. Ayala-Valenzuela 1,2, M. Jaime 1 and J.A. Matutes-Aquino 1. Física de materiales, Centro de Investigación en Materiales Avanzados, S.C, Chihuahua, Chihuahua, Mexico; 2. NHMFL, Los Alamos National Laboratory, Los Alamos, NM

ER-13. Superconductivity in a two-dimensional system in a Strong correlated limit. E.S. Caixeiro 1 and A. Troper 1,2. 1. Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Rio de Janeiro, Brazil; 2. Departamento de Física Teórica, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil

Session ER
SUPERCONDUCTIVITY II (POSTER SESSION)
Tingyong Chen, Chair

THURSDAY MORNING
AUSTIN BALLROOM
8:00

ER-01. Magnetic field dependent critical current density of Bi-Sr-Ca-Cu-O superconductor in bulk and tape form with addition of Fe₃O₄ magnetic nanoparticles. R. Abd-Shukor 1 and W. Kong 1. 1. School of Applied Physics, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia

ER-02. Electrically driven spin-polarization in Pr₀.₇Ca₀.₃MnO₃/YBa₂Cu₃O₇ heterostructure. J. Lin 1, D. Hsu 1, C. Chiang 1 and W. Chan 2. 1. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan; 2. Department of Physics, Tamkang University, Taipei, Taiwan

ER-03. Superconductivity of various borides: The Role of stretched c-parameter. M. Mudgett 1,2, V. Awana 1, G.L. Bhalla 1 and H. Kishan 2. 1. Superconductivity and Cryogenics, National Physical Laboratory, New Delhi, India; 2. Department of Physics and Astrophysics, Delhi University, Delhi, India

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ER-05. Analysis of the proximity effect and the interface transparency with perpendicular current in Nb/Ni system. S. Huang 1,2, Y. Chiu 1, J. Li 1, T. Tsai 1, S. Hsu 1 and S. Lee 1. 1. Physics, Academia Sinica, Taipei, Taiwan; 2. Institute of Electrophysics, National Chiao-Tung University, Hsinchu, Taiwan; 3. Department of Physics, Fu Jen Catholic University, Taipei, Taiwan

ER-06. Unconventional Kondo-like effect induced by coexistence of superconductivity and magnetism. Y. Gao 1. ShangCheng Technology Co. Ltd., ShangHai, China

ER-07. Coexistence of ferromagnetic and cluster glass state in superconducting ferromagnet: Ru₄Sr₂Eu₁.₄Ce₀.₆Cu₂O₁₀
R. Nigam 1, A.V. Pan 1 and S.X. Dou 1. Institute for Superconducting and Electronic Materials, University of Wollongong, Northfields Avenue, Wollongong, NSW, Australia

ER-08. High-Tc superconductivity related to deep inner orbital coupling in Fe₃As based compounds. N. Chen 1, Y. Liu 1 and Y. Li 1. School of Material Science and Engineering, University of Science and Technology Beijing, Beijing, China; 2. University of Puerto Rico at Mayaguez, Mayaguez, PR

ER-09. Vortex lattice pinning effects in amorphous Mo₃Si superconducting films with ordered arrays of magnetic dots. D. Pérez de Lara 1, A. Alija 1, A. Pérez-Juñquera 2, J.M. Colino 3, J.I. Martín 3, E. Navarro 3, M. Vélez 3, J.V. Anguita 3 and J.L. Vicent 1. Física de Materiales, Universidad Complutense, Madrid, Spain; 2. Física, Universidad de Oviedo, Oviedo, Asturias, Spain; 3. Física, Universidad de Castilla - La Mancha, Ciudad Real, Spain; 4. Instituto de Microelectronica de Madrid - CSIC, CTS Cantos, Madrid, Spain

ER-10. Structural, Magnetic and Transport Properties for single crystal of (Sr₀.₉Ca₀.₁)₃Ru₂O₁₀. B. Qian 1,2, Z. Qu 1, J. Peng 1, X. Wu 1 and Z. Mao 1. Physics, the university of Tidane, New Orleans, LA; 2. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 3. Physics, Changsha Institute of Technology, Changsha, China

ER-11. Strong Increase of Critical Field and Current in Magnet-Superconductor Hybrids. A.E. Ozmetin 1, D. Rathnayaka 1, D.G. Naugle 1 and I. Lyuksyutov 1. Department of Physics, Texas A&M University, College Station, TX

ER-12. Magnetic field-dependent resistance measurements in the superconducting ferromagnets (Ru₁-xNbx)Sr₂Eu₁.₄Ce₀.₆Cu₂O₁₀. M.E. Botello-Zubiate 1, O.E. Ayala-Valenzuela 1,2, M. Jaime 1 and J.A. Matutes-Aquino 1. Física de materiales, Centro de Investigación en Materiales Avanzados, S.C, Chihuahua, Chihuahua, Mexico; 2. NHMFL, Los Alamos National Laboratory, Los Alamos, NM

ER-13. Superconductivity in a two-dimensional system in a Strong correlated limit. E.S. Caixeiro 1 and A. Troper 1,2. 1. Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Rio de Janeiro, Brazil; 2. Departamento de Física Teórica, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil
THURSDAY MORNING
8:00

Session ES
MAGNETO-OPTIC AND NEW MAGNETIC MATERIALS
(PAPER SESSION)
Tom Thomson, Co-Chair
Michael Gibbs, Co-Chair

ES-01. Magneto-optical properties of magnetic Ni grating. J. Kim1,
Y. Lu1, M. Cho1, N. Deshpande1, Y. Lee2, J. Rhode2, J. Lee2 and
K. Ho1,1. Quantum Photonic Science Research Center and BK21
Program Division of Advanced Research and Education in
Physics, Hanyang University, Seoul, South Korea; 2. Department
of Physics, Sungkyunkwan University, Suwon, South Korea; 3.
Ams Laboratory-U.S. DOE, Iowa State University, Ames, IA

ES-02. Magnetically Induced Optical Chirality in Zn-Mn Selenide.
M.F. Saenger1,2, M. Hetterich1, X. Liu3, J.K. Furdyna4,
T. Hofmann1,2, R. Skomski1, D.J. Sellmyer1, and M. Schubert1,1.
Nebraska Center for Materials and Nanoscience, University of
Nebraska, Lincoln, NE; 2. Department of Electrical Engineering,
University of Nebraska, Lincoln, NE; 3. Institut für Angewandte
Physik and Center for Functional Nanostructures (CFN),
Universität Karlsruhe (TH), Karlsruhe, Germany; 4. Department
of Physics, University of Notre Dame, Notre Dame, IN; 5.
Department of Physics and Astronomy, University of Nebraska,
Lincoln, NE

ES-03. Magneto-Optical studies of Cd1-x-yMnxCo1-yTe. S. Shen1,
Y. Um1, X. Liu1, Y. Cho1, J.K. Furdyna1 and M. Dobrowolska1,1.
Department of Physics, Univ. of Notre Dame, Notre Dame, IN; 2.
Department of Physics, Ulsan University, Ulsan, South Korea

ES-04. Enhanced Magneto-Optic Characteristics of Au-Ferromagnetic
Nanocomposite Systems Prepared by Aerosol Deposition
Method. J. Park1 and J. Akedo1,1. National Institute of Advanced
Industrial Science and Technology (AIST), Tsukuba, Japan

ES-05. Magneto-optical enhancement in gold-magnetic composite
films. K.L. Stokes1,2 and F.E. Moolekamp, III1,1. Dept. of Physics,
University of New Orleans, New Orleans, LA; 2. Advanced
Materials Research Institute, University of New Orleans, New
Orleans, LA

ES-06. Magnetic and magneto-optical properties of epitaxial
SrTi0.6Fe0.4O3 films grown on Si substrates using
Bi2Ti3O12/Co3O2/YSZ and BaTiO3/MgO buffer layers.
H. Kim1, L. Bi1, H. Paik2, G.F. Dionne1,1 and C.A. Ross1,1.
Material Science and Engineering, Massachusetts Institute of
Technology, Cambridge, MA; 2. Materials Science and
Engineering, Korea Advanced Institute of Science and Technology,
Daejeon, South Korea; 3. Lincoln Laboratory, Massachusetts
Institute of Technology, Lexington, MA

ES-07. Thiol-capped ferromagnetic Au nanoparticles investigated by
Au L3 x-ray absorption spectroscopy. J.S. Garitaonandia1,1,
E. Goikolea1, M. Insauti1, M. Suzuki2, N. Kawanura2,
H. Ohsawa2, I. Gil del Maro1, K. Suzuki3, J.D. Cashion1,1,
C. Gorria1, F. Plazaola1 and T. Rojo1.1. Zientzia eta Teknologia
Fakultatea, University of the Basque Country (UPV/EHU),
Bilbao, Spain; 2. Japan Synchrotron Radiation Research Institute
(JASRI/SPring-8), Sayo, Japan; 3. Department of Materials
Engineering, Monash University, Melbourne, VIC, Australia; 4.
School of Physics, Monash University, Melbourne, VIC, Australia

ES-08. Confirmation of magnetism in dodecanethiol-capped Au films
via magnetotransport. B. Knaus1, S. Garzon1, and
T.M. Crawford1. Physics and Astronomy, University of South
Carolina, Columbia, SC

ES-09. Magnetism of Cr-Doped Diamond. J.A. Colon-Santana1,1,
R. Skomski1, V. Singh2,3, V. Pulshin4, E.I. Meletis2, Y.B. Losovyj3,
A. Sokolov1, P.A. Dowben1 and I. Ketsman1. Nebraska Center
for Materials and Nanoscience and Department of Physics and
Astronomy, University of Nebraska, Lincoln, NE; 2. Mechanical
Engineering Department, Materials Science and Engineering
Program, Louisiana State University, Baton Rouge, LA; 3. Center
for Advanced Microstructures and Devices, Louisiana State
University, Baton Rouge, LA

ES-10. Magnetic property of the nano-sized iron silicate Bi5Fe6O16
(BiFeO) synthesized by hydrothermal method. Y. Du1,1,
X. Wang1, Z. Cheng1, M. Shahbazi1 and S. Dou1.1. Institute for
Superconducting and Electronic Materials, University of
Wollongong, Wollongong, NSW, Australia

ES-11. Enhanced Magnetization of CuCr2O4 Thin Films by
Substrate-Induced Strain. J.M. Iwata1, R.V. Chopdekar2,1,
F.J. Wong1, B.B. Nelson-Cheeseman1, E. Arenholz2, M.F. Toney3
and Y. Suzuki1,1. Materials Science & Engineering, UC Berkeley,
Berkeley, CA; 2. School of Applied Physics, Cornell University,
Ithaca, NY; 3. Advanced Light Source, Lawrence Berkeley
National Laboratory, Berkeley, CA; 4. Stanford Synchrotron
Radiation Laboratory, Stanford Linear Accelerator Center, Menlo
Park, CA

B.B. Nelson-Cheeseman1, R.V. Chopdekar2,1, M.F. Toney3,
E. Arenholz2 and Y. Suzuki1,1. Materials Science and Engineering,
University of California, California, Berkeley, CA; 2. School of
Applied and Engineering Physics, Cornell University, Ithaca, NY;
3. Advanced Light Source, Lawrence Berkeley National
Laboratory, Berkeley, CA; 4. Stanford Synchrotron Radiation
Laboratory, Stanford Linear Accelerator Center, Menlo Park, CA

perovskite oxide, LaCaMnCoO6. R.N. Mahato1, K. Sethupathi1,
V. Sankaranarayanan1, N. Rirmala1 and A.K. Nigam1.1.
Department of Physics, Indian Institute of Technology Madras,
Chennai, India; 2. Department of Condensed Matter Physics and
Materials Science, Tata Institute of Fundamental Research,
Mumbai, India
ES-14. First-order magnetic phase transition in FeRh-Pt thin films. 
W. Lu1, N.T. Nguyen1 and T. Suzuki1. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Japan

ES-15. Electrical transport and Magnetism in Mo-substituted R,Ti,Ge4 (R = Tb, Er) compounds. R. Nirmala1, K. Nagamanasa1 and A.K. Nigam1. Department of Physics, Indian Institute of Technology Madras, Chennai, India; 2. School Of Physical Sciences, Jawaharlal Nehru University, New Delhi, India; 3. Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai, India

ES-16. Local magnetic properties of Gd12Co5Bi and Y12Co5Bi studied by Muon Spin Resonance. M. Egilmez1, K.H. Chow2, A.W. MacFarlane1, I. Fan1, D.S. Martin1, A.I. Mansour1, J.A. Jung1, B. Hitti4, A.V. Tkachuk1 and A. Mar31. Physics, University of Alberta, Edmonton, AB, Canada; 2. Chemistry, University of British Columbia, Vancouver, BC, Canada; 3. Chemistry, University of Alberta, Edmonton, AB, Canada; 4. TRIUMF, Vancouver, BC, Canada

ES-17. Anisotropy Relaxation of Non-Magnetic Indium Ion Doped Nickel Chromite. S. Park1, H. Choi1 and C. Kim1. Department of Physics, Kookmin University, Seoul, South Korea

ES-18. Ferrimagnetism in strained Fe2As thin films on Si (001). Y. Hwang1, J. Choi1, W. Feng1, J. Kim1, S. Cho1 and J. Ketterson2. Physics, University of Ulsan, Ulsan, South Korea; 2. Physics, Kookmin University, Seoul, South Korea

ES-19. Preparation and magnetic properties of pure Fe16N2 powder. S.G. Sankar1, B.J. Zande1, S. Simizu1 and R.T. Obermyer1. Advanced Materials Corporation, Pittsburgh, PA

Thursday Morning 8:00

AUSTIN BALLROOM

Session ET

PERPENDICULAR MEDIA II

(POSTER SESSION)

Hua Yuan, Chair


ET-02. Small and highly oriented Ru grains in intermediate layer realized by suppression of relaxation of low-angle grain boundaries for perpendicular recording media. N. Itagaki1, S. Saito1 and M. Takahashi21. Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan

EU-01. Modeling of soliton dynamics for spin torque nano-oscillators with a perpendicular free layer. T. Silva1, M. Hoefer1, M. Schneider1, W. Rippard1 and J. Shaw1. Magnetics Group, NIST, Boulder, CO; 2. Physics and Astronomy Dept., University of Montana, Missoula, MT

ET-03. Uniaxial magnetocrystalline anisotropy for c-plane oriented Co98Mo1Mx (M: Cr, Mo, W) film with stacking faults. S. Hinata1, R. Yanagisawa1, S. Saito1 and M. Takahashi21. Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan

ET-04. Microstructural difference in CoPt-TiO2/CoCrPt-SiO2 stacked media with stacking order difference and their coercivity. S. Park1, S. Kim1 and T. Lee1. Dept. of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, South Korea

ET-05. Grain size effect on magnetic properties of CoPt with additive SiO2. Y. Yang1, J. Chen1 and G. Chow1. Materials Science and Engineering, National University of Singapore, Singapore, Singapore

ET-06. The study of substrate bias on the magnetic properties and mechanical property of CoCrPt-oxide perpendicular recording media. C. Wang1. Seagate Technology, Fremont, CA

ET-07. Effect of magnetic softness in a soft layer on media properties in hard/soft stacked composite perpendicular media. H. Jung1, S.S. Malhotra1, B.R. Acharya1, G. Bertero1 and D. Sues1. Western Digital Media Inc., San Jose, CA; 2. Vienna University of Technology, Vienna, Austria

ET-08. Interlayer coupling and switching field of exchange coupled composite media. K.K. Pandey1, J. Chen1, J. Hu1, B. Lim2 and G. Chow1. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore

ET-09. Effect of PMR Media Nucleation Field on Thermal Stability. Z. Shi1, K. Tang1, J. He1, J. Zhang1 and S. Duan1. Hitachi GST, San Jose, CA

ET-10. Influence on the recording performance due to the control of oscillatory interlayer interaction in perpendicular recording media. K. Shintaku1. Akita Research Institute of Advanced Technology, Akita Prefectural R&D Center, Akita, Japan

Thursday Evening 8:00

AUSTIN BALLROOM

Session EU

DYNAMICS AND DAMPING

(POSTER SESSION)

Takahiro Moriyama, Chair

EU-01. Modeling of soliton dynamics for spin torque nano-oscillators with a perpendicular free layer. T. Silva1, M. Hoefer1, M. Schneider1, W. Rippard1 and J. Shaw11. Magnetics Group, NIST, Boulder, CO; 2. Physics and Astronomy Dept., University of Montana, Missoula, MT
EU-02. Field dependence of rectification of radio frequency current in a single layered ferromagnetic wire. A. Yamaguchi1,2, H. Miyajima3 and Y. Nakatani1. Keio University, Yokohama, Japan; 2. PRESTO, JST, Honcho Kawaguchi, Japan; 3. University of Electro-communications, Chofugaoka 1-5-1, Chofu, Tokyo, Japan

EU-03. Mesofrequency magnetisation reversal dynamics probed by dynamic magneto-optical and dynamic magnetoresistance measurements. N. Steinke1, J. LLandro1, B. Hong1, T.A. Moore2 and C.H. Barnes1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. SPINTEC, Grenoble, France

EU-04. Excitation of magnetization dynamics in patterned thin films using surface acoustic waves. A. Baruth1 and S. Adenwalla1. Physics, University of Nebraska - Lincoln, Lincoln, NE

EU-05. Frequency modulation effect on microwave assisted magnetization switching. S. Okamoto1, N. Kikuchi1 and O. Kitakami1. IMRAM, Tohoku University, Sendai, Japan

EU-06. Multiple NMR spin echoes in magnets: the echo structure and potential applications. A.M. Akhalkatsi1, T.A. Gavasheli2, T.O. Gegechkori1, G.I. Mamniashvili1, Z.G. Shermadini1 and W.G. Clark2. Department of Condensed Matter Physics, Andronikashvili Institute of Physics, Tbilisi, Georgia; 2. Department of Exact Sciences, Tbilisi State University, Tbilisi, Georgia; 3. Department of Physics and Astronomy, UCLA, Los Angeles, CA

EU-07. Energy band and band gap engineering of dipole-exchange spin wave modes in nanostripe magnonic crystals by nanostripe-width modulation. K. Lee1, D. Han1 and S. Kim1. Research Center for Spin Dynamics & Spin-Wave Devices and Nanospinics Laboratory, Department of Materials Science and Engineering, College of Engineering, Seoul National University, Seoul, South Korea


EU-10. Microscopic description of Gilbert damping coefficient based on the s-d model. A. Sakuma1, N. Yamada1 and H. Tsuchiura1. Applied Physics, Tohoku University, Sendai, Japan

EU-11. Low damping constant for Co5FeAl Heusler alloy films and its correlation with density of states. S. Mizukami1, M. Watanabe1, M. Oogane2, Y. Ando2, Y. Miura3, M. Shira2 and T. Miyazaki1. WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Graduate school of Engineering, Tohoku University, Sendai, Japan; 3. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan

EU-12. Effect of temperature on the ferromagnetic resonance linewidth (ΔH) of epitaxial Fe thin films. B.K. Kuan1, V. Veerakumari1, R.E. Camley2 and Z. Celinski1. Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO

THURSDAY MORNING 8:00

AUSTIN BALLROOM

Session EV

MULTILAYERS AND SUPERLATTICES

(POSTER SESSION)

Brian Kirby, Chair

EV-01. Perpendicular interlayer coupling and magnetic domain structure in [Co/Pd]/Co/Ru/[Co/Pd]m multilayers. Y. Fu1, S. Ishio1, T. Wang1, T. Hasegawa1 and H. Saito1. Akita University, Akita, Japan

EV-02. The intermixing induced perpendicular magnetic anisotropy in ultrathin Co/Pt multilayers. C. Su2, S. Lo3, J. van Lierop4, K. Lin5 and H. Ouyang5. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. National Chung Hsing University, Taichung, Taiwan; 3. Industrial Technology Research Institute, Hsinchu, Taiwan; 4. University of Manitoba, Winnipeg, MB, Canada

EV-03. Antiparallel orange-peel coupling in Co/Ni spin-valves with perpendicular anisotropy. A.M. Deac1,3, J.M. Shaw1, W.H. Rippard1, T.J. Silva1 and D.H. Smith2. Electromagnetics Division, National Institute of Standards and Technology (NIST), Boulder, CO; 2. Department of Physics, Arizona State University, Tempe, AZ; 3. Institut fuer Festkoerperforschung, Forschungszentrum Juelich GmbH, Juelich, Germany

EV-04. Magnetic phase separation and domain wall transition in coupled [Co/Pd] multilayers with perpendicular magnetic anisotropy. L.Y. Zhu1, D. Clarke2 and C.L. Chien1. Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD

EV-05. Dynamic behavior of a superferromagnetic metal-insulator multilayer observed by magneto-optic Kerr microscopy. S. Bedanta1, R. Rhensius1,2, W. Kleemann1, S. Cardoso1 and P.P. Freitas1. Angewandte Physik, Universität Duisburg-Essen, Duisburg, Germany; 2. Fachbereich Physik, Universität Konstanz, Konstanz, Germany; 3. INESC, Lisbon, Portugal
EV-06. Magnetocaloric properties of Co/Cr superlattices.
T. Mukherjee1, S. Sahoo1, R. Skomski1, D.J. Sellmyer1 and C. Binek1. Physics & Astronomy, University of Nebraska, Lincoln, Lincoln, NE

EV-07. Interlayer exchange coupling in Co2FeAl0.5Si0.5/Cr/Co2FeAl0.5Si0.5 trilayers. T. Furubayashi1, K. Kodama2, H.S. Goripati2, Y.K. Takahashi2, K. Inomata3 and K. Hono3.1. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Japan; 2. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan

EV-08. Evaluation of distribution of exchange coupling in CoFe/Ru/CoFe synthetic antiferromagnetic structure after annealing. T. Takenaga1, H. Takada1, T. Tomohisa1, T. Furukawa1, T. Kuroiwa1 and K. Yoshiara1. Advanced Technology & R&D Center, Mitsubishi Electric Corp., Amagasaki, Hyogo, Japan

EV-09. The alignment of magnetic moments in Gd/NiFe sputtered multilayer films. H. Miyagawa1,2, F.J. Castah0, B.G. Ng1, C. Nam1 and C.A. Ross1. Faculty of Engineering, University of Cambridge, Cambridge, United Kingdom; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA

EV-10. Temperature-dependent interlayer exchange coupling in epitaxial (001) NiO/Fe3O4/MgO/Fe3O4 exchange biased nanostructures. H. Wu1, O.N. Myasyov2 and I.V. Shvets1. CRANN, School of Physics, Trinity College Dublin, Dublin, Ireland; 2. Seagate Technology, Pittsburgh, PA

THURSDAY MORNING 8:00

Session EW
SEMICONDUCTOR SPIN INJECTION AND TRANSPORT (POSTER SESSION)
Ron Jansen, Chair

EW-01. Conductance modulation in anisotropic Rashba ring interferometer. M.B. Jalil1 and S. Tan1. Information Storage Materials Laboratory, Electrical and Computer Engineering Department, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore

EW-02. Magnetically tunable spin filtering in semiconductor nanowires with symmetrically distributed Rashba spin-orbit coupling. R. Zhang1, X. Wu1, R. Peng2, D. Li1, F. Gao1, J. Li1 and M. Wang1. National Laboratory of Solid State Microstructures, Nanjing, China

EW-03. Gate-Controlled Spin-Orbit Interaction in a Double-sided doped InAs Quantum well structure. K. Kim1,2, H. Kim1,2, H. Koo1, J. Chang1, S. Han1 and Y. Kim2.1. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, 136-791, South Korea; 2. Department of Advanced Material Science and Engineering, Korea University, Seoul, 136-713, South Korea

EW-04. Utilizing the Dresselhaus spin-orbit effect to quantify the traversal time of electrons across a tunneling barrier. M.B. Jalil1, M. Jalil1 and S. Tan1. Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore

EW-05. Generation and electrical detection of spin-polarized currents in cascaded InAs spin-filters. J. Jacob1, G. Meier1, S. Peters1, T. Matsuyama1 and U. Merkt1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany

EW-06. Extraction of the pure spin-polarised current in FM/IGaAs structure by optical excitation. K. Lee1, T. Trypiniotis1, H. Kurebayashi1, S.N. Holmes1,2, W.S. Cho1, J.A. Bland1, C.H. Barnes1 and K.H. Shin1. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 2. Toshiba Research Europe Limited, Cambridge, United Kingdom; 3. Nano Device Research Centre, Korea Institute of Science and Technology, Seoul, South Korea

EW-07. Tunneling magnetoresistance in Ga1-xMnxAs/Al-O/CoFeB hybrid structures. G. Du1, M.R. Babu1,2, X. Han1, J. Deng2, W. Wang2 and J. Zhao2. 1. State Key Laboratory of Magnetism, Institute of Physics, CAS, Beijing, China; 2. State Key Laboratory for Superlattices and Microstructures, Institute of Semiconductors, CAS, Beijing, China; 3. Crystal growth center, Anna University, Chennai, India

EW-08. Hot electron transport in fully epitaxial magnetic tunnel transistor with a MgO barrier. T. Nagahama1, H. Saito1,2 and S. Yuasa1. Nano-electronics research institute, AIST, Tsukuba, Ibaraki, Japan; 2. PRESTO, JST, Chiyoda-ku, Tokyo, Japan

EW-09. Spin injection through MgO tunnel barrier in an InAs quantum well semiconductor. S.H. Shim1,2, J. Chang1, Y. Park1,3, Y. Lee2, J. Moodera3 and S. Han1. 1. National Laboratory of Solid State Microstructures, Institute of Physics, CAS, Beijing, China; 2. Center for Spintronics Research, Korea Institute of Science and Technology, Seoul, South Korea; 3. National Research Laboratory for Nano Device Physics, Dept. of Physics, Korea University, Seoul, South Korea; 3. Francis Bitter Magnet Laboratory, Massachusetts Institute of Technology, Cambridge, MA

EW-10. Effect of polymer processing on spin MR in organic structures. D. Dhandapani1, A. Rao1, N.A. Morley1, A. Das2, M. Grell2 and M.R. Gibbo1. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. Department of Physics and Astronomy, University of Sheffield, Sheffield, United Kingdom


EW-12. Superconducting tunneling through a ferromagnetic tunnel barrier: EUS. M. Costache1, M. Muller1 and J. Moodera1. MIT, Cambridge, MA
EW-13. Unusual electronic properties of spin capacitor embedded by laser induced Co nanocrystals. J. Lee1, K. Kim1, J. Yang1 and J. Hong1. 1. Department of Physics, Hanyang University, Seoul, South Korea; 2. Photovoltaic technology team, Power & Industrial Systems R&D Center of Hyosung, Gyeonggi-do, South Korea

THURSDAY AFTERNOON

2:00

Session FA

SYMPOSIUM ON RECENT DEVELOPMENTS IN SPIN TRANSFER TORQUE

Ilya Krivorotov, Chair

FA-01. The Spin-Transfer-Torque Vector in MgO-Based Magnetic Tunnel Junctions and All-Metal Spin Valves. (Invited) D. Ralph1. Physics Department, Cornell University, Ithaca, NY

2:36

FA-02. Spin-Transfer Induced Coherent Microwave Emission With Large Power From Nanoscale MgO Tunnel Junctions and All-Metal Spin Valves. (Invited) D. Houssameddine1, S.H. Florez1, J.A. Katine1, J. Michel1, U. Ebels1, D. Mauri3, O. Ozatay3, B. Delaert3, B. Viala3, L. Folks3, B.D. Terris3 and M. Cyrille1. 1. SPINTEC, CEA, CNRS, UJF, INPG, Grenoble, France; 2. CEA-LETI –MINATEC, Grenoble, France; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA; 4. Hitachi Global Storage Technologies, San Jose, CA

3:12

FA-03. Spin Transfer Driven Dynamics in Perpendicularly Magnetized CoNi Nanocontacts. (Invited) B. Ripillard1. NIST, Boulder, CO

3:48

FA-04. Measurement of phase-locking of a Spin-Transfer Nano-Oscillator to an external signal in the presence of noise : a milestone for the synchronization of a large assembly of STNOS. (Invited) J. Grolier1, B. Georges1, M. Darques1, V. Cros1, C. Deranlot1, B. Marcilhac1, G. Faini2 and A. Fert1. Unité Mixte de Physique CNRS/Institut de Physique des Nanostructures LPM/CNRS, Marcoussis, France

4:24

FA-05. Analytic theory of phase-locking of spin torque oscillators and oscillator arrays. (Invited) V. Tyberkevych1 and A. Slavin1. Department of Physics, Oakland University, Rochester, MI
FB-06. Hysteresis loop collapse for linear response in magnetic-tunnel-junction sensors. W.F. Egelhoff1, P. Pong1, A.J. Shapiro1, R.D. McMichael1 and B. Schrug1. 1. NIST, Gaithersburg, MD; 2. MicroMagnetics, Falls River, RI

FB-07. Exploiting Nonlinearity in a Coupled Core Fluxgate Magnetometer. A. Bulsara1, V. In1, J. Neff1, A. Kho1, S. Baglio2 and B. Ando2. 1. SPAWAR Systems Center, San Diego, CA; 2. Electrical and Electronic Engineering, Univ di Catania, Catania, Italy

FB-08. Highly sensitive “flux-spin” multi channel magnetometers. P. Vetoshko1, M. Valeiko2, I. Syvorotka2 and P. Nikitin1. 1. Institute of Radioengineering and Electronics, Academy of Science of Russia, Moscow, Russian Federation; 2. General Physics Institute of Russian Academy of Sciences, Moscow, Russian Federation; 3. Institute of Materials, Lviv, Ukraine


FB-10. High sensitivity magnetic gas sensing using magnetic semiconductor nanoparticles. A. Thurber1, A. Punnoose1 and K.M. Reddy1. 1. Physics, Boise State University, Boise, ID

FB-11. A Composite Magnetic Sensor Using SAW Resonator and Terfenol-D. M. Zheng1, Y. Wen1 and P. Li1. 1. The Key Lab for Optoelectronic Tech & Sys., Ministry of Education, ChongQing, China; 2. College of Optoelectronic Engineering, Chongqing University, ChongQing, China

SESSION FC

RECORDING SYSTEMS AND PATTERNED MEDIA II

Harry Edelman, Chair

FC-01. A comparison of nanosphere lithography and block copolymer templating for patterning CoPt/CoPtCr perpendicular media. X. Li1,2, S. Gupta1,2, M. Curry1 and M. Bakker1. 1. MINT Center, The University of Alabama, Tuscaloosa, AL; 2. MicroFabrication Facility, The University of Alabama, Tuscaloosa, AL

FC-02. Planar patterned media fabricated by ion irradiation into CrPt, ordered alloy films. T. Kato1, Y. Yamauchi1, S. Iwata1, S. Tsunashima2, K. Matsumoto2, T. Morikawa2 and K. Ozaki1. 1. Department of Quantum Engineering, Nagoya University, Nagoya, Aichi, Japan; 2. Department of Electrical Engineering and Computer Science, Nagoya University, Nagoya, Aichi, Japan; 3. Advanced Technology Department, Yamagata Fujitsu Ltd., Higashine, Yamagata, Japan; 4. Storage Technologies Laboratory, Fujitsu Laboratories Ltd., Akashi, Hyogo, Japan

FC-03. Patterned media with composite layers to overcome writability beyond 5 Tb/in2. R. Sbiaa1, K. Aung1, S. Piramanayagam1 and E. Tan1. 1. Data Storage Institute, Singapore, Singapore

FC-04. A novel bit-patterned media structure to reduce switching field distribution. S. Piramanayagam1, K. Aung1, S. Deng1,2 and R. Sbiaa1. 1. A*STAR (Agency for Science Technology and Research), Data Storage Institute, Singapore, Singapore; 2. National University of Singapore, Singapore, Singapore

FC-05. Magnetic properties and topography of Gallium-dosed CoCrPt perpendicular media. T.W. Clinton1, L. Sun1,2, L. Chang1,2 and R. Van de Veerdonk1. 1. SeaGate Research, Seagate Technology, Pittsburgh, PA; 2. Department of Physics, University of Maryland, College Park, MD; 3. Department of Electrical & Computer Engineering, University of Houston, Houston, TX

FC-06. Planarization of amorphous carbon films on patterned media using gas cluster ion beams. N. Toyoda1, K. Nagato2,3, H. Tani1, Y. Sakane1, M. Nakao2, T. Hamaguchi2 and I. Yamada1. 1. Incubation center, Graduate school of engineering, University of Hyogo, Himeji, Hyogo, Japan; 2. Department of Engineering Synthesis, School of Engineering, The University of Tokyo, Bunkyo, Tokyo, Japan; 3. Research Fellow of the Japan Society for the Promotion of Science, Chiyoda, Tokyo, Japan; 4. Department of Mechanical Engineering, Kansai University, Suita, Osaka, Japan; 5. Western Digital Media Operations, San Jose, CA

SESSION FC

THURSDAY SALON A

AFTERNOON

2:00

FC-07. Magnetic force microscopy (MFM) and spinstand testing of multi-array-per-track discrete bit patterned media fabricated by focused ion beam (FIB). Y. Chen1, T. Huang1, S. Leong1, S. Hu1, K. Ng1, Z. Yuan1, B. Zong1, J. Shi1, B. Liu1 and V. Ng1. 1. SMI, Data Storage Institute (A*STAR), Singapore, Singapore; 2. ECE Dept, National University of Singapore, Singapore, Singapore
FC-08. Bit patterned media with cap layer for high density magnetic recording. S. Li, B. Livshitz, E.E. Fullerton, H. Bertram, A. Inomata and V. Lomakin. Department of Electrical and Computer Engineering, University of California San Diego, La Jolla, CA; 2. Center for Magnetic Recording Research, University of California San Diego, La Jolla, CA; 3. Hitachi San Jose Research Center, Hitachi GST, San Jose, CA; 4. Storage and Intelligent Systems Laboratories, Fujiitsu Laboratories Ltd, Atsugi, Japan

FC-09. Analysis of recording in patterned media with geometry and material fluctuation. B. Livshitz, A. Inomata, H.N. Bertram, and V. Lomakin. ECE, UCSD, San Diego, CA; 2. CMRR, UCSD, San Diego, CA; 3. Storage and Intelligent Systems Laboratories, Fujiitsu Laboratories Ltd, Atsugi, Japan

FC-10. Sidetrack thermal erasure for head random off-track writing. M. Benakli and L. Pust. Seagate, Bloomington, MN

FD-01. Induced half-metallic state in Cr-based chalcospinel:
\[ \text{CuCr}_2\text{(Se)}\text{S}_{1-x} \text{E}_x (E=\text{F}, \text{Cl}, \text{Br}), \text{CuCr}_2\text{S(Se)}_{1-x} \text{P}_{x}, \text{CdCr}_2\text{S(Se)}_{1-x} \text{As}_{x} \]
\[ \text{D}_0 (D=\text{N}, \text{P}, \text{As}), \text{Y.A. Wang}, \text{M. Chshiev}, \text{W.H. Butler}, \text{and A. Gupta}. \text{1. Dept. of Chemistry, University of Alabama, Tuscaloosa, AL; 2. Dept. of Physics, University of Alabama, Tuscaloosa, AL; 3. MINT Center, University of Alabama, Tuscaloosa, AL} \]
FD-09. Field induced resistivity anisotropy in SrRuO$_3$ films.
Y. Shperber$^1$, I. Genish$^1$, J.W. Reiner$^2$ and L. Klein$^1$. Physics, Bar Ilan University, Ramat-Gan, Israel; 2. Applied Physics, Yale University, New Haven, CT

3:48

FD-10. Magnetoresistance exceeding 1500% in a thin FeSi film.
N.A. Porter$^1$ and C.H. Marrows$^1$. Condensed Matter, University of Leeds, Leeds, West Yorkshire, United Kingdom

4:00


4:12

FD-12. Magnetic and electrical properties of Ni$_x$Mn$_{3-x}$In$_{15}$Si$_x$ Heusler alloys. A.K. Pathak$^1$, I. Dubenko$^1$, S. Stadler$^1$ and N. Ali$^1$. Department of Physics, Southern Illinois University, Carbondale, IL

THURSDAY SALON D
AFTERNOON

2:00

Session FE
DOMAINS AND SOFT MAGNETIC MATERIALS
Leonard Spinu, Chair

2:00

FE-01. Unusual Tubular Domain Structure and Topological Hysteresis in CeAgSb$_3$ Single Crystals. (Invited) R. Prozorov$^1$, S.L. Bud’ko$^1$ and P.C. Canfield$^1$. Department of Physics & Astronomy, Iowa State University and Ames Laboratory, Ames, IA

2:36

FE-02. Spin configuration of hexagonal shaped ferromagnetic elements in a ring network. S.Y. Lsat$^{1,3}$, S.S. Kushvaha$^2$, Y. Wu$^2$, K. Teo$^2$ and T. Chong$^1$. NUS Graduate School for Integrative Sciences and Engineering, National University of Singapore, Singapore, Singapore; 2. Information Storage Materials Laboratory, Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 3. A*STAR Data Storage Institute, Singapore, Singapore

2:36

FE-03. Investigations on the Permeability of Thin-film Soft Magnetic Structures. C. Raffert$^1$, M. Bedenbecker$^1$ and H.H. Gatzen$^1$. Institute for Microtechnology, Leibniz Universität Hannover, Garbsen, Germany

3:00


3:36

FE-05. Temperature Stability of Field Induced Anisotropy in Fe,Co-Based Amorphous and Amorphous/Nanocrystalline “Nanocomposites” P.R. Ohodnicki$^1$, D.E. Laughlin$^1$, M.E. McHenry$^1$ and V. Keylin$^1$. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA; 2. Magnetics, A Division of Spang & Company, Pittsburgh, PA

3:48

FE-06. Magnetoresistence of a Glass Coated Amorphous Microwire. S. Sinha$^1$ and K. Mandal$^1$. Materials Science, S. N. Bose National Centre for Basic Sciences, Kolkata, West Bengal, India

4:00


4:12

FE-08. ‘In-plane’ and ‘out-of-plane’ uniaxial magnetic anisotropy of amorphous precursors and nanocrystalline FeCuNbSiB alloys. S.N. Kaul$^1$ and G.A. Basheed$^1$. Physics, University of Hyderabad, Hyderabad, Andhra Pradesh, India

4:24

FE-09. Anisotropic Magnetoresistance in single phase and bi-phase microwires. G. Infante$^1$, K. Merazzo$^1$, G. Badini$^1$, F. Batallán$^1$ and M. Víquez$^1$. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain
FF-01. Precession Modes in Exchanged-Coupled Co/Ru/Co Films.
Z. Li, S. Michalski, L. Yue, C. Moir, R. Skomski and R.D. Kirby. Physics and Astronomy, University of Nebraska - Lincoln, Lincoln, NE; 2. Physics and Astronomy, University of California - Irvine, Irvine, CA

2:12

FF-02. Ultrafast Optical Study of Spin Wave Resonance and Relaxation in CoFe/PtMn/CoFe Trilayer Films. Y. Ren, C. Wu, Y. Gong, C. Pettiford and N.X. Sun. Physics & Physics, Hunter College of the City University of New York, New York, NY; 2. Electrical and Computer Engineering, Northeastern University, Boston, MA

2:24


2:36


2:48

FF-05. Spin wave dynamics in a NiFe20 antidot lattice. B. Bötters, S. Neusser, K. Niesch, C.A. Ross and D. Grundler. 1. Physics Department E10, Technical University Munich, Garching, Bavaria, Germany; 2. Institute of Applied Physics, University Hamburg, Hamburg, Hamburg, Germany; 3. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA

3:00

FF-06. Internal Spin-Wave Confinement in Magnetic Nanowires Due to Zig-Zag Shaped Magnetization. J. Topp, J. Podbielski, D. Heitmann and D. Grundler. 1. Institut fuer Angewandte Physik, Universitaet Hamburg, Hamburg, Germany; 2. Physik-Department, Technische Universitaet Muenchen, Garching b. Muenchen, Germany

3:12


3:24


3:36

FF-09. Propagation of spin waves through domain walls in Permalloy thin-film wires: scattering and interference. M. Yan, S. Gliga, R. Hertel and C.M. Schneider. 1. Institute of Solid State Research, Research Centre Jülich, Jülich, Germany

3:48

FF-10. Edge mode interactions in patterned pseudo spin valves. R.D. McMichael. 1. Center for Nanoscale Science and Technology, NIST, Gaithersburg, MD

4:00

FF-11. Dissipation of quantized spin waves in nano-scaled magnetic ring structures. H. Schülle, C.W. Sandweg, B. Obry, S.J. Hermsofer, S. Schafer, V. Tiberkevich, B. Leven, A.N. Slavin and B. Hillebrands. 1. Fachbereich Physik und Forschungsschwerpunkt OPTIMAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. Department of Physics, Oakland University, Rochester, MI
J. Podbielski1, D. Heitmann1 and D. Grundler2
1. Institut fuer Angewandte Physik, Universitaet Hamburg, Hamburg, Hamburg, Germany; 2. Physik-Department, Technische Universitaet Muenchen, Garching b. Muenchen, Germany

FF-13. Finite-element computations of resonant modes for small magnetic particles. G. Miano1, C. Serpico1, M. d’Aquino2 and C. Forestiere1
1. Department of Electrical Engineering, Università degli Studi di Napoli Federico II, Napoli, Italy; 2. Department of Technology, Università di Napoli Parthenope, Napoli, Italy

FF-14. Modification of the thermal spin-wave spectrum in a Ni_{81}Fe_{19} stripe by a domain wall. S.J. Hermdsdoefer1, C.W. Sandweg1, H. Schultheis1, S. Schafer1, B. Leven1 and B. Hillebrands1
1. Fachbereich Physik und Forschungsschwerpunkt OPTIMAS, Technische Universitat Kaiserslautern, Kaiserslautern, Germany

FF-15. Path integral analysis of thermal fluctuations in ferromagnetic nanoparticles. G. Bertotti1, C. Serpico2, C. Ragusa1, M. d’Aquino2, P. Ansalone1 and I. Mayergoyz1
1. INRIM, Torino, TO, Italy; 2. Dept. of Electrical Engineering, University of Naples Federico II, Napoli, NA, Italy; 3. Dept. of Electrical Engineering, Politecnico di Torino, Torino, TO, Italy; 4. Dip. per le Tecnologie, University of Naples Parthenope, Napoli, NA, Italy; 5. Dept. of Electrical and Computer Eng. and UMLIACS, University of Maryland, College Park, MD

FG-02. Adjustable Superconducting Anisotropy in MoGe - Permalloy Hybrids. G. Karpetsrow1, A. Belkin2, V. Novosad1, M. Iavarone1 and J.E. Pearson1
1. Materials Science Division, Argonne National Lab, Argonne, IL; 2. Physics Division, Illinois Institute of Technology, Chicago, IL

FG-03. Structural and magnetic properties of CoFeB/MgO multilayers. M. Vadal1, K. Zherenkov1, B. Toperverg1, H. Zabel1, H. Kubota1 and S. Yuasa2
1. Physics and Astronomy, Ruhr-University Bochum, Bochum, Germany; 2. Nanoelectronics Research Institute, AIST, Tsukuba, Japan

THURSDAY 400/402 AFTERNOON

2:00

Session FG
MULTILAYERS, INTERFACES, AND SURFACES
Casey Miller, Chair

2:00

FG-01. Manipulation of superconductivity by domain wall arrangements in ferromagnet-superconductor hybrids. L.Y. Zhu1, Y. Chen1 and C.L. Chien1
1. Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD

FG-05. Spatially resolved spectroscopy of MgO-Fe(100)-MgO(100) structure. J. Lee1,2, C. Kraft1 and R.D. Gomez1
1. Electrical and Computer Engineering, University of Maryland, College Park, MD; 2. Laboratory for Physical Sciences, College Park, MD

FG-06. Entropy change for magnetic phase transition in CoNi/Gd and CoFe/Gd nanolayers. M.R. Hossu1, Y. Hao2 and A.R. Kyomen1
1. Department of Physics, The University of Texas at Arlington, Arlington, TX; 2. Department of Material Science and Engineering, The University of Texas at Arlington, Arlington, TX

FG-07. X-Ray Evidence for Mesoscopic Relaxations in Cobalt Nanoislands on Cu(001). H.L. Meyerheim1, O. Mironets1, C. Tusche2, V.S. Stepanyuk3, P. Zschack2, H. Hong1, N. Jeutter4, R. Felici2 and J. Kirschner1
1. Max-Planck-Institut f. Mikrostrukturphysik, Halle, Germany; 2. APS Argonne National Laboratory, Argonne, IL; 3. University of Illinois at Urbana Champaign, Urbana, IL; 4. European Synchrotron Radiation Facility, F-38043 Grenoble, France
FG-08. Characterization of magnetic interface roughness and magnetic domain structure in a magnetic multilayer using soft x-ray resonant magnetic scattering. D.R. Lee1, J. Park2, Y. Choi2, J.W. Freeland3 and J.S. Jiang4. 1. Beamline Division, Pohang Accelerator Laboratory, Pohang, Gyeongbuk, South Korea; 2. Department of Physics, Pohang University of Science and Technology, Pohang, Gyeongbuk, South Korea; 3. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 4. Materials Science Division, Argonne National Laboratory, Argonne, IL

FG-09. Chirality in Dy/Y multilayer system. D. Lot1, S.V. Grigoriev2, Y.O. Chetverikov2 and A. Schreyer1. 1. GKSS research center, Geesthacht, Germany; 2. Petersburg Nuclear Physics Institute, Gatchina, Russian Federation

FG-10. Exchange coupling in zero-magnetization ferromagnet based systems: a selective XMCD study. K. Dumesnil1, M. Ungureanu1, C. Dufour1, F. Wilhelm1 and A. Rogalev1. 1. LPM, Vandoeuvre les Nancy, France; 2. ESRF, Grenoble, France

FG-11. Realization of low-loss dual tunable ferrite-ferroelectric layered structures for microwave applications. J. Das1, Y. Song1, N. Mo1 and C.E. Patton1. 1. Physics, Colorado State University, Fort Collins, CO

FG-12. The role of the spin-density wave and disorder in the density of states of sputtered Cr films. D.W. Cooke1, D.R. Queen1, Z. Boekelheide1 and F. Hellman1. 1. Institute for Materials Research, University of Salford, Manchester, United Kingdom; 2. Advanced Light Source Division, Lawrence Berkeley National Laboratory, Berkeley, CA

FG-13. Temperature-dependence x-ray magnetic circular dichroism in ultra thin film Fe on GaAs(001) at the Fe L2,3 edges. N. Wang1, J. Thompson1, W. Guan1, W. Li1, T. Shen1, S.A. Morton1 and E. Arenholz1. 1. Institute for Materials Research, University of Salford, Manchester, United Kingdom; 2. Advanced Light Source Division, Lawrence Berkeley National Laboratory, Berkeley, CA

FG-14. The effect of organic under-layer and thickness on morphology and magnetic properties of sputtered Permalloy films. S.N. Ahmad1 and S.A. Shaheen1. 1. Physics, Florida State University, Tallahassee, FL

FG-15. Surface Effects in Nanoclusters and Cluster-Assembled Thin Films. A. Pratt1, C.W. Woffinden1, S.P. Tear1 and C. Binns1. 1. Department of Physics, University of York, York, YO10 5DD, United Kingdom; 2. Department of Physics and Astronomy, University of Leicester, Leicester, LE1 7RH, United Kingdom
FH-04. Improvement of size and magnetic properties of Nd$_{9.5}$Fe$_{72.5}$Ti$_3$B$_{15}$ bulk magnets by Zr or Nb substitution for Ti. H. Chang$^{1,2}$, Y.T. Cheng$^1$, C.W. Chang$^1$, C.C. Hsieh$^1$, Z.H. Guo$^1$, W.C. Chang$^1$, A.C. Sun$^1$ and Y.D. Yao$^1$. Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. Department of Physics, National Taiwan University, Taipei, Taiwan; 4. Department of Materials Engineering, Tatung University, Taipei, Taiwan


FH-06. First-Principles Calculation of the Crystal Field Parameter near the Surfaces and the Interfaces of Nd$_2$Fe$_{14}$B. H. Moriya$^1$, H. Tsuchiura$^1$ and A. Sakuma$^1$. Department of Applied Physics, Tohoku University, Sendai, Japan; 2. Mechanical Engineering Research Laboratory, Hitachi, Ltd., Hitachinaka, Japan

FH-07. Magnetic properties and microstructure of gas atomized MRE(Fe, Co)$_{14}$B powder with ZrC addition (MRE=Nd+Y+Dy). W. Tang$^1$, Y.Q. Wu$^1$, K.W. Dennis$^1$, N. Oster$^1$, M.J. Kramer$^1$, I.E. Anderson$^1$ and R.W. McCallum$^1$. Iowa State University, Ames, IA

FH-08. Nd$_{6}$Fe$_{8}$B/soft magnetic wires nanocomposite magnets with enhanced properties. N. Lupu$^1$, M. Grigoras$^1$, M. Lostun$^1$ and H. Chiriac$^1$. Magnetic Materials and Devices, National Institute of Research and Development for Technical Physics, Iasi, Romania

FH-09. Relationship Between the Supplied Electrical Energy and the Magnetic Properties of Fe$_3$B/Nd$_2$Fe$_{14}$B Bulk Nanocomposite Magnets Prepared by Spark Plasma Sintering. T. Fukuzaki$^1$, K. Tanaka$^1$, K. Nishio$^2$ and R. Tamura$^{1,2}$. Polyscale Technology Research Center, Tokyo University of Science, Noda-shi, Chiba-ken, Japan; 2. Department of Materials Science and Technology, Tokyo University of Science, Noda-shi, Chiba-ken, Japan

FH-10. Crystallization Behavior under Pressure of (Nd,Pr)13Fe80Nb1B6 melt-spun ribbons. X. Liu$^1$, J. Pan$^1$, P. Guo$^1$ and W. Zhang$^1$. Ningbo University, Ningbo, China; 2. Ningbo Institute of Materials Science of Technology and Engineering, Ningbo, Zhejiang, China

FH-11. Graded Permanent Magnets. R. Skomski$^3$, G.C. Hadjipanayis$^2$ and D.J. Sellmyer$^1$. Nebraska Center for Materials and Nanoscience and Department of Physics and Astronomy, University of Nebraska, Lincoln, NE; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE

FH-12. Crystallographic and magnetic properties of SrM film on various underlayers and substrates. A. Kaewrawang$^1$, G. Ishida$^1$, X. Liu$^1$ and A. Morisako$^1$. Information Engineering, Shinshu University, Nagano, Nagano, Japan

FH-13. Grain-size dependent correlation of spin misalignment in nanocrystalline Gadolinium. F. Döbrich$^1$, M. Elmas$^1$, A. Ferdinand$^1$, J. Markmann$^1$, M. Sharp$^2$, J. Kohlbrecher$^3$, R. Birringer$^1$ and A. Michels$^1$. 1. Technical Physics, Universität des Saarlandes, Saarbrücken, Germany; 2. GKSS Forschungszentrum, Geesthacht, Germany; 3. Paul Scherrer Institute, CH-5232 Villigen PSI, Switzerland


THURSDAY AUSTIN BALLROOM AFTERNOON

1:00

Session FP

MAGNETIC TUNNEL JUNCTIONS AND SPIN INJECTION

(POSTER SESSION)

Marius Costache, Chair
John Philip, Chair
Applied Physics And Physico-Informatics, Keio University,  
Yokohama, Japan; 2. Institute for Materials Research, Tohoku  
University, Sendai, Japan

FP-03. Thermo-spin effects in ferromagnetic/paramagnetic metallic  
films. K. Uchida1, K. Hariri1, T. Ota1 and E. Saitoh1.  
Department of Applied Physics & Physico-Informatics, Keio University,  
Yokohama, Japan

FP-04. Local generation and detection of spin currents in a  
nanostructured NiFe system. K. Suse1, K. Ando1, K. Hariri1  
and E. Saitoh1. Applied Physics and Physico-Informatics, Keio  
University, Kanagawa, Japan

FP-05. Correlation effect on the half-metallicity of the Co2FeSi full  
Heusler alloy ; bulk and surfaces. M. Kim1 and J. Lee1.  
Energy System Research, Ajou University, Suwon, South Korea; 2.  
Physics, Inha University, Incheon, South Korea

FP-06. Electrical Spin Injection and Detection in Semimetallic and  
Semiconducting Films. K. Lee1, W. Lee2, J. Chang3, S. Han3,  
K. Shin1, W. Jeong1 and M. Johnson1. Center for Spintronics  
Research, Korea Institute of Science and Technology, Seoul, South  
Korea; 2. Department of Materials Science and Engineering,  
Yonsei University, Seoul, South Korea; 3. Naval Research  
Laboratory, Washington, DC

FP-07. Rectifying characteristics and transport behavior of  
La0.7Hf0.3MnO3 / Nb-doped SrTiO3 heteroepitaxial junctions.  
L. Wang1 and J Gao1. Physics, The University of Hong Kong,  
Hong Kong, China

FP-08. Orientation dependence of Schottky barrier heights for  
La0.7Sr0.3MnO3/Nb: SrTiO3 heterojunctions.  
M. Minohara1, Y. Furukawa2, R. Yasuhara3, H. Kumigashira3 and  
M. Oshima1. Graduate School of Arts and Sciences, The University  
of Tokyo, Tokyo, 153-8902, Japan; 2. Department of Applied Chemistry,  
The University of Tokyo, Tokyo, 113-8656, Japan; 3. JST-CREST,  
UTSRRO, The University of Tokyo, Tokyo, 113-8656, Japan; 4.  
Department of Applied Chemistry, JST-CREST, UTSRRO, The  
University of Tokyo, Tokyo, 113-8656, Japan

FP-09. Magneto- and Electroresistance of  
La0.7Sr0.3MnO3/Nb: SrTiO3 junctions. Y. Chen1,2 and  
M. Ziese1.  
1. University of Electronic Science and Technology of  
China, Chengdu, China; 2. University of Leipzig, Leipzig, Germany

FP-10. Spin Polarized Transport in an Asymmetric  
Ferromagnetic/Quantum Dot/Ferromagnetic System. M. Ma1,  
M. Bin Abdul Jalil1 and S. Tan1. Department of Electrical and  
Computer Engineering, Information Storage Materials  
Laboratory, Singapore, Singapore; 2. Data Storage Institute,  
Singapore, Singapore

FP-11. Field-annealing effect on magnetostription and tunneling  
magneto-resistance of Co/AI2O3/Co/IrMn junctions. Y. Chen1.  
Department of Materials Science and Engineering, I-Shou  
University, Kaohsiung, Taiwan

FP-12. Study of Correlation in Tunneling Magnetoresistance with  
Infrared Magneto-transmission Effect in Magnetic Tunneling  
Junction Films. J.R. Scheuermann1, S.T. Malak1, Z. Wen2,  
X. Han1 and J. Wang1. Department of Physics, Applied Physics,  
and Astronomy, Binghamton University, Binghamton, NY; 2. State  
Key Laboratory of Magnetism, Beijing National Laboratory for  
Condensed Matter Physics, Institute of Physics, Chinese Academy  
of Science, Beijing 100190, China

FP-13. Spin-transport in the magnetic semiconductor EuO and its  
integration with Si(100). M. Miller1, G. Miao1 and  
J.S. Moodera1. Francis Bitter Magnet Laboratory, Massachusetts  
Institute of Technology, Cambridge, MA

FP-14. Current-induced resistance oscillation in (Ga,Mn)As-based  
double-barrier magnetic tunnel junctions. J. Okabayashi1,  
M. Watanabe1 and J. Yoshino1. Department of Physics, Tokyo  
Institute of Technology, Meguro-ku, Tokyo, Japan

FP-15. EuO spin filter thin films by pulsed laser deposition.  
J. Beukers1, A. Brinkman1 and H. Hilgenkamp1. MESA+ Institute  
for Nanotechnology, University of Twente, Enschede, Netherlands

FP-16. Manganite-based Magnetic Tunnel Junction with Piezoelectric  
Barrier. A.K. Pradhan1, R. Mundle3, R. Konda1, D. Sahu1,  
J. Huang2 and D. Nikonov3. Center for Materials research,  
Norfolk State University, Norfolk, VA; 2. Department of Materials  
Science & Engineering, National Cheng Kung University, Tainan,  
Taiwan; 3. Intel Corp., Santa Clara, CA

FP-17. Tunable Coupling in CrO2 Via RuO2 Layers. H.R. Sims1,2  
and W.H. Butler1,2.  
1. Physics, University of Alabama, Tuscaloosa, AL; 2. Center  
for Materials for Information Technology, University of Alabama,  
Tuscaloosa, AL

FP-18. XMCD analysis of LSMO/XTO interfaces (X-Sr, Ba).  
D. Mazumdar2 and A. Gupta1,2. MINT center, University of  
Alabama, Tuscaloosa, AL; 2. Department of Chemistry, University  
of Alabama, Tuscaloosa, AL

THURSDAY
AFTERNOON
1:00

Session FQ
THIN FILM GROWTH AND  
CHARACTERIZATION  
(POSTER SESSION)
Yaowu Hao, Chair

FQ-01. Anomalous growth-mode transition during the initial growth  
of epitaxial SrRuO3 films on single-terminated SrTiO3 (111).  
J. Chang1, Y. Park2, J. Lee3 and S. Kim1.  
1. Research Center for Spin  
Dynamics & Spin-Wave Devices and Nanomagnetics Laboratory,  
Department of Materials Science and Engineering, College of  
Engineering, Seoul National University, Seoul, South Korea
FQ-02. Preparation and structure characterization of SmCo₅(0001) epitaxial thin films grown on Cu(111) underlayers. M. Ohtake, Y. Nukaga, F. Kirino and M. Futamoto. Faculty of Science and Engineering, Chuo University, Tokyo, Japan; 2. Graduate School of Fine Arts, Tokyo National University of Fine Arts and Music, Tokyo, Japan

FQ-03. Magnetic Phase Diagram of Ultrathin Fe-Films on Cu(001) obtained using SEMPA in Magnetic DC Field. N. Saratz, A. Lichtenberger, T. Bühler, U. Ramsperger and D. Pesca. Laboratory for Solid State Physics, ETH Zurich, Zürich, Switzerland

FQ-04. Iron-Nitride Thin Films with Different Phases. N. Ji, Y. Xu, X. Liu and J.P. Wang. The Center for Micromagnetics and Information Technologies (MINT) and Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN

FQ-05. Structure and magnetic properties of Ni and NiFe thin films epitaxially grown on MgO(100) single-crystal substrate. T. Tanaka, M. Ohtake, F. Kirino, N. Izabu and M. Futamoto. Faculty of Science and Engineering, Chuo University, Tokyo, Japan; 2. Graduate School of Fine Arts, Tokyo National University of Fine Arts and Music, Tokyo, Japan; 3. Department of Electrical and Electronic Engineering, Yamagata University, Yonezawa, Japan

FQ-06. Microstructure and magnetic properties of FeCo epitaxial thin films grown on MgO single-crystal substrates. K. Shikada, M. Ohtake, F. Kirino and M. Futamoto. Faculty of Science and Engineering, Chuo University, Tokyo, Japan; 2. Graduate School of Fine Arts, Tokyo National University of Fine Arts and Music, Tokyo, Japan

FQ-07. Growth of ultrathin metal films on molecule-adsorbed MgO surface. T. Kojima, K. Oka, M. Mizugachi, S. Mitan and K. Takanashi. Institute for Materials Research, Tohoku University, Sendai, Japan

FQ-08. Growth and transport properties of ferrimagnetic beta-Manganese. W. Feng, Y. Hwang, J. Kim, J. Choi, D. Dung and S. Cho. Department of Physics, University of Ul San, UlSan, South Korea

FQ-09. Manipulation of crystal structure and dynamic behavior in GaAs/Ag/Fe system with an ultrathin Fe seed layer. C. Yi, C. Tsai and Y. Yao. 1. Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan; 2. Department of Electrical and Computer Engineering, University of California, Irvine, CA; 3. Department of Materials Engineering, Tatung University, Taipei, Taiwan

FQ-10. Hybrid Fe/GaN(0001) Epitaxial System for Spintronics. J. Wong, W. Zhang, I.G. Wil1, J. Xu, X. Cui, Z. Tao, X. Li, Z. Xie and R. Zhang. Spintronics and Nanodevice Laboratory, Department of Electronics, University of York, York, United Kingdom; 2. Key Laboratory of Advanced Photonic and Electronic Materials, Department of Physics, Nanjing University, Nanjing, China

FQ-11. Effect of oxygen exposure on the magnetic properties of ultrathin Co/Si(111) films. H. Chang, J.S. Tsay, W.Y. Chang, K.T. Huang and Y.D. Yao. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Physics, Tunghai University, Taichung, Taiwan; 3. Department of Physics, National Taiwan Normal University, Taipei, Taiwan; 4. Department of Materials Engineering, Tatung University, Taipei, Taiwan


THURSDAY AFTERNOON
1:00

Session FR
NANOPARTICLES AND NANOSTRUCTURES
(POSTER SESSION)
Cindi Dennis, Co-Chair
JW Harrell, Co-Chair

FR-01. Small angle X-ray and neutron scattering study of disordered and periodic 3-D magnetic particle arrays. O. Kasyutch, F. Ogrin, C.D. Dewhurst, D. Tatchev, A. Hoell and W. Schwarzacher. 1. Physics, University of Bristol, Bristol, United Kingdom; 2. School of Physics, University of Exeter, Exeter, United Kingdom; 3. Institut Laue-Langevin, Grenoble, France; 4. Helmholtz Centre Berlin for Materials and Energy, Berlin, Germany; 5. Institute of Physical Chemistry, Sofia, Bulgaria


FR-03. AC susceptibility studies of magnetic relaxation in nanoparticles of Ni dispersed in silica. F. Singh, J. Bonevich and M.S. Seehra. 1. Physics Department, West Virginia University, Morgantown, WV; 2. National Institute of Standards and Technology, Gaithersburg, MD
FR-04. Synthesis and characterization of magnetic nanoparticles embedded in PVP nanofibre film by electrospinning. C. Lin1, M. Chung2 and T. Tsai3. 1. Institute of Nanotechnology and Department of Mechanical Engineering, Southern Taiwan University, Yung-Kang, Taiwan; 2. Department of Electronic Engineering, Southern Taiwan University, Yung-Kang, Taiwan.

FR-05. High speed magneto-optical valve: Rapid control of the optical transmittance of aqueous solutions by magnetically induced self-assembly of superparamagnetic particle chains. S. Park1,2, E. Law2, H. Handa3,4 and A. Sandhu3,7. 1. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Tokyo, Japan; 2. Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Tokyo, Japan; 3. Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Japan; 4. Integrated Research Institute, Tokyo Institute of Technology, Tokyo, Japan; 5. Tokyo Tech Global COE Program on Evolving Education and Research Center For Spatio-Temporal Biological Network, Tokyo Institute of Technology, Tokyo, Japan.

FR-06. Facile Fabrication of Magnetism-controlled Superparamagnetic Nanocomposites for Selective Magnetic Separation. S. Park1,4, D. Yang1, T. Lim1, J. Lee2, S. Haam2, Y. Huh1, J. Lee3 and S. Lee1. 1. Dept. of Chemical and Bio Engineering, Kyungwon University, Seongnam, Gyeyong-do, South Korea; 2. Dept. of Chemical Engineering, Yeonsei University, Seoul, South Korea; 3. Dept. of Radiology, Yonsei University, Seoul, South Korea; 4. Advanced Energy Materials Processing Lab., Korea Institute of Science and Technology, Seoul, South Korea.

FR-07. Magnetic Properties of core-shell structured Ni Nanoparticles. S. Park1, Y. Jo1, M. Jung2, S. Yoon3, H. Baik4, J. Choi1, J. Kim1, J. Park1, K. Lee3 and J. Lee1. 1. Korea Basic Science Institute, Daejon, South Korea; 2. Sogang University, Seoul, South Korea; 3. Samsung Advanced Institute of Technology, Siwon, South Korea; 4. Pohang University of Science and Technology, Pohang, South Korea; 5. Korea University, Seoul, South Korea.

FR-08. Fabrication and magnetic properties of 3-dimensional arrays of elongated magnetic particles. L.M. Malkinski1,2, M. Tanase3, C. Spinu4, J. Lim2, J. Wiley2, F. Moolekamp2,1, K. Stokes1,2, P. Schilling1 and P. Young4. 1. Department of Physics, University of New Orleans, New Orleans, LA; 2. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA; 3. Department of Mechanical Engineering, University of New Orleans, New Orleans, LA; 4. Department of Physics, Louisiana State University, Baton Rouge, LA.

FR-09. Size effects in ordered arrays of magnetic nanotubes: Pick your reversal mode. J. Bachmann1,2, J. Escrig2, K. Reckewell1, J.M. Montero Moreno4,6, J. Jing2, D. Göritz2, D. Althir2 and K. Nielsch2. 1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany; 2. Max Planck Institute of Microstructure Physics, Halle, Germany; 3. Physics Department, University of Santiago, Santiago de Chile, Chile; 4. Electrodeposition and Corrosion Laboratory, University of Barcelona, Barcelona, Spain.

FR-10. Magnetization dynamics in magnetic core-shell nanowires. J. Lim1,2, H.N. Pham3,4, O.C. Trusca1,3, A. Sarwadi5, D. Cimpoesu1, J.B. Wiley1,2 and L. Spinu1,3. 1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA; 2. Department of Chemistry, University of New Orleans, New Orleans, LA; 3. Department of Physics, University of New Orleans, New Orleans, LA.

FR-11. Structure and magnetic properties in hexagonal arrays of ferromagnetic nanowires. E. Padrón Hernandez1,2, A. Azevedo1 and S.M. Rezende1. 1. Departamento de Física - UFPE, Recife, Brazil; 2. Laboratório de Microscopia e Microanálise - CETENE, Recife, Brazil.


FR-14. Synthesis and Magnetic Properties of Multifunctional CoPtAu Nanoparticles. J. Min1,2, J. Wu1, A. Song1 and Y. Kim1. 1. Department of Materials Science and Engineering, Korea University, Seoul, Seoul, South Korea; 2. Institute for Nano Science, Korea University, Seoul, Seoul, South Korea.


FR-17. γ-Fe2O3 nanoparticle intrinsic magnetism dependence on iron-ion availability during synthesis. E. Skoropata1, R.D. Desautels1 and J. van Lierop1. 1. Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada.
FR-18. Influence of the interactions in the magnetic behaviour of Fe-Ag thin films above the percolation limit. J. Alonso\textsuperscript{1}, M. Fernández-Gubieda\textsuperscript{1}, L. Fernández Barquin\textsuperscript{1}, M. Del Pedro\textsuperscript{2}, J. Barandiaran\textsuperscript{1}, I. Orue\textsuperscript{1} and A. Svalov\textsuperscript{1}. Department of Physics, University of the Basque Country, UPV/EHU, Leioa, Vizcaya, Spain; 2. Materials Science and Engineering, National University of Singapore, Singapore, Singapore.

FR-19. Morphological investigation of mono-dispersed manganese ferrite nanoparticles by impedance measurements. S. Yoon\textsuperscript{1}, M. Gonzales-Weimuller\textsuperscript{2}, Y. Lee\textsuperscript{1} and K.M. Krishnan\textsuperscript{1}. National Taiwan University, Taipei, Taiwan; 1. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Institute of Materials Science and Engineering, National University of Singapore, Singapore, Singapore.

FR-20. Size dependent Ferrites nano-particles; Application to Microwave Devices. B.K. Kuan\textsuperscript{1}, K. Lingam\textsuperscript{2}, S.K. Mishra\textsuperscript{3}, V. Vearakumar\textsuperscript{4}, R.E. Camley\textsuperscript{5} and Z. Celsiuk\textsuperscript{1}. Department of Physics, University of Colorado at Colorado Springs, Colorado Springs, CO; 2. Department of Physics, University of Memphis, Memphis, TN.

FR-21. Fabrication of Fe nanoparticles with sizes ranging from 30 nm to 170 nm by gas flow sputtering. H. Aoshima\textsuperscript{1}, H. Suzuki\textsuperscript{1}, T. Kobayashi\textsuperscript{1}, H. Sakuma\textsuperscript{1} and K. Ishii\textsuperscript{1}. Research Division of Functional Materials Design, Utsunomiya University, Utsunomiya, Japan.

FR-22. Orientation Control and Fixation of Li\textsubscript{1−}FePt Nanoparticles on Au-Covered Si Substrates. Y. Tamada\textsuperscript{1}, S. Yamamoto\textsuperscript{2}, S. Nasu\textsuperscript{1} and T. Ono\textsuperscript{1}. Institute for Chemical Research, Kyoto University, Kyoto, Japan; 2. Institute for Integrated Cell-Material Sciences, Kyoto University, Kyoto, Japan.

THURSDAY AFTERNOON

AUSTIN BALLROOM

Session FS

MAGNETIC SEMICONDUCTORS: OXIDES

(PROJECT SESSION)

Byoung-Chul Min, Chair
Hidekazu Saito, Chair

FS-01. Intrinsic point defect driven ferromagnetism in wurtzite zinc oxide. X. Zuo\textsuperscript{1}, S. Yoon\textsuperscript{2}, A. Yang\textsuperscript{3}, C. Vittoria\textsuperscript{2} and V.G. Harris\textsuperscript{1}. College of Information Technical Science, Nankai University, Tianjin, Tianjin, China; 2. Department of Electrical and Computer Engineering, northeastern University, Boston, MA.

FS-02. Room-temperature Ferromagnetic Zn\textsubscript{0.98}Co\textsubscript{0.02}O Diluted Magnetic Semiconductor Thin Films by Hydrothermal Epitaxy. Y. Zhang\textsuperscript{1}, S. Li\textsuperscript{2} and G. Goh\textsuperscript{1}. The University of New South Wales, Sydney, NSW, Australia; 2. Institute of Materials Research and Engineering, Singapore, Singapore.

FS-03. Enhancement of Room Temperature Ferromagnetism in C-doped ZnO Films by Nitrogen Codoping. J. Yi\textsuperscript{1}, L. Shen\textsuperscript{1}, L. Van\textsuperscript{2}, S. Thongmee\textsuperscript{1}, J. Ding\textsuperscript{1} and Y. Feng\textsuperscript{1}. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Nanoscience and Nanotechnology Initiative, National University of Singapore, Singapore, Singapore; 3. Physics, National University of Singapore, Singapore, Singapore.

FS-04. Room Temperature Ferromagnetism in ZnO Doped with Al. Y. Ma\textsuperscript{1}, J. Yi\textsuperscript{1}, J. Ding\textsuperscript{1}, L. Van\textsuperscript{2} and L. Zhang\textsuperscript{1}. Materials Science and Engineering, National University of Singapore, Singapore, Singapore.

FS-05. High-temperature ferromagnetism in Co-doped ZnO nanorods prepared by thermal diffusion. L.T. Phan\textsuperscript{1}, V. Roger\textsuperscript{1}, D. Chersn\textsuperscript{1}, D.H. Nguyen\textsuperscript{1} and S. Yu\textsuperscript{1}. University of Bristol, Bristol, United Kingdom; 2. Vietnam Academy of Science and Technology, Hanoi, Viet Nam; 3. Chungbuk National University, Cheongju, South Korea.

FS-06. Structural and magnetic properties of Fe-doped ZnO films. R.P. Borges\textsuperscript{1}, A.O. Ankiewicz\textsuperscript{2}, J.S. Martins\textsuperscript{2}, A. Saravia\textsuperscript{1}, E.R. Zhiteytsiev\textsuperscript{2}, A.P. Gonçalves\textsuperscript{1,3}, P. Ferreira\textsuperscript{2}, N.A. Sobolev\textsuperscript{2} and M. Godinho\textsuperscript{1,3}. CFM-University of Lisboa, Campo Grande, Ed. C8, 1749-016 Lisboa, Portugal; 2. I3N and Departamento de Física, Universidade de Aveiro, 3810-193 Aveiro, Portugal; 3. Departamento de Química, Instituto Tecnológico e Nuclear, 2686-953 Sacavém, Portugal; 4. Departamento de Engenharia Cerâmica e do Vidro, CICECO, Universidade de Aveiro, Campus Universitário de Santiago, 3810-193 Aveiro, Portugal; 5. Departamento de Fisica, Universidade de Lisboa, Campo Grande, 1749-016 Lisboa, Portugal.

FS-07. Room temperature ferromagnetism of conductive and insulating (Al,Co) doped ZnO thin films. Y. Lee\textsuperscript{1}, J. Lee\textsuperscript{1}, J. Min\textsuperscript{1}, C. Yu\textsuperscript{1} and J. Lee\textsuperscript{1}. Physics, National Cheng Kung University, Tainan, Taiwan; 2. Applied Physics, National Chiayi University, Chiayi, Taiwan; 3. Applied Physics, National Ping Tung University of Education, Ping Tung, Taiwan.

FS-08. Magnetic and electronic properties of Ni-doped ZnO. L. Lopez\textsuperscript{1}, R. González\textsuperscript{1} and J.A. Rodríguez\textsuperscript{1}. Fisic, Universidad del Norte, Barranquilla, Atlantico, Colombia; 2. Physic, Universidad Nacional de Colombia, Bogotá, Cundinamarca, Colombia.

FS-09. Electrical transport and ac conductivity properties of hydrogenated annealing V-doped ZnO. S. Liu\textsuperscript{1}, C. Lin\textsuperscript{2} and J.A. Huang\textsuperscript{1}. Physics, National Cheng-Kung University, Tainan, Taiwan; 2. Mechanical Engineering, Southern Taiwan University of Technology, Tainan, Taiwan.

FS-10. Microwave-absorption properties of Co-doped ZnO dilute magnetic semiconductor. M. Yang\textsuperscript{1}, M. Tung\textsuperscript{2} and C. Fu\textsuperscript{1}. Industrial Technology Research Institute, Hsinchu, Taiwan; 2. National Taiwan University, Taipei, Taiwan.
FS-11. Origin of large positive magnetoresistance in epitaxial Co-doped ZnO ferromagnetic semiconductor. Y. Tian1,3, Q. Cao1, J. Deng1, L. Mei1,2, S. Yan1,2 and Y. Qiang1. School of Physics, Shandong University, Jinan, Shandong, China; 2. National Key Laboratory of Crystal Materials, Shandong University, Jinan, Shandong, China; 3. Department of Physics, University of Idaho, Moscow, ID

FS-12. Room temperature anomalous Hall effect in Co doped ZnO thin films in the semiconductor regime. H. Hsu1, C. Lin1, H. Chou1 and J. Huang1. Department of Physics, National Sun Yat-sen University, Kaohsiung, Taiwan; 2. Department of Physics, National Cheng Kung University, Tainan, Taiwan

FS-13. Point defects and magnetic properties of Cu-doped ZnO. Y. Kim1 and Y. Chung1. Department of Materials Science and Engineering, Hanyang University, Seoul, South Korea

FS-14. The inducement for ferromagnetism in ZnCoO nanocrystalline powder fabricated by sol-gel method. S. Lee1, Y. Cho2, S. Kim1, S. Kim1 and S. Jeong1. Institute of Nano Fusion Technology, Pusan National University, Miryang, South Korea; 2. Research Center for Dielectric and Advanced Matter Physics, Pusan National University, Busan, South Korea; 3. BK21 Team of Nano Fusion Technology, College of Nanoscience and Nanotechnology, Pusan National University, Miryang, South Korea

FS-15. Effect of Al and Sb doping on the magnetic properties of ZnMnO and ZnCoO. G.D. Varma1 and V.K. Sharma1, Physics, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India

FS-16. Study of the magnetic transition in bulk ZnCoO thin film. M.E. Mercurio1, A.W. Carbonaro1, M.R. Cordeiro1 and R.N. Saxena1. CRPq, IPEN-CNEN/SP, Sao Paulo, Brazil

FS-17. Nanosized superparamagnetic precipitates in co-balt-doped ZnO. M. Opel1, K. Nielsen1, S. Bauer1, S.B. Goennenwein1, J.C. Cezar1, D. Schneisser1, J. Simon1, W. Mader1 and R. Gross1. 1. Walther-Meissner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany; 2. European Synchrotron Radiation Facility, Grenoble, France; 3. Angewandte Physik II, Universität München, Garching, Germany; 4. Physik-Department, Technische Universität München, Garching, Germany

FS-18. Structural and magnetic properties of chemically synthesized Fe doped ZnO. S. Kumar1, Y.L. Kim1, B.H. Koo1 and C.G. Lee1. School of Nano & Advanced Materials Engineering, Chungwon National University, Chungwon, Gyeongsangnam, South Korea

FS-19. Oscillation of exchange coupling in Co-doped ZnO nanocluster films. Y. Tian1,2, R. Souza1, S. Yan1 and Y. Qiang1. Department of Physics, University of Idaho, Moscow, ID; 2. School of Physics, Shandong University, Jinan, Shandong, China

FS-20. Ferromagnetism of manganese-doped indium tin oxide films deposited on polyethylene naphthalate substrates. T. Nakamura1, S. Isozaki1, K. Tanabe1 and K. Tachibana1. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan


FS-22. Bipolar Resistive Switching in Co:TiO2 Diluted Magnetic Semiconductor Films. K.A. Bogle1, M. Bachhav1, M. Deo1 and S. Ogale1. Physical and Materials Chemistry Division, National Chemical Laboratory, Pune-8, Pune, Maharashtra, India

FS-23. Electron Paramagnetic Resonance (EPR) study of Cr3+ in Nanoparticles of SnO2. S.K. Misra1, S.I. Andronenko1, S. Rao2, S.V. Bhat1, C. Van Kormen1 and A. Punnose1. Department of Physics, Concordia University, Montreal, QC, Canada; 2. Department of Physics, Indian institute of Science, Bangalore, India; 3. Department of Physics, Boise State University, Boise, ID

FS-24. Magnetic properties of V doped TiO2 nano-crystalline film synthesized by liquid phase deposition technique. Q. Wen1, H. Zhang1, Q. Yang1, Y. Li1, D. Gu1, W. Wang2 and J.Q. Xiao1. State Key Laboratory of Electronic Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE

FS-25. Room temperature ferromagnetism in Fe doped CeO2 and Co doped CeO2 polycrystalline oxides. Q. Wen1, H. Zhang1, Q. Yang1, X. Tang1, Y. Liu1, W. Wang2 and J.Q. Xiao1. State Key Laboratory of Electronic Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, China; 2. Department of Physics and Astronomy, University of Delaware, Newark, DE

FS-26. Evolution of ferromagnetism in Mn-doped BaSnO3 with increasing Mn-content. K. Balumurugan1, N. Harish Kumar1, J. Arout Chelvane1 and N. Santhosh P.1. Department of Physics, National Sun Yat-sen University, Kaohsiung, Taiwan; 2. Department of Physics, National Sun Yat-sen University, Changwon, Gyeongsangnam, South Korea

FS-27. Combinatorial fabrication and Magnetic properties of Mn-doped ZnO. M. Bachhav1, M. Deo1 and S. Ogale1. Physical and Materials Chemistry Division, National Chemical Laboratory, Pune-8, Pune, Maharashtra, India

Session FT
PATTERNED FILMS II
(POSTER SESSION)
Alina Deac, Co-Chair
Seok-Hwan Chung, Co-Chair

FT-01. Non-lithographic fabrication of sub-25 nm magnetic nanodot array with perpendicular anisotropy. M. Rahmani1, N.N. Shams1 and C. Lai1. Department of materials science and engineering, National Tsing Hua University, Hsinchu, Taiwan

FT-02. Control of Magnetization Reversal by Engineering the Nanostructure of Thin Films with Perpendicular Anisotropy. M. Rahmani1, R.K. Dumas2, Y. Wu1, C. Lai1, N. Eibagi1 and K. Liu2. Department of materials science and engineering, National Tsing Hua University, Hsinchu, Taiwan; 2. Department of Physics, University of California, Davis, Davis, CA

FT-03. The role of defects on the magnetic reversal properties of perpendicularly magnetized nanostructures. J. Shav1, M. Olsen2, M. Schneider3, B. Terris4, O. Hellwig4 and J. Lau5. Magnetics Group, NIST, Boulder, CO; 2. Univ. of Montana, Missoula, MT; 3. Hitachi Global Storage Technology, San Jose, CA; 4. Univ. of Manchester, Manchester, United Kingdom; 5. NIST, Gaithersburg, MD

FT-04. Strong Alternating Magnetic Field from Magnetic Nanostructures. K. Kim1, A.E. Ozmetin1, H. Lee1, I. Lyuksyutov1, D.G. Naugle1 and W. Wu1. Department of Physics, Texas A&M University, College Station, TX

FT-05. Dipolar and exchange interlayer coupling in NiFe/Cu/Co nanodisks. G. Gubbiotti1, V. Bonanni1, D. Biserò1, P. Vavassori2, M. Madami1, A. Adeyeye1, S. Goolau1, N. Singh1, T. Ono3 and C. Spezzani1. Dipartimento di Fisica, CNISM, Unità di Perugia, Perugia, PG, Italy; 2. CNR-INFM S3, CNISM and Dipartimento di Fisica, Università di Ferrara, Ferrara, Italy; 3. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 4. Institute for Chemical Nanotechnology of New Orleans, New Orleans, LA

FT-06. Reduced uniaxial magnetic anisotropy in patterned epitaxial Fe dot arrays. D. Niu1, X. Zou2, I. Will1, J. Wong1, J. Wu1 and Y. Xu1. Department of Electronics, University of York, York, United Kingdom; 2. Department of Physics, The University of York, York, United Kingdom

FT-07. Micromagnetic Behavior of Soft Magnetic Nanodisks observed by Scanning Electron Microscopy with Polarization Analysis (SEMPA). S. Chung1,2, D.T. Pierce1 and J. Unguris1. Center for Nanoscale Science and Technology, NIST, Gaithersburg, MD; 2. Maryland NanoCenter, University of Maryland, College Park, MD

FT-08. High resolution imaging of geometrically-confined domain walls and vortex cores. M. Klau1, D. Backes1,2, M. Eltschka1,3, F. Junginger1,3, L.J. Heyderman1, T. Kasama1, R. Dunin-Borkowski1 and U. Rüdiger1. Physics, University of Konstanz, Konstanz, Germany; 2. LMN, PSI, Villigen, Switzerland; 3. Materials Sciences, University of Cambridge, Cambridge, United Kingdom

FT-09. Meta-stable states and switching routes depending on temperature related with defects on magnetic multilayer rings. J. Lee1, T.J. Hayward1, B. Hong1, J. Llandro1, K. Cooper1, D. Anderson1, J.C. Bland1, C.W. Barnes1 and S.N. Holmes1. Physics, University of Cambridge, Cambridge, United Kingdom; 2. Toshiba Research Europe Limited, Cambridge Research Laboratory, Cambridge, United Kingdom

FT-10. Magnetic Properties of Exchange Biased Co-CoO Elongated Nanoring Arrays. D. Tripathy1, A. Adeyeye1, N. Singh1 and R. Stamps1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Institute of Microelectronics, Singapore, Singapore; 3. School of Physics, University of Western Australia, Crawley, WA, Australia

FT-11. Modelling of nanoscale domain walls formation in arrays of parallel nanowires. H. Wu1, O.N. Myasov1 and I.V. Shvets1. CRANN, School of Physics, Trinity College Dublin, Dublin, Ireland; 2. Seagate Technology, Pittsburgh, PA

FT-12. Depinning field of a periodic domain wall array in vicinal nanowires. A.L. Daniels1, F.I. Nascimento1, G.O. Rebouças1 and A.S. Carriço1. Departamento de Física, UERN, Mossoro, RN, Brazil; 2. Departamento de Física, UFRN, Natal, RN, Brazil

FT-13. High efficiency domain wall gate in Permalloy nanowires. D. Petit1, A. Jausovec1, E.R. Lewis1, H.T. Zeng1, L. O’Brien1, D. Read1 and R.P. Cowburn1. Physics, Imperial College London, London, United Kingdom

FT-14. Local modes and two magnon scattering in ordered permalloy antidot arrays. S. Martens1, K. Nielsch1 and D. Görlitz1. Institute of Applied Physics, University of Hamburg, Hamburg, Germany

FT-15. Static and Dynamic Magnetic Properties of Ni80Fe20 Square Antidot Arrays. D.Y. Tse1, S.J. Steinmuller1, T. Trpisinotis1, D. Anderson1, G.C. Jones1, J.C. Bland1 and C.W. Barnes1. Department of Physics, University of Cambridge, Cambridge, United Kingdom


FT-17. Vibration assisted assembly of ferromagnetic particles on magnetic patterns. K. Paul1 and L. Malkinski1. AMRI, University of New Orleans, New Orleans, LA
FU-01. Effects of seed layer on the exchange bias characteristics in [Pd/Co]/FeMn and FeMn/[Co/Pd], thin films with perpendicular anisotropy. L. Lin1, S. Bae1, W. He2 and J. Kim3.1. Electrical and Computer Engineering Department, National Chung Hsing University, Taichung, Taiwan; 2. Department of Computer and Electronic Physics, Sangji University, W onju 660, South Korea; 3. Division of Materials and Chemical engineering, Hanyang University, An-San 426-791, South Korea

FU-02. Effects of Co thicknesses and an oscillating perpendicular exchange bias in [Pt/Co]/NIO multilayers. J. Guo1, S. Chung1, H. Ouyang1, K. Lin1, E. Vass2 and J. van Lierop3.1. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan; 2. Institute for Experimentalphysik, University of Innsbruck, Innsbruck, Austria; 3. Department of Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada

FU-03. Effects of Ar gas pressure during sputtering of Co80Fe20 insertion on the exchange bias characteristics in [Pd/Co]/Co80Fe20/FeMn thin films with perpendicular anisotropy. S. Kim1, S. Bae1, L. Lin1, J. Heo1, H. Joo2 and K. Lee1.1. Electrical and Computer Engineering, Biomagnetics Laboratory (BML) & Information Storage Materials Laboratory (ISML), Singapore, Singapore; 2. Physics, Thin films Lab., Cheonan, Chungnam, South Korea

FU-04. Correlating antiferromagnetic spin structures with ion-beam bombardment in exchange-biased NiFe/Mn bilayers. K. Lin1, T. Chen1, J. Guo2, H. Ouyang1, D. Wei2 and J. van Lierop1.1. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan; 2. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 3. Department of Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada

FU-05. Study of the exchange anisotropy dispersion; Comparison between H ion irradiation and field annealing. S. Lee1, Y. Han1, J. Kang1 and J. Hong1.1. Materials Science and Engineering, Yonsei University, Seoul, South Korea

FU-06. Exchange bias of FM/AFM in FePt/FeRh bilayers. T. Nguyen1, W. Lu1 and T. Suzuki1.1. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Japan

FU-07. Thermal hysteresis of FM/AFM compensated bilayers. A.L. Dantas1, F.J. Nascimento1, L.L. Oliveira1, V.D. Mello1, R.E. Camley2 and A.S. Carriço3.1. Department of Physics, UERN, Mossoro, RN, Brazil; 2. Department of Physics, UCCS, Colorado Springs, CO; 3. Departamento de Fisica, UFRN, Natal, RN, Brazil

FU-08. Contrasting Variation of Exchange Bias with Annealing Temperature in Py/FeMn/CoFe Trilayers. K. Kim1, J. Lee1, H. Choi1 and C. You1.1. Neutron Science Division, Korea Atomic Energy Research Institute, Daejeon, South Korea; 2. Department of Physics, Inha University, Incheon, South Korea

FU-09. Reorientation of exchange anisotropy in epitaxial (002) Fe32Mn78/Co80Fe20 system. H. Huang1, C. Yang1 and C. Lai1.1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan

FU-10. Reduction of Interfacial Spin Disorder on IrMn/CoFe Exchange Biased Systems. L.E. Fernandez-Onout1, N. Aley1, G. Vallejo-Fernandez1, K. O’Grady1, S. Oh3 and M. Pakala1.1. Physics, The University of York, York, United Kingdom; 2. Western Digital, Fremont, CA

FU-11. Effective spin Hamiltonian for bulk antiferromagnets Mn3Ir and MnIr. L. Szunyogh1, L. Udvardi1, B. Lazarovits1,2, J. Jackson1, R. Chantrell1 and U. Nowak4.1. Theoretical Physics, Budapest University of Technology and Economics, Budapest, Hungary; 2. Physics, University of York, York, United Kingdom; 3. Solid State Physics and Optics, Hungarian Academy of Sciences, Budapest, Hungary; 4. Fachbereich Physik, Universität Konstanz, Konstanz, Germany

FU-12. Competition between RKKY and exchange biasing interactions in synthetic-antiferromagnet thin film systems. K. Srinivasan1, S. Wong1, R. Shiba2 and S.N. Piramanayagam1.1. Data Storage Institute, Singapore, Singapore

FU-13. Positive exchange bias in CoFe/IrMn multilayers comprising nano-oxide layer. J. Rhee1, S. Lee1, J. Hwang1, H. Yim1 and B. Chun1.1. Physics, Sookmyung Women’s University, Seoul, South Korea; 2. CRANN, School of Physics, Trinity College, Dublin 2, Ireland

FU-14. Reinforcement of Exchange Biasing of Ultra Thin Antiferromagnetic Oxide Layer. K. Sawada1, M. Doi1 and M. Sahashi1.1. Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan
D. Tripathy, A. Adeyeye and N. Singh. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Institute of Microelectronics, Singapore, Singapore

FRIDAY MORNING
9:00

Session GA

SYMPOSIUM ON MICROWAVE ASSISTED MAGNETIZATION REVERSAL
Kristen Buchanan, Chair

9:00

GA-01. Microwave assisted magnetization reversal in individual nanoparticles. (Invited) C. Thirion, C. Raufast, T. Crozes, V. Dupuis, B. Diény and W. Wernsdorfer. Spintec/CNRS CEA, Grenoble, France; 2. Département de physique des matériaux, Université Lyon, Villeurbanne, France; 3. Institut Néel / CNRS, Grenoble, France

9:36


10:12

GA-03. Microwave-assisted magnetization reversal in CoCr granular films. (Invited) M. Wu, C. Nistor and S. Wu. Department of Physics, Colorado State University, Fort Collins, CO; 2. Seagate Technology, Fremont, CA

10:48


11:24


FRIDAY SALON C

MORNING
9:00

Session GB

SPIN-TORQUE OSCILLATORS
David Abraham, Chair

9:00


9:12

GB-02. Temperature dependence of generation linewidth in spin-torque auto-oscillators. V.S. Tiberkevich, J. Kim and A.N. Slavin. 1. Department of Physics, Oakland University, Rochester, MI; 2. Institut d’Electronique Fondamentale, CNRS & Université Paris-Sud, Orsay, France

9:24


9:36

GB-04. Fokker-Planck theory of stochastic dynamics of spin-torque auto-oscillators. J. Kim, V.S. Tiberkevich and A.N. Slavin. 1. Institut d’Electronique Fondamentale, CNRS & Université Paris-Sud, Orsay, France; 2. Department of Physics, Oakland University, Rochester, MI

9:48

10:00

GB-06. Spin-torque oscillator with tilted fixed layer magnetization. Y. Zhou1, C. Zha1, S. Bonetti1, J. Persson1 and J. Åkerman1. Institute of Microelectronics and Information Technology, Royal Institute of Technology, Stockholm-Kista, Sweden

10:12

GB-07. Multi-point-contacts spin-transfer oscillators. A. Ruotolo1, A. Dussaux1, B. George1, V. Cros1, J. Grollier1, C. Deranlot1, S. Fusil1, K. Bouzehouane1 and A. Fert1. Unité Mixte de Physique CNRS/Thales, Palaiseau, France

10:24

GB-08. Auto-oscillation threshold and linewidth optimization in MgO based spin torque oscillator. S. Cornelissen1,4, L. Bianchini2, J. Kim1, T. Devolder1, M. Op de Beeck1, G. Hrkač1, T. Schrefl1, L. Lagae1,5 and C. Chappert1. NEXTNS, IMEC, Heverlee(Leuven), Belgium; 2. Institut d’électronique fondamentale, UMR CNRS 8622, UPS, Orsay cedex, France; 3. Department of engineering materials, University of Sheffield, Sheffield, United Kingdom; 4. ESAT, KULeuven, Leuven, Vlaams Brabant, Belgium; 5. Natuurkunde en sterrekunde, KULeuven, Leuven, Vlaams Brabant, Belgium

10:36

GB-09. Dependence of the current induced magnetization excitations on the free layer thickness in MgO based magnetic tunnel junctions. L. Guo1, M. Hayashi1, R. Mori1, C. Rettner1 and S. Parkin1. IBM Almaden Research Center, San Jose, CA

10:48

GB-10. External field dependence of spin-torque induced precessions in magnetic tunnel junctions. T. Wada1, T. Yamane1, T. Nozaki1, T. Seki1, H. Kubota2, A. Fukushima1, S. Yuasa1, M. Shiraishi1 and Y. Suzuki1,2,3.1. Graduate school of engineering science, Osaka university, Toyonaka, Japan; 2. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan

11:00

GB-11. Dependence of spin transfer torque oscillations upon static magnetic field orientation. A. Neudert1, R.J. Hicken1, X. Cao2, R.L. Lamberton1 and A.B. Johnston2. School of Physics, University of Exeter, Exeter, United Kingdom; 2. Seagate Technology, Derry, United Kingdom

11:12

GB-12. Spin-torque diode spectra under a perpendicular-to-plane magnetic field. S. Ykata1, H. Kubota1, A. Fukushima1, K. Yakushiji1, S. Yuasa1, K. Ando1 and Y. Suzuki1,2,3. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 2. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan

11:24

GB-13. Spin-polarized current-driven excitations in spin-valve nanopillars with a synthetic antiferromagnetic pinned layer. D. Houssameddine1, D. Gusakova1, B. Delaët1, U. Eberle1, M. Cyrille1, J. Michel1, L. Buda-Prejbeanua1, O. Redon1, B. Dieny1, B. Ocker1, J. Langer1 and W. Maas1. CEA- INAC/CNRS/UJF/INPG, SPINTEC, Grenoble, France; 2. CEATLETI–MINATEC, New Orleans, LA; 3. Singulus Technologies, Kahl/Main, Germany

11:36

GB-14. Effective phase equation for the description of forced dynamics of a nonlinear spin-torque auto-oscillator. V. Tyberkevych1 and A.N. Slavin1. Department of Physics, Oakland University, Rochester, MI

11:48


9:00

Session GC

NANOSTRUCTURED PERMANENT MAGNET MATERIALS

Jeff Shield, Chair

9:00

GC-01. Chemically Synthesized SmCo Nanoblades. (Invited) C.N. Chimnasamy1, J.Y. Huang1, L.H. Lewis1, B. Latha1, D. Heiman4, C. Vittoria1 and V.G. Harris1. Center for Microwave and Magnetic Materials, Dept. of Electrical and Computer Engineering, Northeastern University, Boston 02115-5000, MA; 2. Center for Integrated Nanotechnologies, Sandia National Laboratories, Albuquerque, NM 87185, Mexico; 3. Dept. of Chemical Engineering, Northeastern University, Boston 02115, MA; 4. Dept. of Physics, Northeastern University, Boston 02115, MA
GC-02. Rapidly solidified Sm-Co nanocomposite permanent magnets. J.E. Shield1,2, V. Litwinowicz1, R. Valiveti1, A. Ingmire1 and P. Rasmussen1,1. Mechanical Engineering, University of Nebraska, Lincoln, NE; 2. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 3. Raymond Central High School, Raymond, NE

GC-03. Studies on the Giant Room-Temperature Coercivity in Melt-Spun and High-Energy Milled Sm(Co,Cu,Fe)5 Alloys. D. Sultana1, A.M. Gabay1 and G.C. Hadjipanayis1. Physics and Astronomy, University of Delaware, Newark, DE


GC-05. High coercivity Sm-Fe melt-spun ribbon. T. Saito1 and T. Furutani1. Mechanical Science and Engineering, Chiba Institute of Technology, Narashino, Japan

GC-06. Crystal structure and magnetic properties of melt spun Sm(Co, V) ribbons. C. Hsieh1, H.W. Chang2, C.W. Chang1, Z.H. Guo1,2 and W.C. Chang1. 1: Department of Physics, National Chung-Cheng University, Chia-Yi, Taiwan; 2: Department of Physics, Tunghai University, Taichung, Taiwan; 3: Institute of Functional Materials, Central Iron and Steel Research Institute, Beijing, China

GC-07. Effect of Temperature and Vacuum on Magnetic Properties and Compositional Changes of High Temperature Sm-Co Magnets. J. Liu1, M. Marinescu1, P. Vora1, S. Wu1 and M.P. Harmer1. Electron Energy Corporation, Landisville, PA; 2. Center for Advanced Materials and Nanotechnology, Lehigh University, Bethlehem, PA

GC-08. Investigation of thermal fluctuation effect in exchange-coupled SmCo5/α-Fe nanocomposite magnets. C. Rong1, Y. Liu1 and J. Liu1. Department of Physics, University of Texas at Arlington, Arlington, TX

GC-09. Anisotropic Sm1-y(Co,Fe)y Nanoparticles Produced by Surfactant-Assisted Ball Milling. N. Gunduz Akdogan1, G.C. Hadjipanayis1 and D.J. Sellmyer1. Physics and Astronomy, University of Delaware, Newark, DE; 2. Physics and Astronomy, University of Nebraska, Lincoln, NE


GC-11. Large-Scale Synthesis of Hard Magnetic Sm-Co Nanocrystals and SmCo/Fe Nanocomposite Particles by a Facile Method. G.S. Chaubey1, N. Poudyal1, Y. Liu1, C. Rong1 and J. Liu1. Physics, University of Texas at Arlington, Alington, TX

GC-12. Microstructure Analysis of a Bilayer Sm-Co/Fe Graded Exchange Spring Permanent Magnet. M.J. Kramer1, Y.Q. Wu1, Y. Liu1, Y. Choi1, J.S. Jiang2, Z.L. Wang2 and J.P. Liu1. Ames Lab/Mat Sci and Eng, Iowa State University, Ames, IA; 2: Department of Physics, University of Texas at Arlington, Arlington, TX; 3: Materials Science Division, Argonne National Laboratory, Argonne, IL; 4: School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA

GC-13. Seedlayer effect on texture and magnetic properties of SmCo5. J. Hu1, L. Zhang1, J. Chen1 and J. Ding1. Data Storage Institute, Singapore, Singapore; 2. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore.
PROGRAM 201
FRIDAY MORNING
9:00

Session GD
MAGNETIC NANOSTRUCTURES: MEASUREMENT, FABRICATION, AND MODELING
Frank Johnson, Chair

9:00

9:12
GD-02. Magnetically Active Nanospirals. E. Schubert1,2, M. Schubert1,2, D. Schmidt1,2, T. Hofmann1,2, M. Chipara3, A.J. Villarreal3, X.H. Wei3,4, R. Skomski1,4 and D.J. Sellmyer1,4. 1. Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE; 2. Department of Electrical Engineering, University of Nebraska, Lincoln, NE; 3. Department of Physics and Geology, University of Texas–Pan American, Edinburg, TX; 4. Department of Physics and Astronomy, University of Nebraska, Lincoln, NE

9:24
GD-03. Room temperature magnetic stabilization of buried cobalt nanoclusters within a ferromagnetic matrix studied by soft x-ray magnetic circular dichroism. A.T. Hindmarsh1, K.J. Dempsey1, J.P. Morgan1, B.J. Hickey1, D.A. Arena2 and C.H. Marrows1. 1. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY

9:36
GD-04. Magneto-optic material selectivity to self-organized magnetic nanostructures. K. Postava1, D. Hrabovsky1,2, D. Lukas3, J. Pistora1, N. Dix1,2, M. Rajaram1,2, J.M. Roque1, N. Dix1,2, M. Rajaram1,2, J. Fontcuberta1. 1. Department of Physics, Technical University of Ostrava, Ostrava - Poruba, Czech Republic; 2. Instituto de Ciencia de Materiales de Barcelona - CSIC, Universitat Autònoma de Barcelona, Barcelona, Spain; 3. Department of Applied Mathematics, Technical University of Ostrava, Ostrava - Poruba, Czech Republic

9:48
GD-05. Fabrication of two-dimensional assembly of well-isolated epitaxial Co-nanoparticles on insulating layers. M. Mizuguchi1, S. Mitani1 and K. Takanashi1. 1. Institute for Materials Research, Tohoku University, Sendai, Japan

10:00
GD-06. Co nanostructures arrays in a patterned polymeric template. W.d. da Rosa1, M. Jaafar2, A. Asenjo3 and M. Vázquez3. 1. Instituto de Ciencias de Materiales de Madrid, Madrid, Spain

10:12
GD-07. Ferromagnetic nanoparticle monolayers from solution: a novel low-temperature solution-annealing approach. T. Gang1, S. Kinger2, W. Naber1, H. Boschker1, D. Reinholdt1 and W. van der Wiel1. 1. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands; 2. University of Twente, Laboratory of Supramolecular Chemistry and Technology, Enschede, Netherlands

10:24
GD-08. Spin Reorientation Phase Transition in Self-Ordered Arrays of Magnetic Nanowires. E.V. Tartakovskaya1,2, M. Pardav-Horvath1 and M. VázquezVillalabeitia1. 1. SEAS ECE, The George Washington University, Washington, DC; 2. Institute of Magnetism NAS of Ukraine, Kiev, Ukraine; 3. Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain

10:36
GD-09. Magnetic Properties of Nickel Coated Carbon Nanofibers. L. Sun1 and H. Xing1. 1. Mechanical Engineering, University of Houston, Houston, TX

10:48
GD-10. Adjusting the magnetic properties of semiconductor epilayers by the crystallographic orientation of embedded highly anisotropic magnetic nanoclusters. C. Lacroix1, S. Lambert-Milot1, P. Desjardins2, R.A. Masut1 and D. Ménard1. 1. Regroupement Québécois sur les Matériaux de Pointe (RQMP), Département de Génie Physique, École Polytechnique de Montréal, Montréal, QC, Canada

11:00
GD-11. Magnetic Properties of Macroscopic Colloid Crystals of Silica-Coated FePt Nanoparticles with Controllable Interstices for Molecular Separation. C.C. Lo1, S.C. Tsang2, C.H. Yu1, H. Tang1, H. He2, V. Castelletto3, I.W. Hamley4, T. Narayanan5, K. Tam6, J. Center for NDE, Iowa State University, Ames, IA; 2. Wolfson Catalysis Centre, Inorganic Chemistry Laboratory, University of Oxford, Oxford, United Kingdom; 3. Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials, Fudan University, Shanghai, China; 4. Department of Chemistry, University of Reading, Whiteknights, United Kingdom; 5. European Synchrotron Radiation Facility, Grenoble, France; 6. AstraZeneca, Macclesfield, Cheshire, United Kingdom
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<tr>
<th>Time</th>
<th>Session D</th>
<th>Title</th>
<th>Authors</th>
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<tr>
<td>11:24</td>
<td>GD-13</td>
<td>Effect of Particle-Size on the Resistive Switching Behavior in Magnetite Nanoparticle Compacts.</td>
<td>T. Kim, E. Jang, J. Jang, N. Lee, K. Cho, K. Lee, and J. Cheon. Department of Physics, Ewha Womans University, Seoul, South Korea; 2. Department of Chemistry, Yonsei University, Seoul, South Korea</td>
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<td>11:36</td>
<td>GD-14</td>
<td>Micromagnetic Modeling of the Magnetic and Magnetoresistive Response of Co/Cu Multilayered Nanowire Arrays.</td>
<td>S. Hernandez, L. Tan, B. Stadler, and R.H. Victor. Electrical Engineering and Computer Science Department, University of Minnesota, Minneapolis, MN; 2. Chemical Engineering and Material Science Department, University of Minnesota, Minneapolis, MN</td>
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<tr>
<td>9:12</td>
<td>GE-02</td>
<td>Spin filtering effect in a single-molecule magnet Mn12 bridged between metallic electrodes.</td>
<td>S. Barraza-Lopez, K. Park, V.M. Garcia-Suarez, and J. Ferrer. Department of Physics, Virginia Tech, Blacksburg, VA; 2. Department of Physics, Lancaster University, Lancaster, United Kingdom; 3. Departamento de Fisica, Universidad de Oviedo, Oviedo, Spain</td>
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<td>9:24</td>
<td>GE-03</td>
<td>Quantum Interference in the Longitudinal Oscillations of the Total Spin of a Dimeric Molecular Nanomagnet.</td>
<td>E. del Barco, C.M. Ramsey, S. Hill, S.J. Shah, C.C. Beedle, and D.N. Hendrickson. Physics, University of Central Florida, Orlando, FL; 2. Physics, University of Florida, Gainesville, FL; 3. Chemistry and Biochemistry, University of California at San Diego, La Jolla, CA</td>
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<td>10:00</td>
<td>GE-04</td>
<td>Evidence of Glauber Dynamics in a Linear-Chain Metamagnet.</td>
<td>A. Prosvirin, H. Zhao, and K.R. Dunbar. Chemistry Department, Texas A&amp;M University, College Station, TX</td>
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<td>10:24</td>
<td>GE-06</td>
<td>Rabi oscillations of a central spin in a dipolar-coupled spin bath.</td>
<td>V. Dobrovitski, A.E. Feiguin, R. Hanson, and D.D. Awschalom. Ames Laboratory, Ames, IA; 2. Dept. of Physics, University of Maryland, College Park, MD; 3. Microsoft Station Q, University of California, Santa Barbara, CA; 4. Kavli Institute of Nanoscience, Delft University of Technology, Delft, Netherlands; 5. Center for Spintronics and Quantum Computation, University of California, Santa Barbara, CA</td>
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<td>10:36</td>
<td>GE-07</td>
<td>Neutron scattering study of magnetic excitation and short-range magnetic order by inter-cluster interaction in the Mn6Sb2 molecular magnet.</td>
<td>K. Iida, Y. Qiu, H. Ishikawa, T. Yamase, and T.J. Sato. Institute for Solid State Physics, University of Tokyo, Chiba, Japan; 2. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD; 3. Department of Physics, University of Virginia, Charlottesville, VA; 4. Chemical Resources Laboratory, Tokyo Institute for Technology, Yokohama, Japan</td>
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GE-09. Magnetic properties of a molecular-based magnet \(\text{Af}^{2+}\text{Fe}^{III}(\text{C}_2\text{O}_4)_3\) with biaxial crystal-field. W. Jiang\(^1\), F. Zhang\(^1\), W. Wang\(^1\) and W. Ren\(^1\). School of Science, Shenyang University of Technology, Shenyang, China; 2. Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China

GE-10. Thermodynamic approach of the temperature and pressure hysteresis in spin-transition materials. R. Tanasa\(^1\) and A. Stancu\(^1\). Department of Physics & CARPATH, “Alexandru Ioan Cuza” University, Iasi, Romania

GE-11. Giant magneto-resistance in composites of organic polymers with manganese acetylacetonate and lanthanum-protactinium chlorides exhibiting ionic conductivity. R. Rakhimov\(^1\), V.G. Shevchenko\(^2\), A.Y. Karmilov\(^2\), I.A. Alexandrov\(^2\) and A.I. Aleksandrov\(^2\). 1. Center for Materials Research, Norfolk State University, Norfolk, VA; 2. Institute of Synthetic Polymer Materials, Moscow, Russian Federation

FRIDAY SALON E
MORNING
9:00

Session GF
DAMPING MECHANISMS AND MEASUREMENT
Mike Schneider, Chair

GF-01. Simple Theory Of Gilbert Damping Based On Itinerant 3d Electrons Only. L. Berger\(^1\). Physics Department, Carnegie Mellon University, Pittsburgh, PA

GF-02. Magnetization dynamics within magnetically non-uniform systems. K. Gilmore\(^1,2\), P.M. Haney\(^1\), M.D. Stiles\(^1\), I. Garate\(^1\) and A.H. MacDonald\(^1\). 1. Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD; 2. Maryland NanoCenter, University of Maryland, College Park, MD; 3. Physics Department, University of Texas, Austin, TX

GF-03. Theory of Magnetization Damping in Conducting Ferromagnets. I. Garate\(^1\) and A. MacDonald\(^1\). Physics Department, University of Texas at Austin, Austin, TX

GF-04. Calculation of intrinsic damping in half metals. C.K. Mewes\(^1\), C. Liu\(^1\), M. Chashiev\(^1\), T. Mewes\(^1\) and W.H. Butler\(^1\). Center for Materials for Information Technology, Tuscaloosa, AL

GF-05. Laser-induced Magnetization Dynamics of Lanthanide-doped Permalloy Thin Films. C. Back\(^1\), I. Radu\(^1,2\), M. Kiessling\(^1\), A. Melnikov\(^1\), U. Bovensiepen\(^1\), G. Woltersdorf\(^1\) and J. Thiele\(^1\). University Regensburg, Regensburg, Germany; 2. BESSY GmbH, Berlin, Germany; 3. Freie Universitaet Berlin, Berlin, Germany; 4. Hitachi Global Storage, San Jose, CA

GF-06. Ferromagnetic resonance characterization of rare-earth (Ho) doped soft magnetic films. N. Benatmane\(^1,2\) and T.W. Clinton\(^1\). Seagate Research, Seagate Technology, Pittsburgh, PA; 2. Physics Department, Georgetown University, Washington, DC

GF-07. Magnetic relaxation due to spin-pumping and rare earth impurities. (Invited) G. Woltersdorf\(^1\), O. Mostend\(^2\), B. Heinrich\(^2\), C. Back\(^1\), M. Kiessling\(^1\) and J. Thiele\(^1\). Physics, University of Regensburg, Regensburg, Germany; 2. Physics, Simon Fraser University, Burnaby, BC, Canada; 3. Research Center, Hitachi Global Storage Technologies, San Jose, CA

GF-08. Damping origins for Co-Cr granular films. S.S. Kalarickal\(^1\), P. Krivosik\(^1,2\), N. Mo\(^1\), S. Wu\(^1\) and C.E. Patton\(^1\). Department of Physics, Colorado State University, Fort Collins, CO, CO; 2. Slovak University of Technology, Bratislava, Slovakia; 3. Seagate Technology, Fremont, CA

GF-09. Spin wave relaxation mapping in permalloy films – spin wave instability under oblique pumping. H.M. Olson\(^1\), P. Krivosik\(^2,3\) and C.E. Patton\(^1\). Seagate Technology, Bloomington, MN; 2. Colorado State University, Fort Collins, CO; 3. Slovak University of Technology, Bratislava, Slovakia

GG-11. Landau-Lifshitz or Gilbert Damping? That is the Question.
W.M. Saslow1. Physics, Texas A&M University, College Station, TX.
GG-11. Magnetostriction in Fe-Ga alloys: invaluable insights from small angle neutron scattering studies. M. Laver1, M. Wuttig2 and J. Cullen2. NIST Center for Neutron Research, Gaithersburg, MD; 2. Materials and Nuclear Engineering, University of Maryland, College Park, MD

GG-12. NbC Containing Magnetostrictive Fe-Ga Alloy Sheet for Lamination Actuator. S. Na1, A. Passell1, P. Downey1 and A.B. Flatau1. Aerospace Engineering, University of Maryland, College Park, MD


GH-04. AC demagnetization of interacting nanomagnet arrays*. (Invited) X. Ke1. Physics Department, Pennsylvania State University, University Park, PA

GH-05. Magnetic configurations in artificial kagome ice structures. L.J. Heyderman1, A. Fraile Rodriguez1, A. Bisig1, F. Nolting1 and H. Braun1. Paul Scherrer Institut, Villigen-PSI, Switzerland; 2. School of Physics, University College Dublin, Dublin, Ireland

GH-06. Magnetism and cluster glass dynamics in geometrically frustrated LuFe2O4. H. Srikanth1, M. Phan1, N.A. Frey1, M. Angst1, B.C. Sales2 and D.G. Mandrus2. 1. Department of Physics, University of South Florida, Tampa, FL; 2. Materials Science & Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN

GH-07. Correlated Superspin Dynamics in Ising- and Heisenberg-like Superspin glasses from Field Effect Experiments. S. Nakamae1, Y. Tahri1, C. Thibierge1, D. L'Hôte1, E. Vincent1, E. Wandersman2, V. Dupuis2, E. Dubois2 and R. Perzynski2. 1. Service de Physique de l'Etat Condensé, SPEC/IRAMIS/DSM/CEA-Saclay, Gif-sur-Yvette, France; 2. Laboratoire des Líquides Ioniques et Interfaces Chargées, Université de Pierre et Marie Curie, Paris, France

GH-09. Phase separation versus spin glass behavior in La0.8Sr0.15CoO3. D. Samal1, C. Shivakumara2 and A.P. Kumar1. 1. Department of Physics, Indian Institute of Science, Bangalore, India; 2. Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore, India

GH-11. Competition or co-operation? Charge ordered insulating and ferromagnetic metallic phases in Ni$_2$+ and Cr $^3+$ doped Nd$_{4}$Ca$_{2}$ MnO$_3$, A. Sharma$^1$ and S.V. Bhat$^1$. 1. Physics, Indian Institute of Science, Bangalore, Karnataka, India


GP-05. Thermal Stability of Lubricant film on Hard Disk under a High Temperature Flash Heating. J. Zhang$^2$, H. Xie$^3$, Q. Zhang$^2$, R. Ji$^2$, J. Xu$^1$, B. Xu$^1$, H. Yuan$^1$, N. Liu$^2$, G. He$^{1,3}$, R. Dharmawan$^{1,2}$ and Y. Liew$^{1,3}$. 1. Data Storage Institute, Singapore, Singapore; 2. Institute of Materials Research & Engineering, Singapore, Singapore; 3. National University of Singapore, Singapore, Singapore; 4. Nagayang Technological University, Singapore

GP-06. Nano-Rheology of Thin Lubricant Films. Q. Guo$^2$, P. Chung$^1$, H. Choi$^1$ and M.S. Jhon$^1$. Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. Seagate Technology, Fremont, CA; 3. Polymer Science and Engineering, Inha University, Incheon, South Korea

GP-07. Withdrawn

GP-08. Study of Ultra-low Fly Height Glide Testing by Dynamic Fly Height Control. H. Tani$^2$, M. Kanda$^2$, M. Kubota$^2$ and N. Tagawa. 1. Dept. of Mechanical Engineering, Kansai University, Suita-shi, Osaka-fu, Japan; 2. Kubota Comps, Amagasaki-shi, Hyogo-ken, Japan

Session GP

HEAD-MEDIA INTERFACE & TRIBOLOGY (POSTER SESSION)

Yiao-tee Hsia, Chair

GP-01. Humidity effects on lubricant transfer in head-disk-interface. S. Kim$^1$, Q. Dai$^1$, B. Marchon$^2$ and K. Flechsig$^1$. Hitachi Global Storage Technologies, San Jose, CA


GP-05. Thermal Stability of Lubricant film on Hard Disk under a High Temperature Flash Heating. J. Zhang$^2$, H. Xie$^3$, Q. Zhang$^2$, R. Ji$^2$, J. Xu$^1$, B. Xu$^1$, H. Yuan$^1$, N. Liu$^2$, G. He$^{1,3}$, R. Dharmawan$^{1,2}$ and Y. Liew$^{1,3}$. 1. Data Storage Institute, Singapore, Singapore; 2. Institute of Materials Research & Engineering, Singapore, Singapore; 3. National University of Singapore, Singapore, Singapore; 4. Nagayang Technological University, Singapore

GP-06. Nano-Rheology of Thin Lubricant Films. Q. Guo$^2$, P. Chung$^1$, H. Choi$^1$ and M.S. Jhon$^1$. Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA; 2. Seagate Technology, Fremont, CA; 3. Polymer Science and Engineering, Inha University, Incheon, South Korea

Session GQ

HIGH ANISOTROPY PERPENDICULAR RECORDING MEDIA II (POSTER SESSION)

Yingguo Peng, Chair

GQ-01. Tuning microstructure and magnetism in FePt-SiO$_2$ granular films by ion-beam bombardment. K. Liou$^1$, Y. Chiu$^1$, A. Sun$^1$, J. Hsu$^2$, J. van Lierop$^3$ and S. Takao$^1$. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan; 2. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan; 3. Department of Physics, National Taiwan University, Taipei, Taiwan; 4. Department of Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada; 5. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Japan

GQ-02. Effect of Cu doping on Magnetic and Microstructural Properties of FePtZr/MgO Nano Composite Films. D. Park$^1$, S. Lee$^1$ and J. Won Young$^1$. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Materials Science and Engineering, Korea Institute of Science and Technology, Seoul, South Korea

GQ-03. Effect of Sn on the microstructure and magnetic properties of FePt thin-film. D. Chun$^1$, G. Kim$^1$ and W. Jeung$^1$. Division of Materials Research, Korea Institute of Science and Technology, Seoul, South Korea


GQ-05. Perpendicular Magnetization and Coercivity Reduction in Exchange-Coupled NiFe/FePt Bilayers. N. Lee$^1$, S. Kim$^1$, T. Kim$^1$, H. Kim$^1$ and G. Schmenner$^1$. 1. Department of Physics, Ewha Womans University, Seoul, South Korea; 2. Department of Physics, Sogang University, Seoul, South Korea; 3. Institut de Physique et Chimie des Matériaux de Strasbourg, UMR 7504 CNRS-ULP, Strasbourg, France
GR-06. Magnetic Properties and Microstructures of Particulate (FePt/Ag)n Film with Perpendicular Magnetic Anisotropy.
C. Ou¹, J. Tsai¹, G. Lin¹ and M. Chen¹. Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan

GR-07. Effect of bombardment with different types of ions on ordering transformation of Fe/Pt multilayer films. A. Sun¹, F. Yuan², J. Hsu¹ and P. Kuo¹. Physics, National Taiwan University, Taipei, Taiwan; 2. Institute of Physics+, Academia Sinica, Taipei, Taiwan; 3. Material Science & Engineering, Academia Sinica, Taipei, Taiwan

GR-08. The influence of Ag doping on the CoPt thin films properties. Y.O. Sc⁴, A.J. Shapiro³, J. Hattrick-Simpers² and C. Lee¹. Materials, Changwon National University, Changwon, South Korea; 2. National Institute of Standard and Technology, Gaithersburg, MD

GR-09. Magnetic Properties and The Cluster Nature of Multilayer Thin Films of (CoPt/Ag)n After Annealing. Y. Lee¹. Materials, Changwon National University, Changwon, South Korea; 2. National Institute of Standard and Technology, Gaithersburg, MD

FRIDAY MORNING

AUSTIN BALLROOM

Session GR
MOTORS AND ACTUATORS I (POSTER SESSION)
Alexander Parkhomovsky, Chair

GR-01. A new stator-flux orientation strategy for flux-switching permanent magnet motor based on current-hysteresis control. H. Wei¹ and M. Cheng¹. School of Electrical Engineering, Southeast University, Nanjing, 210096, China

GR-02. Analytical approach and verification of operational power and eddy current losses for applying coreless double-sided PM synchronous motor/generator to high-power FESS. D. You¹, S. Jang¹, J. Park¹, S. Choi² and J. Lee¹. Chungnam National Univ., Daejeon, South Korea; 2. Korea Institute of Machinery and Materials, Daejeon, South Korea; 3. Korea Electric Power Research Institute, Daejeon, South Korea

GR-03. Torque Ripple Minimization of Flux-Controlled Stator-Permanent-Magnet Brushless Motors Using Harmonic Current Injection. X. Zhu¹, M. Cheng² and K. Chau¹. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China; 2. Engineering Research Center for Motion Control of MOE, School of Electrical Engineering, Southeast University, Nanjing, China; 3. Department of Electrical and Electronic Engineering, the University of Hong Kong, Hong Kong, China

GR-04. Optimal Rotor Design for Reducing the Partial Demagnetization Effect and Cogging Torque in Spoke type PM Motor. K. Hwang¹, B. Yang¹, B. Kim¹, S. Ryu⁴ and B. Kwon¹. Department of Electronics, Electrical, Control & Instrumentation Engineering, Hanyang Univ., Ansan, South Korea; 2. Korea Electronics Technology Institute, Buchon, South Korea; 3. Department of Electric Electrical Engineering, Kunsan National Univ., Jeonbuk, South Korea

GR-05. Fuzzy Actuation Strategy and Implementation of a Magnetically-Actuated Optical Image Stabilizer with Hysteresis Compensation. T. Tu¹, C. Chiu¹, P. Chao¹ and J. Huang². Dept. of Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Department of Mechanical Engineering, Chung Yuan Christian University, Chung-Li, Taiwan

GR-06. Analysis and Comparison for Rotor Eddy Current Losses of Permanent Magnet Synchronous Generator according to DC and AC Load Conditions. S. Jang¹, H. Kim¹, J. Choi¹ and I. Kim². Chungnam National University, Daejeon, South Korea; 2. Hoseo, Asan, South Korea

GR-07. Quantitative comparison of double-stator and traditional permanent magnet brushless machines. S. Niu¹ and K. Chau¹. Dept. of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China

GR-08. Design and analysis of interior-magnet outer-rotor concentric magnetic gears. X. Liu¹, K. Chau¹ and J. Jiang¹. Department of Electrical & Electronic Engineering, The University of Hong Kong, Hong Kong, China; 2. Automation Department, Shanghai University, Shanghai, China

GR-09. Effect of rotor eccentricity in a PM brushless motor with common and uncommon neutral point in parallel winding connections. H. Che¹ and M. Tsai¹. Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan

GR-10. Experimental Works and Performance Analysis of Surface-Mounted Permanent Magnet Generator using Equivalent Circuit considering Power Losses. S. Jang¹, J. Choi¹, K. Ko¹ and S. Lee¹. Changnam National University, Daejeon, South Korea; 2. KITECH, Gwangju, South Korea

GR-11. A Flux-Mnemonic Permanent Magnet Brushless Machine for Wind Power Generation. C. Ju¹, K.T. Chau¹ and J.Z. Jiang¹. Department of Electrical & Electronic Engineering, University of Hong Kong, Hong Kong, China; 2. School of Automation, Shanghai University, Shanghai, China

GR-12. A study on the irreversible magnet demagnetization in single-phase line-start permanent magnet motor. T. Kim¹, H. Nam² and J. Hong³. Electrical Engineering, Gyeongsang National University, Jinju, South Korea; 2. LG Electronics Inc., Changwon, South Korea; 3. Automotive Engineering, Hanyang University, Seoul, South Korea
GR-13. Optimal design of stator interior permanent magnet machine based on FE analysis. Z. Jianzhong1, M. Cheng1 and W. Hua1,1. School of Electrical Engineering, Southeast University, Nanjing, China

GR-14. The rewritable effects of bonded magnet for large starting torque and high efficiency in the Small Power Single-Phase Written Pole Motor. J. Cho1 and S. Lee2,1. Electric Motor Research Group, Korea Electrotechnology Research Institute, Changwon Si, Gyeongsangnam-Do, South Korea; 2. Materials & Component Team, Korea Institute of Industrial Technology, Gwangju, South Korea

GR-15. Magnetization Distribution in Transition Zones of Magnet Poles and Its Influence on Spindle Motor Performances. J. Li3 and Z. Liu2,1. School of Electrical Engineering, Xi’an Jiaotong University, PR. China, China; 2. Data Storage Institute, Singapore, Singapore

GR-16. Analysis of armature reaction field and saturation effect in permanent magnet motors with concentrated windings. J. Li2 and Z. Liu1,1. School of Electrical Engineering, Xi’an Jiaotong University, PR. China, China; 2. Data Storage Institute, Singapore, Singapore


FRIDAY MORNING AUSTIN BALLROOM

Session GS
MICROMAGNETIC SIMULATIONS AND METHODS
(PAPER SESSION)
Donald Porter, Chair

GS-01. Hybrid Finite-Element / Boundary Element Method for Oersteds field calculation in spin-torque driven magnetization dynamics. R. Hertel1,1. Institute of Solid State Research, Juelich Research Center, Juelich, Germany

GS-02. Exploiting Effective Field Time Derivative Information to Improve Accuracy of a Norm-preserving Landau-Lifshitz Solver. D.G. Porter1 and M.J. Donahue1,1. NIST, Gaithersburg, MD

GS-03. Micromagnetic Simulation by Using Fast Multipole Method Specialized for Uniform Brick Elements. Y. Takahashi1, S. Wakao1, T. Iwashita1 and M. Kanazawa1. Graduate School of Informatics, Kyoto University, Kyoto, Japan; 2. Department of Electrical Engineering and Bioscience, Waseda University, Tokyo, Japan; 3. Academic Center for Computing and Media Studies, Kyoto University, Kyoto, Japan

GS-04. High resolution large-scale micromagnetic simulations with hierarchical matrices. A. Kakay1, R. Hertel1 and C. Schneider1. IFF-IEE, Forschungszentrum Juelich, Juelich, Germany

GS-05. Finite Element Method Based on a Minimization Theorem to Obtain Unique Magnetization Distribution. A. Vaghani Fanabani1 and J. Lavers1. University of Toronto, Toronto, ON, Canada

GS-06. Non-uniform Grid algorithm for fast magnetostatic interactions calculation in micromagnetics. B. Livshitz1,2, A. Boag1, H.N. Bertram1,4 and V. Lomakin1,2,1. ECE, UCSD, San Diego, CA; 2. CMRR, UCSD, San Diego, CA; 3. Physical Electronics, Tel Aviv University, Tel Aviv, Israel; 4. Hitachi San Jose Research Center, Hitachi GST, San Jose, CA

GS-07. A New Approach in Finite Element Analysis of Eddy Currents with Flux Skin Effect. J. Merrikhi1. Islamic Azad University, Firozkoh, Iran

GS-08. Micromagnetic study of the above-threshold generation regime in a spin-torque oscillator based on a magnetic nano-contact magnetized at an arbitrary angle. G. Consolo1, B. Azzerboni1,1, L. Lopez-Diaz2, V. Tiberkevich1 and A.N. Slavin1. Fisica della Materia e Ingegneria Elettronica, University of Messina, Italy, Messina, Italy; 2. Fisica Aplicada, University of Salamanca, Salamanca, Spain; 3. Physics, Oakland University, Rochester, MI

GS-09. Thermal effects in the magnetization dynamics of nanoscale spin valves. L. Torres1, G. Finocchio1, G. Consolo1 and B. Azzerboni1. Fisica della Materia e Ingegneria Elettronica, University of Messina, Messina, Italy; 2. Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain

GS-10. Low field and controlled domain wall structure during injection into nanostripes. A. Kunz1, A.J. Smith1 and E.C. Breitbach1. Physics, Marquette University, Milwaukee, WI

GS-11. Effect of Elliptical Magnetic Impurity on Stripe Domain in Iron-Garnet Magnetic Films. Y. Fedyunin1, M.L. Akimov2, A.O. Menshenina1, P.A. Polyakov2 and N.N. Usmanov2.1, Math and Science, Merchant Marine Academy, Kings Point, NY; 2. Lomonosov Moscow State University, Moscow, Russian Federation

GS-12. Micromagnetic numerical analysis of magnetization processes in patterned ferromagnetic films. A. Manzin1, O. Bottauscio1 and M. Chiampi1. Istituto Nazionale di Ricerca Metorologica, Torino, Italy; 2. Dipartimento di Ingegneria Elettrica, Politecnico di Torino, Torino, Italy

GS-13. Analysis of Magnetic Field for AC Singular Line Currents by Coupling of Analytical Solution and Finite Element Method. Y. Kim1, D. Kim1, I. Park1 and K. Lee1. School of Information and Communication Engineering Sungkyunkwan University, Suwon, Kyonggi-do, South Korea; 2. Department of Electrical Engineering Dankook University, Yongin, Kyonggi-do, South Korea
GT-04. Tailoring of structural and magnetic properties of Co$_2$MnSi Heusler compound by He$^+$ ion irradiation. O. Guter$^1$, J. Hamrle$^1$, B. Hillebrands$^1$, H. Schneider$^1$, M. Kallmayer$^2$, P. Porsch$^1$, H.J. Elmers$^2$, J. Fassbender$^1$, Y. Sakuraba$^1$, S. Tsunegi$^1$, M. Oogane$^1$ and Y. Ando$^1$. Fachbereich Physik und Forschungszentrum OPTIMAS, TU Kaiserslautern, Erwin-Schrödinger-Str. 56, D-67663 Kaiserslautern, Germany; 2. Institut für Physik, Johannes-Gutenberg-Universität, Staudingerweg 7, D-55128 Mainz, Germany; 3. Forschungszentrum Dresden-Rossendorf, Institut für Ionenstrahlphysik und Materialforschung, Bautzner Landstrasse 128, D-01328 Dresden, Germany; 4. Magnetic Materials Laboratory, Institute for Materials Research (IMR), Tohoku University, Katahira 2-1-1, Aoba-ku, Sendai 980-8577, Japan; 5. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Aoba-yauma 6-6-05, Aoba-ku, Sendai 980-8579, Japan

GT-05. High-Quality Full-Heusler Fe$_x$MnSiGe Heterostructures Grown by Molecular Beam Epitaxy. K. Hamaya$^1$, K. Yamamoto$^1$, K. Ueda$^1$, Y. Ando$^1$, H. Itoh$^2$, Y. Maeda$^3$ and M. Miyao$^1$. 1. Department of Electronics, Kyushu University, Fukuoka, Japan; 2. Department of Pure and Applied Physics, Kansai University, Suita, Japan; 3. Department of Energy Science and Technology, Kyoto University, Kyoto, Japan

GT-06. Withdrawn

GT-07. Magnetic properties and magnetoresistance effect of spinels Cd$_{0.7}$Cu$_{0.3}$Cr$_2$S$_4$ (x=0, 0.01, 0.04, 0.1, 0.2). L. Yan$^1$, J. Shen$^1$, W. Ren$^2$, Z. Sun$^1$ and F. Wang$^1$. 1. Institute of Physics, Chinese Academy of Sciences, Beijing, China; 2. Physics, Hong Kong University of Science and Technology, Hong Kong, China

GT-08. Extraordinary Hall effect of SrRuO$_3$ in the ultrathin limit. M. Schultz$^1$, J.W. Reiner$^2$ and L. Klein$^1$. 1. Physics, Bar Ilan University, Ramat-Gan, Israel; 2. Applied Physics, Yale University, New Haven, CT

GT-09. Universal scaling relation between Hall and longitudinal conductivity in Zn-substituted magnetite. D. Venkateshvaran$^{1,2}$, A. Boger$^1$, M. Althammer$^1$, M. Rao$^{3,4}$, S.B. Goennenwein$^1$, M. Opel$^1$ and R. Gross$^{1,4}$. 1,4,1. Walthier-Meissner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany; 2. Materials Science Research Centre, Indian Institute of Technology Madras, Chennai, India; 3. Department of Physics, Indian Institute of Technology Madras, Chennai, India; 4. Physik-Department, Technische Universität München, Garching, Germany

GT-10. Growth and magnetic properties of half-metallic Fe$_3$O$_4$ epitaxial Films on wide bandgap semiconductor GaN(0001). J. Wong$^1$, W. Zhang$^1$, Y. Xu$^1$, X. Cui$^1$, Z. Tao$^1$, X. Li$^2$, Z. Xie$^1$ and R. Zhang$^1$. 1. Spintronics and Nanodevice Laboratory, Department of Electronics, University of York, York, United Kingdom; 2. Key Laboratory of Advanced Photonic and Electronic Materials, Department of Physics, Nanjing University, Nanjing, China

GT-11. Spin-Hall accumulation in a square 2DEG sample with a central defect. I. Klik$^1$, S. Chen$^1$ and C. Chang$^1$. 1. Physics, National Taiwan University, Taipei, Taiwan
GT-12. Electronic structure of Fe and Cr interlayers.
K.N. Shrivastava1, N.A. Zabidi1 and H.A. Kassim1. Department of Physics, University of Malaya, Kuala Lumpur, Selangor, Malaysia


GT-14. The influence of the anisotropic effect on the spin Hall effect studied using the effective mean-free-path model. S. Chen1 and C. Chang1. Applied Physics, National Chia Yi University, Chiayi, Taiwan; 2. Physics, National Taiwan University, Taipei, Taiwan

GT-15. Magnetoresistance in a Fe/Fe3O4 nanowire array.
F Cuccureddu1, H. Wu1, R. Ramos1 and I.V. Shvets1. School of Physics, Trinity College Dublin, Dublin, Ireland

GT-16. Anisotropy Magnetoresistance(AMR) Effect of Macroscopic ferrimagnet Co-TbN. H. Lee1, Y. Cho1, M. Park1, J. Cho1, Y. Kim1 and T. Kim1. Sejong University, Seoul, South Korea; 2. Korea University, Seoul, South Korea


GT-18. Planar Hall effect of Permalloy films on Si(111), Si(100), and glass substrates. S. Jen1,2, P. Wang2, Y. Tseng2 and H. Chuang1. Institute of Optoelectronic Sciences, Nation Taiwan Ocean University, Keelung, Taiwan

GT-19. Current-perpendicular-to-plane giant magnetoresistance of multilayered films using Co,MnSi Heusler alloys. K. Kodama1, T. Furabayashi1, T. Nakatani1, H. Suzukiwa1, K. Inomata1 and K. Hono1,2,3. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan; 2. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Japan

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FRIDAY MORNING
8:00

Session GU

**MAGNETO-ELASTIC MATERIALS**

*(POSTER SESSION)*

Alex Punnoose, Chair

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GU-02. Magnetic shape memory effect in free-standing cantilevers of Ni2MnGa and Mn2NiGa thin films. C. Jenkins1,2, R. Ramesh1, T. Eichhorn2, G. Jakob2 and C. Felser1. University of California, Berkeley, Berkeley, CA; 2. Johannes Gutenberg University Mainz, Mainz, RLP, Germany

GU-03. Magnetic field influence on the structural transformation in ferromagnetic shape memory alloy Mn50Ni40In10 melt spun ribbons. C. Garcia1,2, J. Gonzalez2, J.L. Sanchez Llamazares1, B. Hernando1, V.M. Prida1 and R. Varga1. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA; 2. Dpto. de Fisica de Materiales, Fac. Quimicas, UPV/EHU, San Sebastian, Guipuzcoa, Spain; 3. Dpto. Fisica. Facultad de Ciencias, Universidad de Oviedo, Oviedo, Asturias, Spain; 4. Fac Sci, Inst Phys, UPJS, Kosice, Slovakia

GU-04. Metastability and the Magnetostructural Transitions in Ni$_8$Mn$_{38}$Sn$_{64}$ W.M. Yuhasz1, D.L. Schlager1, Q. Xing1, K.W. Dennis1, R.W. McCallum1 and T.A. Lograsso1. Materials and Engineering Physics Program, Ames Laboratory, Ames, IA

GU-05. Structural & Magnetic Properties of NiMnSn Ferromagnetic Shape Memory Alloy Thin Films. D. Kaur1, R. Vishnoi1, A. Kumar1 and N. Chaudhary1. Department of Physics & Centre of Nanotechnology, Indian Institute of Technology, Roorkee, Roorkee, India

GU-06. Microstructures and Magnetic Properties of Rapidly Solidified Iron-based Ni-Fe-Ga Ferromagnetic Shape Memory Alloys. S. Aich1, S. Das1, I.A. Al-Omar2,4, P. Alagarsamy1, S. Ghosh Chowdhury1 and M. Chakraborti1. Metallurgical & Materials Engineering, Indian Institute of Technology (IIT), Kharagpur, West Bengal, India; 2. Physics, Sultan Qaboos University, Muscat, Oman; 3. Physics, Indian Institute of Technology (IIT), Guwahati, Assam, India; 4. Physics, University of Nebraska-Lincoln, Lincoln, NE; 5. MST Division, National Metallurgical Laboratory, Jamshedpur, Bihar, India

GU-07. Phase formation and magnetic properties of rapidly quenched Ni-Fe-Ga Heusler alloy. N.V. Rama Rao1,2, R. Gopalan1, V. Chandrasekar1 and K.G. Suresh1. AMG, DMRL, Hyderabad, Andhra Pradesh, India; 2. Physics, IIT Bombay, Mumbai, Maharashtra, India

GU-08. Magnetic and thermal properties of single crystal Ni-Fe-Ga Heusler alloys. V. Basso1, D. Balma1, M. Kuepferling1, C.P. Sasso1 and A. Vasiliev1. Electromagnetics, Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. Moscow State University, Moscow, Russia

GU-09. 1600 ppm Unloaded Magnetostriiction in Epoxy-Bonded Terfenol-D Continuous-Fiber Composites with [112] Crystallographic Orientation. C. Lo1, C. Leung1, S. Or1 and H. Chan1. Department of Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, China; 2. Department of Applied Physics, The Hong Kong Polytechnic University, Hong Kong, China
GU-10. Synthesis and Magnetostriction of Tb0.36Dy0.64(Fe0.85Co0.15)2 polycrystals. M. Yan1, M. Ren2, and Y. Pei1. Department of Materials Science and Engineering, Zhejiang University, Hangzhou, China; 2. School of Science, Beijing Institute of Technology, Beijing, China

GU-11. Plastic deformation of thin ferromagnetic films on nitinol sheet metal. A. Bandypadhyay1, J.C. Geers1, B. D. G. Stamminger1, and A. Guukasov1. LPM, Vandoeuvre les Nancy, France; 2. Laboratoire Leon Brillouin, Gif sur Yvette, France

GU-12. Magnetoelastic properties of CoFe2O4 thin films on MgO epitaxial substrates. O. Bataille1, A. Dufour1, and C. Smul1. Laboratoire Leon Brillouin, Gif sur Yvette, France

GU-13. Magnetic and magnetostrictive properties of Laves compounds Sm1−xCe1−xFe2 (0 ≤ x ≤ 1). W.J. Ren1, H. Wang1, Y. J. Zhang2, D. Li1, and X.G. Zhao1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China

GU-14. Microstructural Characterization of Ferritic 12Cr Steel by Preparation of Magnetic Composites. T. Saito1, K. Nishio2, and Y. Nakashima2. Kajima Corporation, Tokyo, Japan; 2. Kyushu University, Fukuoka, Japan

GU-15. Interplay between lattice clamping and helical magnetic ordering in (110) Eu epitaxial films. K. Dumesnil1, J. B. Rave1, and A. Bandyopadhyay1. University of Sannio, Benevento, Italy; 2. DIIIE, University of Salerno, Salerno, Italy

GU-16. Analysis of a Power Harvesting Device with Hysteretic Magnetostrictive Characteristics. D. Davino1, A. Giustiniani2, and C. Visone1. Engineering Department, University of Sannio, Benevento, Italy; 2. DIHE, University of Salerno, Salerno, Italy

GU-02. Characteristic Analysis of Electrodynamic Suspension Device with Permanent Magnet Halbach Array. H. Cho1, S. Moon1, H. Sung1, H. Han1, J. Bang2, K. Ko1, and S. Jang2. System Engineering Research Division, Korea Institute of Machinery and Materials, Daejeon, South Korea; 2. Electrical Engineering, Chungnam National University, Daejeon, South Korea

GU-03. Magnetic Design and Dynamic Analysis of Rectangular-Surface Electromagnets for Levitation Application System. S. Jang1, J. Choi1, J. Park1, S. Sung1, and H. Sung2. Chungnam National University, Daejeon, South Korea; 2. KIMM, Daejeon, South Korea

GU-04. Performance Prediction of a Small-sized Herringbone-grooved Bearing with Non-Newtonian Ferro-fluid Lubrication. Y. Kao1, P. Chao1, C. Chang2, and J. Huang. Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Mechanical Engineering, Chong Jia Christian University, Chungli, Taiwan

GU-05. Withdrawn

GU-06. Study of Electromagnetic Absorption on Zn1-xCoO film prepared by hybrid magnetic co-sputtering method. S. Tong1 and M. Tung1. Industrial Technology Research Laboratories, Hsinchu, Taiwan

GU-07. Coil Geometry for Efficient Active Compensation with Separated Magnetic Shields. Y. Nakashima1, S. Jang1, and I. Sasada1. Department of Applied Science for Electronics and Materials, Kyushu University, Fukuoka, Japan; 2. Research Fellow of the Japan Society for the Promotion of Science, Tokyo, Japan

GU-08. Shielding Performance of Open-Type Magnetic Shielding Box Structure. T. Saito1. Kagami Corporation, Tokyo, Japan

GU-09. Microstructural Characterization of Ferritic 12Cr Steel by Reversible Magnetic Permeability. C. Kim1, I. Park2, and K. Ryu1. Engineering Science and Mechanics, Pennsylvania State University, State College, PA; 2. Seoul National University of Technology, Seoul, South Korea


GU-11. Rotating Flux and Rotational Loss within Lamination at T-joint of a 3-phase 3-limb Transformer Core under PWM Voltage Excitation. X. Yao1, A. Moses1, S. Somku1, and A. Moses1. School of Engineering, Cardiff University, Wolfson Centre for Magnetics, Cardiff, Wales, United Kingdom
GV-12. Micro-scaled on chip high Q toroidal inductors above 20GHz.
S. Chen1, J. Ou2 and J. Wu3. The Graduate Institute of Photonics, National Changhua Univ. of Education, Changhua, Taiwan; 2. Taiwan SPIN research center, National Changhua Univ. of Education, Changhua, Taiwan; 3. Department of Physics, National Changhua Univ. of Education, Changhua, Taiwan

K.V. Namjoshi1, A. Sadeghian2 and J. Lavers1. 1. Electrical and Computer Engineering, University of Toronto, Toronto, ON, Canada; 2. Computer Science, Ryerson, Toronto, ON, Canada

A.A. Adly1 and H.H. Hassan1. Elect. Power & Machines, Cairo University, Giza, Egypt

GV-15. MEMs Design of Air Core Ethernet Transformers. D. Bowen1,2, I.D. Mayergoeyz1,2 and M. Beyaz1. 1. ECE, University of Maryland, College Park, MD; 2. UMLACS, University of Maryland, College Park, MD

FRIDAY SALON A AFTERNOON

Session HA

INTERMETALLIC AND OTHER HARD MAGNETIC MATERIALS III
Jan-Ulrich Thiele, Chair

HA-01. Grain isolated L10 FePt-Ta2O5 nanocomposite media with large coercivity for perpendicular recording applications. B. Lin1, J. Chen2, J. Hu1, W. Phyo1, Y. Ding2 and B. Liu1. Spintronics, Media and Interface (SMI) Division, Data Storage Institute, A*STAR (Agency for Science, Technology and Research), Singapore, Singapore; 2. Dept of Materials Science and Engineering, National University of Singapore, Singapore, Singapore


HA-03. L10 ordered FePtB thin films with small distribution of perpendicular magnetic anisotropy. E. Kitagawa1, M. Yoshikawa1, T. Nagase1, T. Daibou1, K. Nishiyama1, M. Nagamine1, T. Kishi1 and H. Yoda1. Toshiba Corporation, Kawasaki, Japan

HA-04. Tailoring the FePt orientation on amorphous substrates by magnetron sputtering, structural and magnetic investigations. V. Cantelli1, J. Grenzer2, J. von Borany3 and J. Fassbender1. Institute of Ion Beam Physics and Materials Research, Forschungszenrum Dresden-Rossendorf, Dresden, Germany

HA-05. Thickness dependence of structure and magnetic properties of annealed [Fe/Pt]n multilayer films. B. Yao1 and K.R. Coffey1. Advanced Materials Processing and Analysis Center, Department of Materials and Aerospace Engineering, University of Central Florida, Orlando, FL

HA-06. In situ formation of L10 FePt nanoclusters via plasma ion heating during inert gas condensation. M. Patterson1,4, X. Rui1, T.A. Zimmerman1, A. Li4, M. Kramer5, S. Dave3 and J. Shield1. Nebraska Center for Materials and Nanoscience, University of Nebraska - Lincoln, Lincoln, NE; 2. Mechanical Engineering, University of Nebraska - Lincoln, Lincoln, NE; 3. Physics, University of Nebraska - Lincoln, Lincoln, NE; 4. Physics, University of Wisconsin - Stout, Menomonie, WI; 5. Materials Science and Engineering, Iowa State University, Ames, IA; 6. Physics, Gustavus Adolphus, St Peter, MN

HA-07. Morphology and Crystalline Structure of Large Directly-Ordered L10 FePt Nanoparticles. X. Liu1 and J. Wang1. Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN

HA-08. Ultra-high-density (001)-oriented FePt nanoparticles by atomic-scale-multilayer deposition. L. Wang1, Y. Wu1 and C. Lai1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan
HA-09. Shape Control of FePt Nanocrystals. N. Poudyal1, G.S. Chaubey1, C. Rong1 and J. Liu1. Physics, University of Texas at Arlington, Arlington, TX

3:48

HA-10. Observation of L10-like chemical ordered decahedral FePt nanoparticles by Cs-corrected HRTEM. X. Hu1,2, L. Xie1,2, P.J. Liu1 and J. Yuan1. Laboratory of Advanced Materials, Department of Materials Science and Engineering, Tsinghua University, Beijing, China; 2. Beijing Electron Microscopy Centre, Tsinghua University, Beijing, China

4:00

HA-11. Phenomenological analysis of magnetization reversal process for L12-FePt (001) particulate films. D. Wang1, T. Seki1, K. Takanashi1 and T. Shima2. 1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Faculty of Engineering, Tohoku-Gakuen University, Tagajo, Japan

4:24

HA-12. Magnetic properties of L10 Fe3PtAu100-x-y nanoparticles. V. Nandwana1, G.S. Chaubey1, Y. Zhang1 and J. Liu1. Physics, University of Texas at Arlington, Arlington, TX

4:36

HA-13. Phase transformations and magnetic structure of Fe-Pd and Co-Pt alloys studied by in-situ neutron powder diffraction. J. Lyubina1, O. Isnard2 and O. Gutfleisch1. Leibniz-Institute of Solid State and Materials Research, IFW Dresden, P.O. Box 270016, D-01171, Dresden, Germany; 2. Institut Néel, CNRS / University J. Fourier, Avenue des Martyrs 38042 Grenoble cedex 9 and Institut Laue-Langevin, Rue J. Horowitz, 38042, Grenoble cedex 9, France

4:48

HA-15. Competing magnetic interactions in the intermetallic compound Ho3Mn2Si. R. Nirmala1, A.V. Morozkin1, J. Lamsa1, Z. Chu1, V. Sankaranarayanan1, K. Sethupathi1, Y. Yamamoto1, H. Hori1, W.B. Yelon1 and S.K. Malik1. Physics, Indian Institute of Technology Madras, Chennai, India; 2. Department of Chemistry, Moscow Lomonosov State University, Moscow, Russian Federation; 3. Department of Physics and Astronomy, University of Missouri-Columbia, Columbia, MO; 4. Department of Physics, University of Missouri-Columbia, Columbia, MO; 5. School of Materials Science, Japan Advanced Institute of Science and Technology, Ishikawa, Japan; 6. Materials Research Center and Department of Chemistry, Missouri University of Science and Technology, Rolla, MO; 7. International Center for Condensed Matter Physics (ICCMCP), University of Brasilia, Brasilia, Brazil
HB-05. Magnetic Nanocrystalline Iron-Nickel alloy prepared by electrodeposition. A. Sanaty Zadeh¹, A. Saidi¹ and K. Raeissi¹.
Materials Engineering, Isfahan University of Technology, Isfahan, Iran

HB-06. Fabrication and magnetic properties of Ni nanodots using nanoporous polysulphone membrane. S. Ramaswamy¹, G. Chandrashekaran¹, A. Littleflower¹ and S.N. Kumar¹.
Nanotechnology Research Center, SRM University, Chennai, Tamil Nadu, India

HB-07. Formation of non-interacting Ni nanostructures in α-Al2O3 by negative ion implantation. S.K. Sharma¹, P. Thakur¹, R. Kumar¹, S. Kumar¹, C.G. Lee² and M. Knobel¹.
Physics, University of Campinas, Campinas, Sao Paulo, Brazil; 2. Thin Film Materials Research Center, KIST, Cheongryang, Seoul 130-650, South Korea; 3. Inter University Accelerator Centre (IUAC), New Delhi, India; 4. School of Nano & Advanced Materials Engineering, Changwon National University, # 9 Sarim dong, Chan, South Korea

HB-08. Effect of boron on the field-induced magnetic anisotropy in Fe-based soft magnetic nanostructures. N. Ito¹, K. Suzuki¹, J.S. Garitaonandia² and J.D. Cashion³.
Department of Materials Engineering, Monash University, Clayton, VIC, Australia; 2. Departamento de Física Aplicada II, UPV/EHU, Bilbao, Spain; 3. School of Physics, Monash University, Clayton, VIC, Australia

HB-09. Process control of magnetic and structural properties of Fe3Si films on Si substrates. S. Liew¹, H.D. Seng¹ and D. Chi¹.
IMRE, Singapore, Singapore

HB-10. New Fe-Metalloids based nanocrystalline alloys with high Bs of 1.9T and excellent magnetic softness. A. Makino¹, H. Men¹, K. Yubuta¹ and A. Inoue¹.
IMR, Tohoku Univ., Sendai, Japan

HB-12. FeTaC soft underlayer for double-layered perpendicular recording media. P. Alagarsamy¹, T. Yukiko K¹ and K. Hono¹.
Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Ibaraki, Japan

Friday Afternoon

Session HC

HC-01. The Structure and Magnetocaloric Properties of Cu-doped Ni,GaMn alloys. V. Provenzano¹, T.B. Zhang¹ and A. Shapiro¹.
School of Materials Science and Engineering, Sichuan University, Chengdu, China

HC-02. The effect of thermal/magnetic non-equilibrium in estimating the magnetocaloric effect from magnetization measurements. J.S. Amaral¹ and V.S. Amaral¹.
Departamento de Física and CICECO, Universidade de Aveiro, Aveiro, Portugal

HC-03. Influence of the demagnetizing field on the determination of the magnetocaloric effect from magnetization curves. R. Caballero¹, V. Franco¹, A. Conde¹ and L.F. Kiss².
Department of Condensed Matter Physics, Sevilla University, Sevilla, Spain; 2. Research Institute for Solid State Physics and Optics, Hungarian Academy of Sciences, Budapest, Hungary

HC-04. High cooling power of Co-doped PrNi5 compounds exploiting its spin reorientation and magnetic transition over a wide temperature zone. S. Das¹, D. Rocco¹, J. Amaral¹, J. Leitão¹, V. Amaral¹, M. Reis¹, R. Fernandes², J. Araújo³, A. Pereira³, P. Tavares³, N. Martins³ and A. Coelho⁵.
Departamento de Física and CICECO, University of Aveiro, Aveiro, Portugal; 2. Institut für Keramische Hochleistungswerkstoffe, DenickestraBe, Technische Universität Hamburg-Harburg, Hamburg, Germany; 3. IFIMUP, Departamento de Física, Universidade do Porto, Porto, Portugal; 4. Departamento de Química and CQ-VR, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal; 5. Instituto de Física Gleb Wataghin, Universidade Estadual de Campinas - UNICAMP, Campinas, S. Paulo, Brazil
HC-05. Pressure Effect on Phase Transitions and Magnetocaloric Effect in Gd$_5$Ge$_4$. Z. Arnold$^1$, Y. Skorokhod$^1$, J. Kamarad$^1$, C. Magen$^2$ and P.A. Algarabel$^1$. 1. Magnetics and Superconductors, Institute of Physics AS CR, v.v.i., Prague 8, Czech Republic; 2. Departamento de Física de la Materia Condensada and Instituto de Ciencia de Materiales de Aragón, Universidad de Zaragoza and Consejo Superior de Investigaciones Científicas, 50009 Zaragoza, Spain

HC-06. Field induced structural phase transition at higher temperatures in Gd$_5$(Si$_{1-x}$Ge$_x$)$_4$. R.L. Hadimani$^1$, Y. Melikhov$^1$, J.E. Snyder$^1$ and D.C. Jiles$^1$. 1. Wolfson Centre for Magnetics, Cardiff University, Cardiff, Wales, United Kingdom


HC-08. Pressure-induced enhancement of suppressed ferromagnetism in Ge-rich, Gd$_5$(Si$_0.025$Ge$_{0.975}$)$_4$ magnetocaloric compound. Y. Tseng$^1$, D. Haskel$^1$, N.M. Souza-Neto$^1$, Y. Mudryk$^1$, V.K. Pecharsky$^1$ and K.A. Gschneidner, Jr$^1$. 1. Department of Materials Science & Engineering, Northwestern University, Evanston, IL; 2. Magnetic Materials Group, Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 3. Materials and Engineering Physics Program, Ames Laboratory, Ames, IA

HC-09. Magnetic and magnetocaloric properties of the R6Co$_2$Si$_3$ compounds with R = Pr, Nd, Gd and Tb. J. Shen$^1$, B. Shen$^1$, F. Hu$^1$, J. Sun$^1$ and Y. Li$^1$. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China; 2. School of Material Science and Engineering, Hebei University of Technology, Tianjin 300130, China

HC-10. Magnetocaloric Effects in Spherical La(Fe$_x$Si$_{1-x}$)$_{13}$ and Their Hydrides for AMR-type Refrigerator. A. Fujita$^1$, S. Koiwai$^1$, S. Fujieda$^1$, K. Fukamiuchi$^1$, T. Kobayashi$^1$, H. Tsuji$^1$, S. Kaji$^1$ and A. Saito-Takahashi$^1$. 1. Department of Materials Science, Graduate School of Engineering, Tohoku University, Sendai 980-8579, Japan; 2. JST Plaza Miyagi, Sendai 989-3204, Japan; 3. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai 980-8577, Japan; 4. Corporate Research & Development Center, Toshiba Corporation, Kawasaki 212-8582, Japan

HC-11. Cooling power enhancement triggered by multiple metamagnetic transitions in La(Fe$_x$Si$_{1-x}$)$_{13}$-based compounds. J. Lyubina$^1$ and O. Gutfleisch$^1$. Leibniz-Institute of Solid State and Materials Research, IFW Dresden, P.O. Box 270016, D-01171, Dresden, Germany

HC-12. Copper Induced Electronic Structure Changes in Giant Magnetocaloric Compound Ni$_5$Mn$_{12}$Cu$_{12}$Ga$_2$. S. Roy$^1$, E. Blackburn$^2$, S.M. Valldares$^3$, M.R. Fitzsimmons$^4$, S.C. Vogel$^1$, J.B. Kortright$^1$, S.K. Sinha$^2$, M. Khan$^1$, I. Dubenko$^1$ and N. Ali$^1$. 1. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 2. Department of Physics, University of California, San Diego, CA; 3. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA; 4. Manuel Lujan Neutron Scattering Center, Los Alamos National Laboratory, Los Alamos, NM; 5. Department of Physics, Southern Illinois University, Carbondale, IL


HC-14. Irreversible magnetocaloric response in Ni-Mn-Sn. C.P. Sasso$^1$, L. Giudici$^1$, M. Pasquale$^1$, M. Kueperling$^1$, Y. Basso$^1$, T. Lograsso$^3$ and D. Schlagel$^3$. 1. Electromagnetics Division, INRIM, Torino, Italy; 2. Physics, Politecnico di Torino, Turin, Italy; 3. Materials and Engineering Physics, Ames Laboratory, Ames, IA
HC-15. Mössbauer spectroscopy study on the magnetic transition in Mn$_{1.1}$Fe$_{0.9}$P$_{0.8}$Ge$_{0.2}$. X. Liu$^1$, Z. Altounian$^1$, D.H. Ryan$^1$, M. Yue$^2$, Z. Li$^2$, D. Liu$^2$ and J. Zhang$^1$. Physics Department, McGill University, Montreal, QC, Canada; 2. College of Mater. Sci. & Eng., Beijing University of Technology, Beijing, China

FRIDAY SALON E
AFTERNOON
2:00

Session HD

4f-, 5f- AND STRONGLY CORRELATED SYSTEMS III
Joseph Ross, Chair

HD-01. Contribution of 4f states to the magnetic anisotropy of EuO.
E. Arenholz$^1$, G. van der Laan$^3$, A. Schmehl$^3$ and D.G. Schlom$^4$. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA; 2. Diamond Light Source, Didcot, Oxfordshire, United Kingdom; 3. Institut für Physik, Universität Augsburg, Augsburg, Germany; 4. Department of Materials Science & Engineering, Penn State University, University Park, PA

2:12

HD-02. Electronic structure of ferromagnetic semiconductors EuX (X=O, S, Se, Te) probed by x-ray magnetic circular dichroism under high pressure.
N. M. Souza-Neto$^1$, D. Haskel$^1$, Y. Tseng$^1$ and G. Lapertot$^1$. Advanced Photon Source, Argonne National Laboratory, Argonne, IL; 2. Department of Materials Science and Engineering, Northwestern University, Evanston, IL; 3. Département de Recherche Fondamentale sur la Matière Condensée, CEA, Grenoble, France

2:24

HD-03. $^{33}$S NMR Measurements in the Heisenberg Ferromagnet EuS.
N. Bykovets$^1$ and c. Lin$^1$. Department of the Army, CECOM LMC, AMSEL-SF-R, Fort Monmouth, NJ; 2. Physics, Temple University, Philadelphia, PA

2:36

HD-04. Infrared study of SmMnO$_3$ crystal field excitations.
V. Nekvasil$^1$, S. Jand$^1$, A.A. Mukhin$^1$, V.Y. Ivanov$^1$ and A.M. Balbashov$^3$. Institute of Physics CAS, Prague, Czech Republic; 2. Université de Sherbrooke, Sherbrooke, QC, Canada; 3. General Physics Institute RAS, Moscow, Russian Federation; 4. Moscow Power Engineering Institute, Moscow, Russian Federation

2:48

HD-05. Pressure and magnetic field effects in heavy-fermion UCu$_{6.5}$Al$_{1.5}$. F. Nastre$^1$, A.M. Alsmadi$^2$, V. Zapf$^3$, F. Fabris$^3$, T.D. Dial$^4$, A. Lacerda$^3$, J. Kamarad$^3$, K. Koithapalli$^3$ and H. Nakotte$^1$. Physics Department, New Mexico State University, Las Cruces, NM; 2. Physics Department, The Hashemite University, Zarqa, Jordan; 3. Pulse Field Facility, NHMFL, Los Alamos National Laboratory, Los Alamos, NM; 4. Laboratory of High Pressure, Institute of Physics, ASCR, Prague, Czech Republic

3:00

HD-06. Electronic Structure, Magnetic, and Transport Characterization of Eu-Mn Intermetallic Alloys. K.A. Balin$^{1,2}$, J. Szade$^2$, A. Hutchison$^1$ and Z. Celinski$^1$. Center for Magnetism and Magnetic Nanostructures, University of Colorado at Colorado Springs, Colorado Springs, CO; 2. Division of Solid State Physics, Institute of Physics, Silesian University, Katowice, Poland

3:12

HD-07. Moment variation in Er(Co$_{1-x}$Fe$_x$)$_2$ Laves phase: magnetic measurements and Mössbauer spectroscopy study.
X. Liu$^1$, Z. Altounian$^1$ and D.H. Ryan$^1$. Physics Department, McGill University, Montreal, QC, Canada

3:24

HD-08. Magnetic Properties of Thulium Layered Compounds; AlB$_2$-type Analogues.
T. Mori$^{1,2}$ and K. Siemensmeyer$^3$. National Institute for Materials Science, Tsukuba, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. Hahn Meitner Institute, Berlin, Germany

3:36

HD-09. Magnetic phase transitions in R$_x$NiP$_y$, R = Ce, Nd and Gd.
Y. Goruganti$^1$, K.D. Ratnakaya$^1$ and J.H. Ross$^1$. Department of Physics, Texas A&M University, College Station, TX

3:48

HD-10. Coexistence of magnetism and superconductivity in CeRhIn$_5$.
T. Park$^{1,2}$, J.L. Sarrao$^2$ and J.D. Thompson$^2$. Physics, Sungkyunkwan University, Suwon, South Korea; 2. Condensed Matter and Thermal Physics, Los Alamos National Laboratory, Los Alamos, NM

4:00

HD-11. Magnetic properties of plutonium and Pu compounds.
L. Havela$^1$, A.B. Shick$^2$ and T. Gouder$^3$. Department of Condensed Matter Physics, Charles University, Prague 2, Czech Republic; 2. Institute of Physics, Academy of Sciences of the Czech Republic, Prague 8, Czech Republic; 3. European Commission, Joint Research Centre, Institute for Transuranium Elements, Karlsruhe, Germany
HD-12. Ferromagnetism in UCoGe stabilized by transition metal doping. J. Pospisil1, J. Poltierova Vejpravova1, M. Divis1 and V. Sechovsky1. Department of Condensed Matter Physics, Charles University in Prague, Praha 2, Czech Republic

4:24

HD-13. Magnetic disorder in Ti doped ErCo2: High magnetic field study. Y. Öner1 and M. Guillot2. 1. Department of Physics, Istanbul Technical University, Istanbul, Turkey; 2. Grenoble High Magnet Field Laboratory, CNRS, Grenoble, France

4:36

HD-14. Nanocrystals formation in amorphous YxCe50-xCu42Al8 (x=0, 25) heavy-fermion system. B. Idzikowski1, Z. Sniadecki1 and B. Mielniczuk1. Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland

4:48

HD-15. Quadrupolar pair interactions in f-electron materials. N.G. Fazleev1,2. 1. Physics, University of Texas at Arlington, Arlington, TX; 2. Physics, Kazan State University, Kazan, Russian Federation

FRIDAY
AFTERNOON
2:00

Session HE
FERRITES, GARNETS AND MICROWAVE MATERIALS
Rajasakeran Swaminathan, Chair

2:00

HE-01. Structural and Size dependent Magnetic Properties of Gadolinium- Iron- Garnet (GdIG) Nanoparticles under High Magnetic Field of 32 Tesla. C.N. Chinnasamy1, V.G. Harris1, J.M. Grenache2, T. Sakai1, B. Latha1, C. Vittoria1 and M. Guillot2. 1. Center for Microwave and Magnetic Materials, Dept. of Electrical and Computer Engineering, Northeastern University, Boston, MA; 2. Laboratoire de Physique de l'Etat Condensé, UMR CNRS 6087, Institut de Recherche en Ingénierie Moléculaire et Matériaux Fonctionnels IRIM2E, FR CNRS 2575, Université du Maine, 72085 Le Mans Cedex 9, France; 3. Grenoble High Magnetic Field Laboratory, CNRS, Grenoble, BP 166, F-38042, France

HE-02. Magnetism and magnetocaloric effect in bulk and nanostructured Gd3Fe5O12 garnets. M.H. Phan1, M.B. Morales2, H. Srikanth1, C.N. Chinnasamy1 and V.G. Harris1. Department of Physics, University of South Florida, Tampa, FL; 2. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA

2:24

HE-03. Imaging Capabilities of Etched (100) and (210) Garnet Films. S. Tkachuk1, D. Bowen1, C. Krafft2 and I.D. Mayergoyz1. 1. Electrical and Computer Engineering, University of Maryland, College Park, MD; 2. Laboratory for Physical Sciences, College Park, MD; 3. UMIACS, University of Maryland, College Park, MD

2:36


2:48


3:00

HE-06. In-plane c-axis oriented barium ferrite films with self bias low microwave loss. Y. Song1, J. Das1, Z. Wang1, W. Tong1 and C.E. Patton1. 1. Department of Physics, Colorado State University, Fort Collins, CO

3:12


HE-09. Temperature dependence of magnetic anisotropy of germanium/cobalt co-substituted cobalt ferrite. N. Ranvah1, I.C. Niebedin1, Y. Melikhov1, J.E. Snyder1, A.J. Moses1, P.I. Williams1, F. Anayi1 and D.C. Jiles1. 1. Wolfson Centre for Magnetics, Cardiff University, Cardiff, Wales, United Kingdom; 2. Materials Science and Engineering Department, Iowa State University, Ames, IA

HE-10. Permeability and losses in ferrites from DC to the microwave regime. M. Pasquaile1, F. Fiorillo1, M. Coïsson1 and C. Beatrice1. 1. Divisone Elettromagnetismo, INRIM, Torino, Italy

HE-11. An efficient model for the GHz permeability of sprayed ferrite films. O. Acher1, M. Ledieu1, M. Abe2, M. Tada2 and T. Nakagawa1. 1. Departement Matériaux, CEA Le Ripault, F-37260 Monts, France; 2. Department of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan

HE-12. Low-loss magnetodielectric spinel-ferrite based ceramic with constant permeability and permittivity in the UHF range. T. Atul1, C. Alexis3, M. Jean-Luc4 and Q. Patrick1. 1. Lab-STICC, Brest Cedex 3, France

HE-13. Ferromagnetic resonance and dielectric and magnetic properties of pure and diluted ferrites in millimeter waves. M.N. Afsar2, S. Chen3 and K.A. Korolev1. 1. EECS, Tufts University, Medford, MA; 2. Extremely High Frequency Medical and Technical Association, Moscow, Russian Federation


HE-15. Novel magnetic behaviors of CoFe2O4 nanoparticles prepared at low temperatures. J. Tang4, W. Wang1, Q. Gao2, G. Hong2 and J. Ni2. 1. Physics & Astronomy, University of Wyoming, Laramie, WY; 2. Key Laboratory of Rare Earth Chemistry and Physics, Changchun Institute of Applied Chemistry, Changchun, Jilin, China


HF-04. Multilayered TbFe/Ni/TbFe Thin Film Multi Body Actuator for Micromachined Magnetostrictive Transducer. H. Lee¹, C. Cho¹, C. You¹, H. Choi¹ and J. Yoon¹. Mechanical Engineering, Inha University, Incheon, South Korea; 2. Physics, Inha University, Incheon, South Korea

HF-05. ANN based Torque Calculation of SR Motor without Locking the Rotor. F. Kacuk¹, H. Goto¹, T. Goto² and O. Ichinokura¹. Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. Graduate School of Engineering, Tohoku Gakuen University, Tagajo, Japan

HF-06. Performance Analysis of Surface Mounted Permanent Magnet Brushless DC Motor using various Finite Element Packages. P.K. Upadhyay¹, A.I. Sutaria² and T.N. PateF¹. Electrical and Computer Engineering Department, Institute of Technology, University of Minnesota, Minneapolis, MN, MN; 2. Department of Electrical Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India

HF-07. Eddy currents due to vacuum chamber wall in the airgap of linear PM actuators. J.W. Jansen¹ and E.A. Lomonova¹. Department of Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands

HF-08. The influence of the stochastic features of the energy source on the design of an electromagnetic generator. M. Trapanese¹. Dipartimento di Ingegneria Elettrica, Elettronica e delle Telecomunicazioni, Università di Palermo, Palermo, Italy


HF-10. Comparative Study on Stator Structures in High-Speed Sensorless Brushless DC Motors. K. Wang¹, M. Jin¹, J. Shen¹ and R. Qiu¹. College of Electrical Engineering, Zhejiang University, Hangzhou, China; 2. Astronaut Center of China, Beijing, China

HF-11. An Outer-Rotor Permanent Magnet Flux-Switching Machine for Traction Application. Y. Wang¹, W. Fei²¹, J. Shen¹ and Z. Fang¹. Zhejiang University, Hangzhou, China; 2. Cranfield University, Swindon, United Kingdom


HF-13. The use of Lie’s Symmetries on the modeling of permanent magnet motors. L.T. Loureiro¹, F. Flores Filho¹, J.R. Zabadal² and R.P. Homrich¹. Electrical Engineering Department, Federal University of Rio Grande do Sul, Porto Alegre, RS, Brazil; 2. Nuclear Engineering Department, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil

