General Information

SCOPE OF THE CONFERENCE

The 10th Joint MMM/Intermag Conference is sponsored jointly by the American Institute of Physics (PCI) 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, advanced and controversial developments.

BALTIMORE, MARYLAND

There’s no better place to get acquainted with America—its historic past and exciting future—than in Baltimore. Baltimore offers a world of unique attractions, entertainment, fine dining, and one-of-a-kind experiences. Get your feet wet at the National Aquarium in Baltimore. Marvel at the American Visionary Arts Museum. Explore the city’s amazing maritime heritage of tall ships and workboats as you stroll through the Inner Harbor, which is one of the top destinations in the City of Baltimore. It has been one of the major seaports in the United States since the 1700s, and started blossoming into the cultural center of the City in the 1970s. Today you’ll find a wide array of things to do—all within walking distance. For more information on what to see and do in Baltimore, please visit the Convention Bureau website at www.baltimore.org.

VISA REQUIREMENTS

Citizens of other countries must carry a valid passport and visa to enter the USA. Foreign participants should contact the United States Embassy, Consulate, or Office of Tourism in their home country as soon as possible to determine their particular visa requirements. Participants requiring visas must initiate the application process many months in advance of their departure date. If you need a personal letter of invitation to attend the Conference, contact the 2007 Joint MMM/Intermag Conference, c/o Courtesy Associates, 2025 M Street, NW, Suite 800, Washington, DC, 20036; E-mail: 2007Joint@courtesyassoc.com; Fax: 202-973-8722.

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 since only an original copy (not faxed or e-mail version) will be accepted with your visa application. To determine if your passport is in order, and whether or not you require a visa, you must check locally with your country’s embassy or consulate.

NOTE: The Conference CANNOT contact or intervene with any U.S. Embassy or Consulate office abroad on your behalf.

TRANSPORTATION

Baltimore-Washington International – BWI * 1-410-859-7111 * Hotel Direction: 12 miles Southeast * Driving Directions: From Baltimore-Washington International Airport: Take Baltimore/Washington Parkway North, 8 miles to Pratt Street, turn right. Proceed to President Street and turn right. Get into the right-hand lane and proceed straight. At stop sign, go straight. Hotel will be on your right.

• Estimated taxi fare: $23 USD (one way)

Washington, DC/National/Reagan Airport – DCA

• 1-703-572-2700
• Hotel Direction: 45 miles North
• Driving Directions: From Reagan National Airport, Washington DC: Take George-Washington Parkway North to I-495 and proceed North to I-95 North. Follow I-95 North to I-395 to Pratt Street, turn right. Proceed on Pratt Street to President’s Street. Turn right onto President’s Street. Turn right onto Aliceanna. The hotel is on the right.

• Estimated taxi fare: $100 USD (one way)

Washington, DC/Dulles – IAD

• 1-703-417-8000
• Hotel Direction: 52 miles Northeast
• Driving Directions: From Washington Dulles International Airport: Take the Dulles Toll Road East to I-495 North. Proceed on I-495 North to I 95 North. Follow I 95 North to I 395 Downtown Baltimore to Pratt Street, turn right. Proceed on Pratt Street to President’s Street, turn right onto President’s Street. Turn right onto Aliceanna. The hotel is on the right.

• Estimated taxi fare: $125 USD (one way)

Airport shuttle service is a less expensive alternative to a taxi. One company is Supershuttle 1-800-BLUE VAN (258-3826). Call or check the website (www.supershuttle.com) for more information.

HOTEL

The Baltimore Marriott Waterfront is located at the center of the city’s dining, shopping and sightseeing district, overlooking Baltimore’s Inner Harbor. All guest rooms offer a water view. The special hotel room rates for 2007 Joint Conference attendees will be $143/single or double plus applicable taxes. In addition there are a limited number of government-rated rooms available for which a government I.D. must be presented upon check-in. However, should the Federal government per diem rate go up for 2007, you may find that the conference rate is lower.

The Hotel Room Reservation Form and a direct link to the Marriott’s reservation system can be found on the 2007 Joint Conference homepage at www.magnetism.org. Making a hotel room reservation via the web site is the fastest way to book the room you want, and will provide you with an immediate confirmation. You may book your room by going directly to the Baltimore Marriott Waterfront reservations web site link at www.marriott.com/bwixf. Please enter your desired reservation dates, then type in magma in the GROUP CODE box and click the FIND button. This will ensure that you receive the special 2007 Joint Conference group rates. If you choose to make your reservation by telephone (1-410-385-3000) or by fax (1-410-895-1900) be sure to mention this group code as well.

The hotel can serve all special needs, so please make your requests when you reserve your room. You will receive confirmation of your hotel reservation by email as long as you enter your correct email address on the reservation form. If you do not receive your confirmation within two weeks, please call the hotel to confirm your reservation, and ask for your confirmation number so that you can carry it with you when you come. Each Conference participant is responsible for making his/her own hotel reservation and for paying all personal bills upon checkout.

HELP KEEP YOUR CONFERENCE FEES DOWN: Costs for the Joint Conference meeting space are minimized by meeting pre-established targets for room occupancy at the Joint 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 Marriott Hotel for the 2007 Joint MMM/Intermag Conference before the cutoff date of Monday, December 11th.
Your hotel room reservation must be received by the Baltimore Marriott Waterfront no later than Monday, December 11th, in order for you to receive the special Joint Conference rates.

CONFERENCE REGISTRATION

You can register in advance at a reduced rate prior to Monday, December 11, 2006. You are encouraged to register through the secure web site, or you may register by completely filling out the Advance Registration Form on the web site: http://www.magnetism.org/. Payment in U.S. dollars must be made by personal or corporate check (drawn on a U.S. bank only), or by MasterCard, Visa or American Express credit card. Make checks payable to “Joint MMM/Intermag 2007.” All 2007 Joint Conference attendees, including speakers, must pay registration fees.

Onsite registration during the Conference will be at the higher rates listed below. After December 11th, only the higher registration fees will be accepted, and only at the Onsite Registration Desks at the Conference. Forms not accompanied by payment or with incomplete or incorrect credit card information will be considered “late” and the higher rates will be collected onsite at the Conference.

Registration Fees:

<table>
<thead>
<tr>
<th></th>
<th>Prior to October 7th</th>
<th>After October 7th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Registrant Member</td>
<td>$598</td>
<td>$678</td>
</tr>
<tr>
<td>Full Registrant Non-Member</td>
<td>$718</td>
<td>$798</td>
</tr>
<tr>
<td>Student/Unemployed Retiree</td>
<td>$298</td>
<td>$338</td>
</tr>
</tbody>
</table>

You are eligible to register at the Member rate ONLY if you belong to (at least) one of the Professional Societies which is listed on the web site http://www.magnetism.org/. If you are not a member of any of these societies, you must pay the Non-Member registration fee. Proof of Society membership will be checked at the Registration Desk.

Early Bird Registration Date of November 3, 2006: You will receive a printed copy of the Advance Program Book ONLY if you register prior to the Early Bird Deadline of Friday, November 3, 2006. A pdf version of the Advance Program is available online.

Registration Cancellation Policy: Cancellations of advance registrations must be submitted in writing and received at YesEvents no later than Monday, December 11, 2006. Refunds of the original payment, less a $75 service fee, will be mailed 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.

The Conference Registration Desks, located in the Grand Ballroom Foyer on the 3rd Floor of the Baltimore Marriott Waterfront, will be open during the following hours:

- Sunday, January 7th: 4:00 PM – 8:00 PM
- Monday, January 8th: 6:30 AM - 4:00 PM
- Tuesday, January 9th: 7:00 AM – 2:30 PM
- Wednesday, January 10th: 7:00 AM – 2:30 PM
- Thursday, January 11th: 7:00 AM – 2:00 PM

CONFERENCE SYMPOSIA

During the Conference, there will be technical symposia on the topics:
- Interfaces in Magnetic Tunnel Junctions
- Spin manipulation in semiconductors and metals for spintronics
- Magnetic MEMS technologies
- Driven domain wall dynamics
- Recent advances in modeling of magnetic and spin dependent properties
- Probing the magnetic structure of nanostructured exchange
- Bose-Einstein condensation and quantum magnets

Check the Program for specific times and locations.

SUNDAY EVENING TUTORIAL

On Sunday evening, January 7th, before the start of the technical program, there will be a tutorial session on “Spin Torque” in the Harborside Ballroom Salons C-E on the 4th Floor of the hotel. The aim of the tutorial is to provide a broad introduction to the physics of spin torque, geared toward the non-expert. The tutorial begins at 7:00 PM and each talk is 36 minutes long. The speakers are Tom Silva (NIST), Andrei Slavin (Oakland University), and Pieter Visscher (University of Alabama). Their presentations will focus on an introduction to spin torque (Silva), nonlinear microwave dynamics (Slavin), and large angle precession dynamics and visualizations (Visscher). The tutorial will be chaired by Carl Patton (Colorado State University).

IEEE MAGNETICS SOCIETY GENERAL MEETING

This meeting is open to all Joint Conference participants. Please come to learn about the IEEE Magnetics Society. The meeting will be held on Monday, January 8th, at 3:00-3:30 PM, just prior to the Plenary Session and Awards Ceremony. The location will be the Dover Room on the 4th Floor of the hotel.

PLENARY SESSION

Presentation of the IEEE Awards will be done at the Plenary Session on Monday, January 8th at 3:45 PM in the Harborside Ballroom on the 4th Floor of the hotel. The Finalists for the Best Student Presentation Award will also be acknowledged during this session. The keynote speaker is Samuel Bader of Argonne National Laboratory. His talk is titled: “Opportunities in Nanomagnetism.”

Abstract: Nanomagnetism is the discipline dealing with magnetic phenomena specific to structures having dimensions in the submicron range. This talk addresses the challenges and scientific problems in this emerging area, including its fabrication strategies, and describes experiments that explore new spin-related behaviors in metallic systems as well as efforts to understand the observed phenomena. As a subfield of nanoscience, nanomagnetism shares many of the same basic organizing principles such as geometric confinement, physical proximity, and chemical self-organization. These principles are illustrated by means of examples drawn from the quests for ultrastable permanent magnets, ultra-high-density magnetic recording media, and nanobiomagnetic sensing strategies. As a final example showing the synergetic relationships to other fields of science, the manipulation of viruses to fabricate magnetic nanoparticles is discussed. This work was supported by Department of Energy, Basic Energy Science under contract W-31-109-ENG-38.

Sam Bader received a B.S. (1967) and Ph.D. (1974) from UC-Berkeley. He then went to Argonne as a post-doc, in 1977 becoming a staff member. Presently he is a Senior Physicist and Group Leader of the Magnetic Films Group and an Associate Division Director of Argonne’s Materials Science Division, and Scientific Director of the new Center for Nanoscale Materials. He is co-author of 330 publications and appeared in the ISI 1981-97 “most cited physicists” listing. He is a Fellow of the AVS and the APS. He received the DOE-BES Award in Solid State Physics for work on coupled magnetic layers in 1992, the University of Chicago Award for Distin-

PLENARY RECEPTION

Immediately following the Plenary Session and Awards Ceremony, there will be a Reception for all registered participants. This will be in lieu of the Bierstube on Monday evening, January 8th. The Reception will be held in the Harborside Ballroom Foyer on the 4th Floor of the hotel. All registered participants are invited to attend free of charge.

SPECIAL TUESDAY EVENING SESSION

There will be a special evening Symposium on Tuesday January 9th starting at 7:30 PM in the Harborside Ballroom Salons C-E on the 4th Floor of the hotel. The symposium is titled “Magnetic Memories, Past and Present,” and will cover a historical overview of magnetic memories, including bubble memories and MRAMs, intended for a general audience. The speakers for this symposium are William Doyle, Robert Fontana, and Brad Engel, and the session will be chaired by William Gallagher.

WOMEN’S NETWORKING RECEPTION

There will be a Networking Reception for women in the magnetism community on Wednesday January 10th beginning at 5:30 PM in the Kent Room located on the 4th Floor of the hotel. At the reception, there will be the opportunity to form dinner groups in order to get to know one another better. All graduate students, researchers and retirees are encouraged to attend. For questions, contact Patricia Sparks from Harvey Mudd College (sparks@HMC.edu).

BIERSTUBE AND COFFEE

Coffee service will be available on Tuesday through Thursday mornings from 7:00 AM – 9:30 AM in the Grand Ballroom on the 3rd Floor among the Exhibits and Poster Sessions. On Monday morning, when the exhibits are not open, the coffee service will be in the Grand Ballroom Foyer. On Sunday evening the Bierstube will be in the Harborside Ballroom Foyer on the 4th Floor from 5:00 PM – 8:00 PM. On Tuesday and Wednesday evenings, the Bierstube will be held from 5:00-6:30 PM in the Exhibitor Pavilion on the 3rd Floor.

WIRELESS ACCESS

Wireless Access will be available on Monday through Thursday in the Grand Ballroom on the 3rd Floor among the Exhibits and Poster Sessions. The Access Code and hours will be posted on signs in the Grand Ballroom.

PUBLICATIONS ROOM

The Publications Rooms for both the J. Appl. Phys. and the IEEE, where authors can check the status of their manuscripts, will be located in the Atlantic and Bristol Rooms located on the 4th Floor of the hotel. These rooms will be open and staffed as follows:

- Monday, January 8th – Wednesday, January 10th: 9:00 AM – 5:00 PM
- Thursday, January 11th: 9:00 AM – 2:00 PM

SPEAKER PRACTICE ROOM

Speakers are reminded that the Joint Conference is planning an all-electronic presentation format. Just prior to making their oral presentation, authors will attach their own laptop computers to digital projection equipment supplied by the Joint Conference. You should come prepared with your presentation in Microsoft PowerPoint format for a PC, or else on a MAC. Please take the time to test your computer with the in-house equipment provided in the Speaker Practice Room well before the day and time of your individual presentation. Speakers may use either the Iron or James Room, located on the 4th Floor of the hotel, to practice their presentations. Audiovisual equipment (LCD projector and screen) will be available there for authors to use from 8:00 AM until 5:00 PM on Monday through Thursday. 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 adaptor 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. 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.

POSTER SESSIONS

The Poster Sessions will be held in the Grand Ballroom (3rd Floor) on Monday from 8:00 AM–12:00 Noon and on Tuesday through Wednesday from 8:00 AM–12:00 Noon and 1:00 PM–5:00 PM; and on Thursday morning from 8:00 AM until 12:00 Noon. Authors should set up their materials at least half an hour before session start times. They must be by their posters from 8:00–9:00 AM and 11:00 AM–12:00 Noon for the morning sessions, and from 1:00–2:00 PM and 4:00–5:00 PM for the afternoon sessions. The surface area available for posters is 8’ long by 4’ high. Authors are reminded to remove all of their materials, excluding the push-pins that have been provided by the Conference, promptly at the end of their session. The Conference staff will discard materials that are not removed promptly, in order to prepare for the next session.

EXHIBITS

At the 2007 Joint Conference equipment suppliers, vendors and companies will have a rare opportunity to interface with over 1300 magnetics researchers, with wide ranging interests from magnetic recording phenomen-
ena to biomagnetism. The 2007 Joint MMM/Intermag Conference will place your company in direct contact with the scientific, physics and engineering community that needs your products and services to stay at the forefront of research and technology.

Included in the exhibitor package is the opportunity for a 25-minute presentation in the Exhibitor Theater, multiple company listings onsite, in printed materials and on the Conference website.

The Exhibitor Pavilion

The Exhibitor Pavilion will be located in the Grand Ballroom on Tuesday through Thursday, January 9th-11th. All exhibitors receive an 8’x10’ exhibit booth and are entitled to one 25-minute presentation in which to preview their latest products or services in the Exhibitor Theater on the Pavilion floor, as well as multiple listings onsite, in print and on the Conference website. Please see below for additional corporate exposure opportunities.

Companies interested in purchasing booth space should contact Roseann Kuryla, Exhibits Coordinator at Courtesy Associates at: e-mail: 2007joint@courtesyassoc.com; Fax: 202-973-8722. The Exhibitor Prospectus is downloadable from the www.magnetism.org web site, and are also available in print upon request.

CORPORATE PROMOTIONAL OPPORTUNITIES

Companies interested in gaining unique exposure to the 2007 Joint Conference attendees will have the opportunity to promote different areas of the event, ranging from your company logo printed on registration bags and lanyards to hosting an Internet Lounge in the Exhibitor Pavilion. These opportunities are open to all. They will be listed on the 2007 Joint Conference website, and will be on a first-paid-first-served basis.

BEST STUDENT PRESENTATION AWARD

This year, there is a competition for the best student presentation at the Joint 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 Joint 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 Joint 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 names of the finalists competing for the award are: Robert Compton, Xiaohua Lou, Ezana Negusse, Rajesh Chodkedkar and Thomas Haet. The presentations, which must be made by the finalist, will be evaluated at the Conference by the Student Award sub-committee and the winner will be announced shortly after the conclusion of Joint Conference.

Best 50th MMM Student Presentation Winner

Clarina dela Cruz

for her presentation:

"Evidence for strong spin-lattice coupling in multiferroic \( \text{RMn}_2 \text{O}_5 \) (\( R=\text{Th},\text{Dy},\text{Ho} \)) via thermal expansion anomalies."

CONGRATULATIONS!

BEST POSTER PRESENTATIONS

There is also a competition for the best poster in each poster session at the Conference. These awards will be given to recognize excellence in research and presentation. There will be one award for each morning and each afternoon session.

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.

Eligibility: All posters will be eligible for nomination for this award providing they meet the requirements and guidelines for the Conference 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.

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.

Best 50th MMM Conference Poster Presentation Winners

Claudiu Daniel Stanciu, A. Kimel, F. Hansteen, A. Tsukamoto, A. Itoh, A.Kiriyuk, and T.Rasing

IMM, Radboud Univ. Nijmegen; Nijmegen, Netherlands

Temperature dependence of laser induced magnetization dynamics in a GdFeCo film: the role of angular momentum compensation

Matthew Moneck and J. Zhu

Electrical and Computer Eng., Carnegie Mellon Univ. Pittsburgh, PA, USA

Fabrication and testing of deep submicron ring shape vertical MRAM with enhanced magnetoresistance

Sylvia Florez, C. Krafft, and R. D. Gomez

Electrical and Computer Eng., Univ. of Maryland, College Park, MD, USA

Effects of artificial domain wall traps in pulsed-current induced domain wall motion in a spin valve device

Zhi-pan Li, R. Morales, O. Petracic and I. K. Schuller

Physics Department, UC San Diego, La Jolla, CA, USA

Domain Size Relevance in Exchange Biased Nanostructures

Yosi Bason, L. Klein, C. H. Ahn, X. Hong, and J. T. Yau

Physics, Bar-Ilan Univ., Ramat Gan, Israel; Applied Physics, Yale Univ., New Haven CT, USA

Planar-Hall-Effect MRAM

R. R. Deshmukh, A.J. Moses, and F.J. Anayi

Engineering, Wolfson Centre for Magnetics Technology, Cardiff, Wales, UK

Behaviour of Three-Phase Inducting Motor with Variable in Stator Coil Winding Pitch

CONGRATULATIONS!

FUTURE CONFERENCES

52nd Conference on Magnetism and Magnetic Materials: November 5-9, 2007, Tampa, FL

INTERMAG Conference: May 4-8, 2008, Madrid, Spain

53rd Conference on Magnetism and Magnetic Materials: November 10-14, 2008, Austin, TX

ADDITIONAL INFORMATION
If you would like to receive more information about the Joint 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 Joint Conference can be found on the Web at the Conference homepage at: http://www.magnetism.org.

SPECIAL FREE GMAG MEMBERSHIP OFFER FOR STUDENTS
Student members of the APS may join the Topical Group on Magnetism (GMAG) FREE for up to one year (until their next APS renewal and then $7 thereafter). Students who are not members of APS can also join APS for no cost the first year. Membership forms are available at the APS Membership Desk at the 2007 Joint Conference and on-line at http://www.aps.org/memb/joinaps.cfm.

SPECIAL FREE IEEE MEMBERSHIP OFFER FOR STUDENTS
If you are registered at the 2007 Joint MMM/Intermag Conference as a Student attendee, at the Student rate, you can obtain a FREE membership in the IEEE and the Magnetics Society by:
• Completing and returning an IEEE student membership application form.
• Completed forms must be handed in at the IEEE Membership Desk at the Joint Conference to obtain this free Student Membership.
• This offer is only valid at the 2007 Joint MMM/Intermag Conference.
• Submissions sent/received after the final day of the Joint Conference CANNOT be processed.
• This free student membership will run for the remainder of 2007.
• This free student membership is only available to students who are NOT currently members of the IEEE and the Magnetics Society.
IEEE Membership forms are also available online at http://services.ieee.org/membersvc/member/mags_intro.htm

IEEE MAGNETICS SOCIETY
President: ...................... Carl E. Patton
Vice President: ................ Randall Victoria
Past President: ................... Kevin O’Grady
Executive Director: ............. Diane S. Melton

ELECTED MMM ADMINISTRATIVE COMMITTEE MEMBERS
Advisory Committee for the 10th Joint MMM/Intermag Conference
Chairman ..................... R. Victoria
Secretary ...................... J. Childress
Executive Secretary/Treasurer . . . D. Melton

Sponsoring Society Representatives
Physics Conferences Inc. .......... M. Burke
IEEE Magnetics Society .......... D. Lavers

CONFERENCE ORGANIZATION
Steering Committee 10th Joint MMM-Intermag Conference
Chair ....................... J. Borchers
Chairman Elect ............... D. Weller
Past Chair ................... R. Victoria
Treasurer .................... J. Childress
Program Co-Chairs ........... O. Heinonen, P. Schiffer
Publications Co-chairs .......... M. McHenry (JAP), A. Hoffmann

ABSTRACTS

ELECTED IEEE MAGNETICS SOCIETY ADMINISTRATIVE COMMITTEE MEMBERS
Terms Expiring December 31, 2006 ...................... B. Dieny; R. Hasegawa; Y. Miura; D. Jiles; T. Dong Lee; K. Ounadjela; J-U Thiele; S. Ueno
Terms Expiring December 31, 2007 .................... J. Chapman; W. Doyle; L. Folks; B. Hillbrands; H. Muraoka; M. Pardav-Horvath; B. Terris; S. Wang
Terms Expiring December 31, 2008 ..................... G. Bertotti; J. Figler; S. Majetich; M. Pasquale; C. Ross; T. Suzuki; D. Weller; R. Wood

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Terms Expiring December 31, 2008 ..................... G. Bertotti; J. Figler; S. Majetich; M. Pasquale; C. Ross; T. Suzuki; D. Weller; R. Wood
Publications Editors ........... N. Abarra, J. Akerman, K. Coffey, 
M-C. Cyrille, H. Srikanth, F. Johnson, 
M. O’Shea, S. Sun, T. Thomson, M. Willard 
Exhibits Chair ................ L. H. Lewis 
Exhibits Coordinator .......... R. Kuryla 
Industrial Support ............. L. H. Lewis 
Student Support Coordinators . . . J. C. Eckert, M. Carey 
IEEE Representative .......... D. Lavers 
PCI Representative ............ M. Burke 
Editor, J. Appl. Phys. .......... J. Viccaro 
Editor, IEEE Trans. Mag. ...... R. Goldfarb 
Conference Management ...... D. Melton, R. Kuryla, L. Seger, Cour-
tesyAssociates 
PCI Coordinator .............. J. Bennett
CONFERENCE PROGRAM

Sunday eve
7:00 p.m.  
XA Tutorial on spin torque  
Harborside C

Monday  
9:00 a.m.  
AA Symposium on spin manipulation in semiconductors and metals for spintronics  
Harborside C

AB Perpendicular recording: Writability  
Harborside A

AC Colossal magnetoresistive oxides  
Harborside B

AD Magnetic tunnel junctions I  
Harborside D

AE Spin dynamics and relaxation I  
Harborside E

AF 1/1 structures and related materials  
Essex

AG Hysteresis modeling and thermal effects  
Laurel

AH Magneto-optic and magneto-caloric materials  
Dover

8:00 a.m.  
AP Magneto-electronic devices  
Grand Ballroom

AQ Recording systems: Channel  
Grand Ballroom

AR Sensors and devices  
Grand Ballroom

AS Ultrathin films and surface effects I  
Grand Ballroom

AT Multilayer films and superlattices I  
Grand Ballroom

AU Double perovskites and magnetic semiconductors  
Grand Ballroom

AV Magnetic tunnel junctions and spin filtering  
Grand Ballroom

AW Spin torque: Microwave oscillations  
Grand Ballroom

AX Spin glasses, low-dimensional and strongly correlated systems  
Grand Ballroom

AY Magnetic fluids and separation  
Grand Ballroom

BA Symposium on Bose Einstein condensation and quantum magnets  
Harborside C

BB Nanoparticle synthesis I  
Harborside A

BC Exchange bias I  
Harborside B

BD Spin transport in nanostructures  
Harborside D

BE Numerical studies of domain walls  
Harborside E

BF High frequency inductors  
Essex

BG Instrumentation and measurement techniques I  
Laurel

BH New applications I  
Dover

3:45 p.m.  
BX PLENARY  
Harborside

Tuesday  
9:00 a.m.  
CA Symposium on magnetic MEMS technologies  
Harborside C

CB Head-disk interface and tribology I  
Harborside A

CC Patterned structures I  
Harborside B

CD Spin torque: Microwave oscillations  
Harborside D

CE Spin injection in semiconductors and metals I  
Harborside E

CF Rare-earth magnets: Materials and processing  
Essex

CG Critical phenomena: Superconductivity  
Laurel

CH Molecular magnetic materials  
Dover

8:00 a.m.  
CP Exchange bias II  
Grand Ballroom

CQ Electronic structure I  
Grand Ballroom

CR Magnetic tunnel junctions II  
Grand Ballroom

CS Ferrites, garnets, particles, and composites  
Grand Ballroom

CT Hysteresis modeling and continuum methods  
Grand Ballroom

CU Micromagnetics: Applications I  
Grand Ballroom

CV Micromagnetics: Fundamental aspects  
Grand Ballroom

CW High frequency materials and devices  
Grand Ballroom

CX Instrumentation and measurement techniques II  
Grand Ballroom

Tuesday  
2:00 p.m.  
DA Symposium on recent advances in modeling of magnetic and spin dependent properties  
Harborside C

DB Patterned media  
Harborside A

DC Exchange bias III  
Harborside B

DD Magnetic Tunnel Junctions (MgO) III  
Harborside D

DE Ultrathin films and surface effects II  
Harborside E

DF Oxide magnetic semiconductors I  
Essex

DG 4f/5f and strongly correlated systems  
Laurel

DH Magnetic sensors (not magnetic recording)  
Dover

1:00 p.m.  
DP Transformers and Inductors  
Grand Ballroom

DQ Magneto-optic recording and alternative magnetic storage  
Grand Ballroom

DR Nanoparticle synthesis II  
Grand Ballroom

DS Nanoparticle arrays I  
Grand Ballroom

DT Half-metallic ferromagnets I  
Grand Ballroom

DU Magnetocaloric materials  
Grand Ballroom

DV Patterned structures II  
Grand Ballroom

DW Spin transport in spin valves and nanostructures  
Grand Ballroom

DX Magneto-optic and magneto-elastic materials  
Grand Ballroom

DY Hard magnetic films  
Grand Ballroom

DZ Magnetization processes and magnetic characterization  
Grand Ballroom

DAA Hard magnetic materials  
Grand Ballroom

Tuesday eve  
7:30 p.m.  
YA Symposium on magnetic memories, past and present  
Harborside

Wednesday  
9:00 am  
EA Symposium on interfaces in magnetic tunnel junctions  
Harborside C

EB Perpendicular media  
Harborside A

EC III-V magnetic semiconductors  
Harborside B

ED Spin torque: Domain walls  
Harborside D

EE Multiferroics: Bulk materials and theory  
Harborside E

EF Electronic Structure II  
Essex

EG Recording modeling, systems and theory  
Laurel

EH Ferrites, garnets, and microwave materials I  
Dover

8:00 am  
EP Superconductivity, Critical Phenomena  
Grand Ballroom

EQ Exchange bias IV  
Grand Ballroom

ER Magnetic tunnel junctions IV  
Grand Ballroom

ES Spin injection in semiconductors and metals II  
Grand Ballroom

ET Permanent magnet motors I  
Grand Ballroom

EU New applications II  
Grand Ballroom

EV Nanostructured films and patterned media  
Grand Ballroom

EW Perpendicular and longitudinal recording  
Grand Ballroom

EX Head materials, soft magnetic alloys and domains  
Grand Ballroom

Wednesday  
2:00 p.m.  
FA Symposium on Probing the Magnetic Structure of Nanostructured Exchange  
Harborside C

FB Magnetic memory and elements  
Harborside A
<table>
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<th>Session</th>
<th>Title</th>
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<td>1:00 p.m.</td>
<td>FP Spin dynamics and relaxation II</td>
<td>Grand Ballroom</td>
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<td>FQ Amorphous and nanocrystalline soft materials I</td>
<td>Grand Ballroom</td>
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<td>FR Magneto-resistive oxides</td>
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<td>FS Biomedical applications of magnetic materials</td>
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<td>FT Magnetic semiconductors</td>
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<td>FU Motors I</td>
<td>Grand Ballroom</td>
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<td>FV Itinerant magnetism</td>
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<td>FW Permanent magnet motors II</td>
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<td>FX Recording media and system integration</td>
<td>Grand Ballroom</td>
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<td>FY Recording modeling and noise</td>
<td>Grand Ballroom</td>
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**Thursday, 9:00 a.m.**

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<th>Session</th>
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<td>GA Symposium on driven domain wall dynamics in nanostructures</td>
<td>Harborside C</td>
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<td>GB CPP-TMR &amp; GMR read heads</td>
<td>Harborside A</td>
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<td>GC Nanoparticle arrays II</td>
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<td>GD Half-metallic ferromagnets II</td>
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<td>GE Micromagnetics: Applications II</td>
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<td>GF Magnetic biosensors</td>
<td>Essex</td>
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<td>GH Amorphous and nanocrystalline soft materials II</td>
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**8:00 a.m.**

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<td>GP Spin dynamics and relaxation III</td>
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<td>GQ Oxide magnetic semiconductors II</td>
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<td>GR Multiferroic oxides</td>
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<td>GS Motors II</td>
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<td>GT Controls, actuators, and linear motors</td>
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<td>GU Magnetic microscopy and imaging II</td>
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<td>GV Head-disk interface and tribology II</td>
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<td>GW Ferrites, garnets, and microwave materials II</td>
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<td>GX New magnetic materials I</td>
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**Thursday, 2:00 p.m.**

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<td>HA Spin torque: Metallic systems</td>
<td>Harborside C</td>
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<td>HB Multiferroics: Thin films and composites</td>
<td>Harborside A</td>
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<td>HC Nanoparticle synthesis III</td>
<td>Harborside B</td>
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<td>HD Head materials, soft magnetic films, and domains</td>
<td>Harborside D</td>
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<td>HE Low dimensional systems/Spin glasses and frustration</td>
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<td>HF Hyperthermia and magnetic fluids</td>
<td>Essex</td>
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<td>HG Spin valves: Metallic and organic</td>
<td>Laurel</td>
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<td>HH New magnetic materials II</td>
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PROGRAM 17

SUNDAY HARBORSIDE C
EVENING 7:00

Session XA

TUTORIAL ON SPIN TORQUE
Carl Patton, Session Chair

7:00

XA-01. Spin Torque for Dummies: A Bare-Bones Introduction to the Spin Momentum Transfer Effect. (Invited) T. Silva1. Magnetics Group, NIST, Boulder, CO, USA

7:36

XA-02. High-frequency phenomena induced by spin-torque. (Invited) A. Slavin1. Physics, Oakland University, Rochester Hills, MI, USA

8:12

XA-03. Spin torque switching. (Invited) P.B. Visscher1. Physics and MINT Center, University of Alabama, Tuscaloosa, AL, USA

MONDAY HARBORSIDE C
MORNING 9:00

Session AA

SYMPOSIUM ON SPIN MANIPULATION IN SEMICONDUCTORS AND METALS FOR SPINTRONICS
Michael Flatté, Session Chair

9:00

AA-01. Manipulating Nanomagnets Using Spin-Transfer Torques. (Invited) D. Ralph1. Physics Department, Cornell University, Ithaca, NY, USA

9:36

AA-02. Spin Transport and Scattering in Magnetic Semiconductor Heterostructures. (Invited) N. Samarth1. Physics, Penn State University, University Park, PA, USA
10:12

AA-03. Electrical Spin Detection in Semiconductors. (Invited) X. Lou\textsuperscript{1}, C. Adelmann\textsuperscript{2}, M. Furis\textsuperscript{3}, D.L. Smith\textsuperscript{1}, S.A. Crooker\textsuperscript{1}, C.J. Palmstro\textsuperscript{m1} and P.A. Crowell\textsuperscript{1}. Physics and Astronomy, University of Minnesota, Minneapolis, MN, USA; 2. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, USA; 3. National High Magnetic Field Laboratory, Los Alamos National Laboratory, Los Alamos, NM, USA

10:48

AA-04. Generating Spin Currents in Semiconductors with the Spin Hall Effect. (Invited) V. Sih\textsuperscript{1}, W.H. Lau\textsuperscript{1}, R.C. Myers\textsuperscript{1}, V.R. Horowitz\textsuperscript{1}, A.C. Gossard\textsuperscript{1} and D.D. Awschalom\textsuperscript{1}. Center for Spintronics and Quantum Computation, University of California, Santa Barbara, CA, USA

11:24

AA-05. Spin Hall effect in a diffusive conductor. (Invited) S.O. Valenzuela\textsuperscript{1}. Massachusetts Institute of Technology, Cambridge, MA, USA

MONDAY HARBORSIDE A MORNING

Session AB

PERPENDICULAR RECORDING: WRITABILITY

Stephen Lee, Session Chair

9:00

AB-01. Novel Approaches Towards High Density CoCrPt-Oxide Perpendicular Recording Media. (Invited) S. Piramanayagam\textsuperscript{1}, J. Shi\textsuperscript{1}, S. Kumar\textsuperscript{1}, R. Sbiaa\textsuperscript{1}, C. Mah\textsuperscript{1}, C. Ong\textsuperscript{1}, J. Zhao\textsuperscript{1}, Y. Kay\textsuperscript{1} and J. Zhang\textsuperscript{1}. Data Storage Institute, Singapore, Singapore

9:36

AB-02. Design and Optimization of Soft and Hard Regions of Exchange Coupled Composite Grains for future ECC Media. W. Shen\textsuperscript{1}, H. Zhao\textsuperscript{1} and J. Wang\textsuperscript{1}. MINT, Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA

9:48

AB-03. New Experimental Approach to Composite Media Design. E. Gir\textsuperscript{t1}, A. Dobin\textsuperscript{1}, B.F. Valcu\textsuperscript{1}, H.J. Richter\textsuperscript{1}, T.P. Nolan\textsuperscript{1} and X. Wu\textsuperscript{1}. Seagate technology, Fremont, CA, USA; 2. seagate technology, Pittsburgh, PA, USA

10:00

AB-04. Switching of Finite-Sized Composite-Media. S. Mukherjee\textsuperscript{1} and L. Berger\textsuperscript{1}. Seagate Research, Pittsburgh, PA, USA; 2. Physics, Carnegie Mellon University, Pittsburgh, PA, USA

10:12

AB-05. Simulation of Perpendicular Recording with a VSM. H.J. Richter\textsuperscript{1} and B.F. Valcu\textsuperscript{1}. Seagate Technology, Fremont, CA, USA

10:24

AB-06. Write Head Design for Exchange Coupled Composite Media. X. Shen\textsuperscript{1} and R.H. Victoria\textsuperscript{1}. Electrical engineering, University of Minnesota, Minneapolis, MN, USA

10:36

AB-07. Effect of Writability on Spectral Rolloff in Perpendicular Recording. M. Xiao\textsuperscript{1}, P. Van der Heijden\textsuperscript{1} and H. Rosen\textsuperscript{1}. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA

10:48

AB-08. Writability Study of Perpendicular Exchange Spring Media. N.E. Supper\textsuperscript{1}, A. Berger\textsuperscript{1}, D.T. Margulies\textsuperscript{1}, M. Andreas\textsuperscript{1} and E.E. Fullerton\textsuperscript{1}. Hitachi, San Jose Research Center, San Jose, CA, USA

11:00

AB-09. Writer Flux Closure and Transition Degradation Mechanism in Perpendicular Recording. J. Fernandez-de-Castro\textsuperscript{1}, X. Shen\textsuperscript{2}, J. Xue\textsuperscript{1} and Y. Zhou\textsuperscript{1}. Seagate Technology, Bloomington, MN, USA; 2. Dept. of Electrical & Computer Engineering, University of Minnesota, Minneapolis, MN, USA

11:12

AB-10. Perpendicular head structures to improve the corner erasure robustness. M. Mochizuki\textsuperscript{1}, T. Okada\textsuperscript{1}, Y. Maruyama\textsuperscript{1}, Y. Hsu\textsuperscript{1}, T. Hamaguchi\textsuperscript{1} and R. Wood\textsuperscript{1}. Hitachi Global Storage Technologies, Ltd., Odawara-shi, Kanagawa-ken, Japan; 2. Hitachi Global Storage Technologies, Inc., San Jose, CA, USA

11:24

AB-11. Analysis of write mechanism of a perpendicular head using the writer pole footprint technique. V. Nandakumar\textsuperscript{1}, O.G. Heinonen\textsuperscript{2} and A. Vanderschans\textsuperscript{3}. 1. Recording Subsystem Organization, Seagate Technology, Bloomington, MN, USA; 2. Recording Heads Organization, Seagate Technology, Bloomington, MN, USA; 3. Seagate Technology, Bloomington, MN, USA

11:36

AB-12. Experimental Study of Perpendicular Write Head Field Rise Time. X. Xing\textsuperscript{1}, A. Taratorin\textsuperscript{1} and K.B. Klaassen\textsuperscript{1}. Hitachi Research, San Jose, San Jose, CA, USA
AB-13. Micromagnetics and eddy current effects in magnetic recording heads. K. Takano¹, X. Zhang¹, E. Salhi¹, L. Guan¹, M. Sakai¹, J. Smyth¹ and M. Dovek¹. Bldg-3. Headway Technologies, Milpitas, CA, USA

MONDAY HARBORSIDE B
MORNING
9:00

Session AC
COLOSSAL MAGNETORESISTIVE OXIDES
Samuel Bader, Session Chair

9:00
AC-01. Nodal quasiparticle in pseudogapped colossal magnetoresistive manganites. (Invited) N. Mannella¹. Physics, Stanford University, Palo Alto, CA, USA

9:36
AC-02. Charge, spin, orbital and lattice degrees of freedom in manganites. P.U. Schlottmann¹. Department of Physics, Florida State University, Tallahassee, FL, USA

9:48
AC-03. Extraordinary anisotropic magnetoresistance in manganite single crystals. R. Li¹, H. Wang², K. Miki¹ and B. Shen¹. International Center for Young Scientists, National Institute for Materials Science, Tsukuba, Japan; 2. National Institute for Materials Science, Tsukuba, Japan; 3. Institute of Physics, Chinese Academy of Sciences, Beijing, China

10:00
AC-04. Ultrafast Hot Electron Dynamics in Manganites.
S.M. Thompson¹, P.R. Abernethy¹, J.R. Wells², G.A. Gehring³, J.R. Neal², H.J. Blythe⁴, A.M. Fox⁵, P.J. Phillips⁴, N.Q. Vinh⁶, D.A. Carder⁷ and P.J. Wright⁸. Physics, University of York, York, United Kingdom; 2. Physics and Astronomy, University of Sheffield, Sheffield, United Kingdom; 3. FELIX Free Electron Laser Facility, FOM - Institute for Plasma Physics ‘Rijnhuizen’, Nieuwegein, Netherlands; 4. Micro Nanotechnology Labs, QinetiQ, Malvern, United Kingdom

10:12
AC-05. A temperature dependent Magnetic Force Microscopy (MFM) study of the effect of strain on the magnetism of La(0.7)Sr(0.3)MnO3 films. R.K. Kummamuru¹, Y. Soh¹, L.E. Hueso² and N.D. Mathur². Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, CB2 3QZ, United Kingdom

10:24
AC-06. Electric-pulse-induced resistance switching in magnetoresistive manganite films grown by metalorganic chemical vapor deposition. T. Nakamura¹, K. Homma² and K. Tachibana¹. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan

10:36
AC-07. Scanning tunneling spectroscopy on Pr₆₂Pb₃₈MnO₃ single crystals. S. Roessler¹, S. Ernst¹, B. Padmanabhan², S. Elizabeth³, H.L. Bhat², S. Wirth¹ and F. Steglich¹. Physics, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany; 2. Physics, Indian Institute of Science, Bangalore, India

10:48
AC-08. Investigation of local magnetism at M sites in RMO₃ (R=La,Nd;M=Cr,Fe) antiferromagnetic perovskite oxides. F.M. Cavalcante¹, A.C. Junqueira¹, D.T. Leite¹, R.N. Saxena¹, J. Mestnik-Filho¹ and A.W. Carbonari¹. CRPq, IPEN-CNEN/SP, Sao Paulo, Sao Paulo, Brazil

11:00
AC-09. Magnetic correlations and spin dynamics in crystalline La₁₋ₓCaxMnO₃ (x = 0, 0.1, 0.2, 0.3): Analysis of basic EPR parameters. M. Auslender¹, A.I. Shames², E. Rozenberg², G. Gorodetsky² and Y.M. Mukovskii³. Electrical and Computer Engineering, Ben-Gurion University, Beer Sheva, Israel; 2. Physics, BGU of the Negev, Beer-Sheva, Israel; 3. Moscow Steel and Alloys Institute, Moscow, Russian Federation

11:12
AC-10. Lattice distortions, ferromagnetic clusters and phase separation in La₁₋ₓPbxMnO₃: ESR study. T. Phan¹, R. Vincent¹, M. Phan², S. Yu³ and N. Chau⁴. Department of Physics, University of Bristol, Bristol, United Kingdom; 2. Department of Aerospace Engineering, University of Bristol, Bristol, United Kingdom; 3. Department of Physics, Chungbuk National University, Cheongju, South Korea; 4. Center for Materials Science, University of Science, Hanoi, Viet Nam

11:24
AC-11. Electronic phase separation and the CMR effect in Pr₁₋ₓCaₓMnO₃ films on (001) vicinal SrTiO₃ substrates.
C. Jooss¹,2, L. Wu³, R. Klie² and Y. Zhu². Institute of Materials Physics, University of Goettingen, Goettingen, Germany; 2. Brookhaven National Laboratory, Upton, NY, USA

11:36
AC-12. Study of magnetic phase coexistence in Manganites by Exchange-Bias. A.M. Gomes¹,2, F. Garcia¹, H. Westfahl Jr.¹, A.M. Gomes¹ and L. Ghivelder¹. Laboratório Nacional de Luz Síncrona, Campinas, São Paulo, Brazil; 2. Instituto de Física “Gleb Wataghin”, Universidade Estadual de Campinas, Campinas, São Paulo, Brazil; 3. Instituto de Física, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil
AC-13. Spin-polarized grain-boundary transport in reversibly strained La$_{0.7}$(Sr, Ca)$_{0.3}$MnO$_3$ polycrystalline films. R. Gangineni$^1$, K. Dörr$^1$, N. Konstantin$^1$ and S. Ludwig$^1$. Institute of metallic materials, Leibniz Institute for Solid State and Materials Research Dresden, Dresden, Saxony, Germany

MONDAY HARBORSIDE D MORNING 9:00

Session AD MAGNETIC TUNNEL JUNCTIONS I
Alex Nazarov, Session Chair

9:00
AD-01. Competing spin dependent transport mechanisms in low resistance underoxidized magnetic tunnel junctions. J. Ventura$^1$, R. Ferreira$^2$, J. Teixeira$^1$, J.P. Araujo$^1$, Y. Pogorelov$^1$, J.B. Sousa$^1$ and P.P. Freitas$^1$. IFIMUP, Porto, Portugal; 2. INESC-MN, Lisbon, Portugal

9:12
AD-02. Magnetization dynamics in toggle magnetic tunnel junctions. V. Korenevski$^{1,2}$ and D.C. Worledge$^1$. IBM TJ Watson Research Center, Yorktown Heights, NY, USA; 2. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden

9:24
AD-03. Influence of pinned-layer dispersion on magnetic tunnel junction switching distributions. J.G. Deak$^1$. Advanced Technology, NVE Corporation, Eden Prairie, MN, USA

9:36
AD-04. High Spin Stiffness for bcc Co. S.J. Oset$^{1,2}$ and W.H. Butler$^2$. Physics, University of South Alabama, Mobile, AL, USA; 2. MINT Center, University of Alabama, Tuscaloosa, AL, USA

9:48
AD-05. Near infinite magnetoresistance realized in a F/I/F/I/F superconducting tunnel structure. G. Miao$^1$, T.S. Santos$^1$ and J.S. Moodera$^1$. Francis Bitter Magnetic Laboratory, MIT, Cambridge, MA, USA

10:00
AD-06. Tunneling spectroscopy of magnetic double barrier junctions. A. Iovan$^1$, K. Lam$^1$, S. Andersson$^1$, D.B. Haviland$^1$ and V. Korenevski$^1$. Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden

10:12
AD-07. Tunnel magnetoresistance reversal in interface engineered (La,Sr)MnO$_3$/SrTiO$_3$/Co magnetic tunnel junctions. I.J. Vera Marin$^1$ and R. Jansen$^1$. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands

10:24
AD-08. TUNNELING MAGNETORESISTANCE AND ELECTRON CURRENT IN LOW BARRIER MAGNETIC TUNNELING JUNCTIONS. N.N. Beletska$^{1,2}$, G.P. Berman$^2$, S.A. Wolf$^3$ and V.M. Yakovenko$^1$. Usikov Institute of Radiophysics and Electronics, Kharkov, Ukraine; 2. Theoretical Division, MS B213, Los Alamos National Laboratory, Los Alamos, NM, USA; 3. Department of Physics and Material Science, University of Virginia, Charlottesville, VA, USA

10:36
AD-09. Giant TMR over 100% at room temperature for junctions using epitaxial full-Heusler Co$_2$FeAl$_{0.5}$Si$_{0.5}$ electrodes. N. Tezuka$^{1,2}$, N. Ikeda$^1$, S. Sugimoto$^1$ and K. Inomata$^{2,3,1}$. Tohoku University, Sendai, Japan; 2. CREST-JST, Kagawa, Japan; 3. NIMS, Tsukuba, Japan

10:48
AD-10. Inelastic electron tunneling spectroscopy for MTJ heads. T. Ken$^1$, J. Mura$^1$, M. Oogane$^2$, T. Miyazaki$^3$, T. Tanaka$^1$, Y. Uehara$^2$ and T. Uzumaki$^1$. Fujitsu Laboratories Ltd., Atsugi, Japan; 2. Fujitsu Ltd., Nagano, Japan; 3. Tohoku Univ., Sendai, Japan

11:00
AD-11. Influence of Magnetic Barrier Layer on Epitaxial Oxide Magnetic Tunnel Junctions. B.B. Nelson-Cheeseman$^1$, R. Chopdekar$^{1,2}$, L. Aldredge$^{1,2}$ and Y. Suzuki$^1$. Materials Science and Engineering, University of California - Berkeley, Berkeley, CA, USA; 2. Applied Physics, Cornell University, Ithaca, NY, USA

11:12
AD-12. Influence of disorder on tunnel magnetoresistance. V.M. Karpan$^1$, P.X. Xu$^2$, K. Xia$^2$, I. Maruschechenko$^1$, M. Zwierzynski$^2$ and P.J. Kelly$^1$. University of Twente, Enschede, Netherlands; 2. State Key Laboratory for Surface Physics, Beijing, China; 3. Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany

11:24
AD-13. Tuning Magnetic Microstructures of Reference Layer of Magnetic Tunneling Junctions. L. Yuan$^1$, Y.S. Lin$^1$, D. Wang$^2$ and S.H. Liu$^1$. Department of Physics & Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, NE, USA; 2. Seagate Technology, Bloomington, MN, USA

AD-15. Investigation of Co2FeSi full-Heusler alloy: structure, spin polarization and TMR effect. Z. Gercsi1, A. Rajanikanth2,1, Y.K. Takahashi1, K. Hono1,2, M. Kikuchi3, N. Tezuka4 and K. Inomata1,4 1. Magnetic Materials Center, National Institute for Materials Science, Tsukuba, Japan; 2. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan; 3. Kojundo Chemical Laboratory Co. Ltd, Chiyoda, Japan; 4. Department of Materials Science, Graduate School of Engineering, Tohoku University, Chiyoda, Japan

Session AE

SPIN DYNAMICS AND RELAXATION I

William Bailey, Session Chair

9:00

AE-01. Transient magnetic field induced dynamic coupling in patterned magnetic bilayers. X. Zhu1, V. Metlushko1, Z. Liu2 and M.R. Freeman2 1. Seagate Research Center, Seagate Technology, Pittsburgh, PA, USA; 2. Department of Physics, University of Alberta, Edmonton, AB, Canada

AE-02. Size (aspect ratio) dependent damping of precessional dynamics in individual single domain nanomagnets. A. Barman1,4, S. Wang3, J. Maas3, A.R. Hawkins2, S. Kwon3,5 and H. Schmidt1 1. School of Engineering, University of California Santa Cruz, Santa Cruz, CA, USA; 2. ECE, Department, Brigham Young University, Provo, UT, USA; 3. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 4. NanoCenter and Physics and Astronomy, University of South Carolina, Columbia, SC, USA; 5. School of Electrical Engineering, Seoul National University, Seoul, South Korea

9:12

AE-03. Spin and Orbital Moment Dynamics of Fe/Gd Multilayers Studied Using an X-Ray Streak Camera. A. Comin1, A.F. Bartelt1, J. Feng1, H. Shin1,4, J.R. Nasiatka1, T. Eimüller2, B. Ludescher3, G. Schütz3, J. Schmalhorst3, H.A. Padmore1, A.T. Young1 and A. Scholl1 1. Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 2. Institut für Experimentalphysik IV, Ruhr-Universität Bochum, Bochum, Germany; 3. Max-Planck-Institut für Metallforschung, Stuttgart, Germany; 4. Department of Physics, Pohang University of Science and Technology, Pohang, South Korea; 5. Department of Physics, University of Bielefeld, Bielefeld, Germany

9:24

AE-04. Ultrafast optomagnetic switching and coherent control of magnetization. (Invited) F. Hansteen1, C. Stanciu1, A.V. Kimel1, A. Kirilyuk1 and T. Rasing1 1. Radboud University, Nijmegen, Netherlands

9:36

AE-05. SPATIO-TEMPORAL INDUCTIVE PROBE IMAGING OF SPIN WAVE PROPAGATION IN NON-UNIFORM MAGNETIC FIELDS. M.J. Kabatek1, M. Wu1, K.R. Smith1 and C.E. Patton1 1. Physics, Colorado State University, Fort Collins, CO, USA

10:12

AE-06. Spin waves in highly damped NiFe: Crossover to underdamped dynamics with increasing wave vector. M. Covington1 and T. Ambrose1 1. Seagate Research, Pittsburgh, PA, USA

10:24

AE-07. Time- and frequency-resolved magneto-optics for the quantitative determination of homogeneity for magnetization dynamics at the nanometer scale. T. Silva1, M. Schneider1, J. Shaw1 and T. Gerrits1 1. NIST, Boulder, CO, USA

10:36

AE-08. Basic origin of ferromagnetic resonance linewidth in Fe-Ti-N thin films. S.S. Kalarketal1,2, P. Krivosik1,2, J. Das1, K. Kim1 and C.E. Patton1 1. Department of Physics, Colorado State University, Fort Collins, CO, USA; 2. Institut für Experimentalphysik, Freie Universität, Arnimallee, D-14195, Berlin, Germany; 3. Slovak University of Technology, Bratislava, Slovakia

10:48

AE-09. Dynamic Depinning of Magnetic Vortices. R.L. Compton1 and P.A. Crowell1 1. University of Minnesota, Minneapolis, MN, USA

11:00

AE-10. Theory of ultrafast light-induced demagnetization in sp-d model. L. Cywinski1 and L.J. Sham1 1. Department of Physics, University of California, San Diego, La Jolla, CA, USA

11:12

MONDAY ESSEX MORNING 9:00

Session AF

L¹₀ STRUCTURES AND RELATED MATERIALS

Timothy Klemmer, Session Chair

9:00

AF-01. In Situ Magnetic Orientation Controlled Deposition of L¹₀ FePt Nanoparticles. J. Qiu¹, J. Bai¹ and J. Wang¹. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA

9:12

AF-02. Curie Temperatures of Annealed FePt Nanoparticle Systems. C. Rong¹, Y. Li¹ and J. Liu¹. Department of Physics, University of Texas at Arlington, Arlington, TX, USA

9:24

AF-03. Effect of capped layer on the microstructure and magnetic properties of FePt films. S. Chen¹,² and P. Kuo³,⁴. Department of Materials Engineering, MingChI University of Technology, Taipei, Taiwan; 2. Institute of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 3. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan

9:36

AF-04. Pre-annealing of CoPt disorder phase effect on ordering transformation. W.M. Liao¹, S.N. Hsiao¹, S.K. Chen¹, F. Yuan², H.W. Chang³ and Y.D. Yao³,⁴. Materials Science and Engineering, Feng Chia University, Taichung, Taiwan; 2. Physics, Academia Sinica, Taipei, Taiwan

9:48

AF-05. Effect of Cu doping on the magnetic properties of CoPt nanowires. J. Min¹, B. An¹, J. Cho¹, H. Ji¹, S. No¹, Y. Kim¹, H. Liu¹, J. Wu¹, Y. Ko¹ and J. Chung¹. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Institute for Nano Science, Korea University, Seoul, South Korea; 3. Research Institute of Engineering and Technology, Korea University, Seoul, South Korea; 4. AMRCRD and Department of Physics, Soongsil University, Seoul, South Korea

10:00

AF-06. FePt Films Fabricated by Electro-deposition. S. Thongmee¹, J. Ding¹, J. Lin¹, D. Blackwood¹ and J. Yin¹. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Physics, National University of Singapore, Singapore, Singapore

10:12

AF-07. L¹₀ Fe-Pd by electrochemical deposition post-deposition annealing. F.M. Takata¹,², G. Pattanaik¹, W.A. Soffa¹, P.A. Sumodjo¹ and G. Zangari¹. University of Virginia, Charlottesville, VA, USA; 2. Instituto Tecnológico de Aeronáutica, São José dos Campos, São Paulo, Brazil; 3. Universidade de São Paulo, São Paulo, Brazil

10:24

AF-08. Fine tuning of coercivity in electrodeposited, Co-rich Co-Pt alloy films with perpendicular orientation. X. Xu¹,³, G. Pattanaik²,³, J. Weston¹ and G. Zangari¹. Chemical Engineering, Univ. Virginia, Charlottesville, VA, USA; 2. Materials Science and Engineering, Univ. Virginia, Charlottesville, VA, USA; 3. Center for Electrochemical Science and Engineering, Univ Virginia, Charlottesville, VA, USA; 4. MINT Center, Univ. Alabama, Tuscaloosa, AL, USA

10:36

AF-09. Influence of quenching rate on the microstructure and magnetic properties of melt-spun L¹₀-FePt/Fe₂B nanocomposite magnets. W. Zhang¹, K. Yubuta¹, P. Sharma², A. Inoue¹ and A. Makino¹. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Japan Science and Technology Agency, Sendai, Japan

10:48

AF-10. Coercivity enhancement of melt spun FePt ribbons by Au addition. C. Chang¹, H. Chang², C. Chiu¹, W. Chang¹ and Y.D. Yao²,³. Physics, National Chung Cheng University, Physics, Chia-Yi, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. National Chung Cheng University, Chia-Yi, Taiwan; 4. National Chung Cheng University, Chia-Yi, Taiwan; 5. Institute of Physics, Academia Sinica, Taipei, Taiwan

11:00

AF-11. Preparation of Fe-Pt-Si amorphous ribbons and their coercivity after heat treatment. T. Yamamoto¹, A. Omori¹, A. Makino¹, A. Inoue¹ and Y. Hirotsu². Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan; 2. The Institute of Scientific and Industrial Research, Osaka University, Ibaraki, Osaka, Japan

11:12

AF-12. Bulk FePt/Fe3Pt nanocomposite magnets prepared by spark plasma sintering. C. Rong¹, V. Vandwana¹, N. Poudyal¹, J. Liu¹ and T. Saito². Department of Physics, University of Texas at Arlington, Arlington, TX, USA; 2. Department of Mechanical Science and Engineering, Chiba Institute of Technology, Chiba, Japan
11:24

AF-13. Mechanism of magnetic anisotropy in hcp Co$_3$Pt alloy: density functional theory calculations for 2x2x1 concentration waves.
O.N. Mryasov$^1$. Seagate Research, Seagate Technology LLC, Pittsburgh, PA, USA

MONDAY LAUREL MORNING 9:00

Session AG
HYSTERESIS MODELING AND THERMAL EFFECTS
Gergely Zimanyi, Session Chair

9:00

AG-01. Mapping the Temperature Dependence of the Metastable State Excitation Barriers in a Ferromagnetic Perovskite.
R.M. Roshko$^1$ and C.A. Vidal$^1$. Physics and Astronomy, University of Manitoba, Winnipeg, MB, Canada

9:12

AG-02. NUMERICAL EVALUATION OF ENERGY BARRIERS IN NANO-SIZED MAGNETIC ELEMENTS. O. Chubykalo-Fesenko$^1$, E. Paz$^2$ and F. Garcia-Sanchez$^1$. Material Science Institute of Madrid, Madrid, Spain

9:24

AG-03. Magnetic anisotropy energy of FePt nanoparticles: free energy barrier for thermally activated switching. C. Zhou$^1$, T.C. Schulthess$^1$ and O.N. Mryasov$^2$. Center for Nanophase Materials Science, Oak Ridge National Laboratory, Oak Ridge, TN, USA; 2. Seagate Research, Pittsburgh, PA, USA

9:36

AG-04. Implementation of the Preisach-Stoner-Wohlfarth model.
G.R. Kahler$^1$, E. Della Torre$^1$ and E. Cardelli$^1$. Institute for Magnetics Research, George Washington University, Ashburn, VA, USA; 2. University of Perugia, Perugia, Italy

9:48

AG-05. Hysteric memory effects in disordered magnets.
H.G. Katzgraber$^1$ and G.T. Zimanyi$^1$. I. Theoretische Physik, ETH Zurich, Zurich, Switzerland; 2. Physics Department, University of California Davis, Davis, CA, USA

10:00

AG-06. SIZE EFFECTS AND KINETIC BEHAVIOUR OF A RANDOM ANISOTROPY ISING SYSTEM. C. Enachescu$^1$ and A. Stancu$^1$. Department of Solid State and Theoretical Physics, Alexandru Ioan Cuza University, Iasi, Romania

10:12

AG-07. Estimation of exchange bias distribution in all-ferromagnetic bilayers. O. Hovorka$^1$ and G. Friedman$^1$. Electrical and Computer Engineering, Drexel University, Philadelphia, PA, USA

10:24

AG-08. Coherence Resonance in Stochastically Driven Hysteretic Systems. M. Dimian$^1$ and I. Mayergoyz$^1$. Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany; 2. Electrical and Computer Engineering, University of Maryland, College Park, MD, USA

10:36

AG-09. Nonlinear dynamics of the vortex core in magnetic dots.
M. Beleggia$^1$, L. Huang$^1$, M.A. Schofield$^1$ and Y. Zhu$^1$. J. Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY, USA

10:48

M. Dimian$^1$. Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany

11:00

AG-11. Effective Demagnetizing Factors of Complicated Particle Mixtures.
R. Skomski$^1$. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA

11:12

AG-12. Proposal For A Demagnetization Function. F Thiel$^1$, A. Schnabel$^1$, S. Knappe-Grüneberg$^1$, D. Stollfuss$^1$ and M. Burghoff$^1$. J. AG 8.2 Biosignals, Physikalisch-Technische Bundesanstalt, Berlin, Germany

11:24

H. Kachkachi$^1$ and M. Dimian$^1$. Université de Versailles St Quentin, Versailles, France; 2. Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany
MONDAY MORNING
9:00

Session AH
MAGNETO-OPTIC AND MAGNETO-CALORIC MATERIALS
Stefan Maat, Session Chair

9:00
AH-01. Surface plasmon resonance effects in the Magneto Optical activity of noble metal-ferromagnet ultrathin films. A. Cebollada1,2, J. González-Díaz1, A. García-Martín1, G. Armelles1, J. García-Martín1, C. Clavero1, R. Clarke2, D. Kumah1, R. Lukaszew1 and J. Skuza1. Instituto de Microelectrónica de Madrid, Tres Cantos, Spain; 2. University of Michigan, Ann Arbor, MI, USA

9:12
AH-02. Optimization of magneto-optical response of FeF2/Fe/FeF2 sandwiches for microwave field detection. R. Lopusnik1, E. Liskova2, J. Correau1, M. Veis2, I. Harward1, S. Widuch1,3, P. Maslankiewicz1,3, Z. Celinski1 and S. Visnovsky2. Center for Magnetism and Magnetic Nanostructures, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Institute of Physics, Charles University, Prague, Czech Republic; 3. Department of Solid State Physics, August Chelkowski Institute of Physics, University of Silesia, Katowice, Poland

9:24
AH-03. Mixed-Cation Designs of Magnetic Perovskites for Faraday Rotation at IR Wavelengths. G.F. Dionne1,2, A.R. Taussig2, M. Bolduc2 and C.A. Ross2. 1. Lincoln Laboratory, MIT, Lexington, MA, USA; 2. Department of Materials Science and Engineering, MIT, Cambridge, MA, USA

9:36
AH-04. Magnetic Anisotropies in (210)-oriented Bismuth-substituted Iron Garnet Thin Films. I. Nistor1, C. Holthaus1, S. Tkachuk1, C. Krafft1 and I.D. Mayergoyz1. Electrical and Computer Engineering, University of Maryland, College Park, MD, USA; 2. Laboratory for Physical Sciences, College Park, MD, USA; 3. UMIACS, University of Maryland, College Park, MD, USA

9:48

10:00
AH-06. IS THE FIRST-ORDER MO EFFECT REALLY PROPORTIONAL TO THE MAGNETIZATION? M. Guillot1, Z. Fang2, X. You3, Y. Jie Hui4 and W. Xing5. High Magnetic Field Laboratory, CNRS/MPJ, GRENoble cedex 9, France; 2. Physics department, Teacher’s College, Qingdao University, Qingdao, China; 3. China Center for Advanced Science and Technology Beijing, Nanjing University, Nanjing 210093, China; 4. Department of Physics, Luoyang Teacher’s College, Luoyang 471022, China; 5. National High Magnetic Field Laboratory, Thallassassee, FL, USA

10:12
AH-07. Properties of Microstructure on Amorphous Film of Rare Earth-Transition Metal Alloy for Ultra-High Density Recording. M. Murakami1. AV Core Technology Development Center, Matsushita Electric Industrial Co., Ltd., Kadoma, Osaka, Japan

10:24
AH-08. Magneto-optical Effect in Room-Temperature-Deposited Cobalt/Lead Zirconate Titanate (PZT) Nanocomposite Thick Films by Aerosol Deposition Method. J. Park1 and J. Akedo1. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan

10:36
AH-09. Role of Ge in bridging ferromagnetism in giant magnetocaloric Gd5(Ge1-xSix)4. D. Haskel1, Y. Lee1, B.N. Harmon2, Z. Islam1, J.C. Lang1, G. Srazier1, Y. Mudryk1, K.A. Gschneidner Jr.1 and V.K. Pecharsky1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA; 2. Ames Laboratory, Iowa State University, Ames, IA, USA; 3. Ames Laboratory and Department of Materials Science and Engineering, Iowa State University, Ames, IA, USA

10:48
AH-10. Magneto-caloric effect in soft magnetic amorphous alloys. V. Franco1, J.S. Blazquez1, M. Millan1, J.M. Borrego1, C.F. Conde1 and A. Conde1. Department of Condensed Matter Physics, Sevilla University, Sevilla, Spain

11:00
AH-11. Magneto-Caloric Effect and Microstructural Studies in Gd1-x(Si0.5Ge0.5)x Alloys. M. Manivel Raja1, D.M. Rajkumar1, R. Balamuralikrishnan1 and V. Chandrasekharan1. 1. Defence Metallurgical Research Laboratory, Hyderabad - 500 058, Andhra Pradesh, India

11:12
AH-13. Investigation on magneto-structural transformation in Ni-Mn-Ga Heusler alloy for magneto-caloric applications. B.D. Ingale1,2, R. Gopalan1, M. Manivel Raja1, S. Ram1 and V. Chandrasekaran1. Advanced Magnetics Group, Defence Metallurgical Research Laboratory, Hyderabad - 500 058, Andhra Pradesh, India; 2. Materials Science Centre, Indian Institute of Technology, Kharagpur - 721 302, West Bengal, India


AH-15. Negative and positive magnetocaloric effect in Ni-Mn-Sn. L. Giudici1,3, C.P. Sasso1, M. Pasquale1, T. Lograsso1 and D. Schlagel2. 1. Materiali, Istituto Nazionale di Ricerca Metrologica, Torino, Italy; 2. 111 Metals Development, Material and Engineering Physics, Ames Laboratory, Ames, IA, USA; 3. Fisica, Politecnico di Torino, Torino, Italy

MONDAY GRAND BALLROOM
MORNING
8:00

Session AP
MAGNETOELECTRONIC DEVICES (POSTER SESSION)
Bernard Dieny, Session Chair


AP-02. Bipolar spin switcher using Aharnov-Bohm ring with embedded double quantum dots. K. Chen1, M. Liu1, S. Chen1 and C. Chang1. Department of Physics, National Taiwan University, Taipei, Taiwan

AP-03. Rashba spin interferometer. M. Liu1, S. Chen1, K. Chen1 and C. Chang1. Department of Physics, National Taiwan University, Taipei, Taiwan

AP-04. Magnetoresistance in Spin-Polarized Transport through a Carbon Nanotube. T. Kim1, C. Lee1 and B. Lee1. School of Physics, Seoul National University, Seoul, South Korea; 2. Department of Physics, Inha University, Incheon, South Korea

AP-05. A paramagnetic solid-state MASER driven by spin injection. S.M. Watts1 and B.J. van Wees1. Department of Applied Physics and Materials Science Center, University of Groningen, Groningen, Netherlands

AP-06. Magnetic Content Addressable Memory. W. Wang1 and Z. Jiang1. Electrical Engineering, University of Wisconsin - Milwaukee, Milwaukee, WI, USA

AP-07. Ferromagnetic Resonance Based Three-dimensional Magnetic Random Access Memory for areal densities above 10 Terabit-square-inch. S. Khizroev1,2, N. Amos3, R. Ikkawi2, R. Chomko1,2 and D. Litvinov1. Electrical Engineering, University of California, Riverside, Riverside, CA, USA; 2. Center for Nanoscale Magnetic Devices, Florida International University, Miami, FL, USA; 3. Electrical and Computer Engineering, University of Houston, Houston, TX, USA

AP-08. Four-state magnetoresistance in epitaxial CoFe-based magnetic tunnel junction. T. Uemura1, T. Marukame1, K. Matsuda1 and M. Yamamoto1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan

AP-09. Magnetic Tunnel Transistor with Epitaxial Spin Valve Base. A. Spitzer1, J. Vigroux1, J. Moser1 and G. Bayreuther1. Department of Physics, University of Regensburg, Regensburg, Germany


AP-11. Digital Magneto Resistance in Ferromagnetic Resonant Tunneling Diodes. C. Ertler1 and J. Fabian1. Institute for Theoretical Physics, University of Regensburg, Regensburg, Germany

AP-12. 3-bit Gray Counter based on Magnetic-Tunnel-Junction Elements. S. Lee1, J. Kim1, H. Yang1, G. Lee1, S. Lee1 and H. Shin1. Dep. of Information Electronics Engineering, Ewha W University, Seoul, South Korea

MONDAY GRAND BALLROOM
MORNING
8:00

Session AQ
RECORDING SYSTEMS: CHANNEL (POSTER SESSION)
Ksenija Lakovic, Session Chair

AQ-01. A Capacity Approaching Pipelined Low Complexity Turbo Equalizer for Perpendicular Magnetic Recording Channels. H.S. Alhussien1 and J. Moon1. CDS Lab., Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA
AQ-02. A MAP based algorithm for joint estimation of transition jitter and timing error. X. Zhang¹ and R. Negi². I. Agere Systems, Allentown, PA, USA; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA

AQ-03. Performance Evaluation of Partial Response Targets for Perpendicular Recording using Field Programmable Gate Arrays. S. Jeon¹, X. Hu¹, L. Sun² and B. Vijaya Kumar¹. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Marvell Semiconductor, Longmont, CO, USA

AQ-04. BER Performance of PRML system in Perpendicular Magnetic Recording Channel with Thermal Decay. N. Shinohara¹, H. Osawa¹, Y. Okamoto¹, Y. Nakamura¹, A. Nakamoto², K. Miura³, H. Muraoka² and Y. Nakamura¹. Graduate School of Science and Engineering, Ehime University, Matsuyama, Japan; 2. RIEC, Tohoku University, Sendai, Japan

AQ-05. A new post-processing technique based on error pattern analysis in PRML channel. Y. Okamoto¹, H. Sugai¹, Y. Nakamura¹, H. Osawa¹, H. Aoi², H. Muraoka² and Y. Nakamura¹. Graduate School of Science and Engineering, Ehime University, Matsuyama, Ehime, Japan; 2. RIEC, Tohoku University, Sendai, Miyagi, Japan

AQ-06. Biased PRML scheme for transition noise dominant perpendicular recording channels. X. Zhang¹ and R. Negi². I. Agere Systems, Allentown, PA, USA; 2. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA


AQ-08. A Reduced-Complexity Iterative Receiver Based on Simulated Annealing for Coded Partial-Response Channels. Z. Qin¹, K. Cai¹ and X. Zou¹. MRC Division, Data Storage Institute, Singapore, Singapore

AQ-09. Kalman Filter Timing Acquisition for Large Frequency Drift. J. Xie¹ and B. Kumar³. I. Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA

AQ-10. A New Class of Quasi-Cyclic Codes Targeting Dominant Error Patterns. J. Park¹ and J. Moon¹. ECE, Carnegie Mellon University, Pittsburgh, PA, USA

AQ-11. Novel RLL (VR2)-ECC Concatenation System for High Density Magnetic Recording. J. Lu¹ and K.G. Boyer¹. Sun Microsystems, Louisville, CO, USA

AQ-12. Modifying Viterbi Algorithm to Handle Inter-Track Interference in Bit-Patterned Media. S. Nabavi³, B. Kumar¹ and J. Zhu¹. ECE, Carnegie Mellon University, Pittsburgh, PA, USA


AQ-14. A Study of Iterative Decoding for Perpendicular Magnetic Recording Channel using Patterned Media. Y. Nakamura¹, M. Nishimura¹, Y. Okamoto¹, H. Osawa¹, H. Aoi², H. Muraoka² and Y. Nakamura¹. Graduate School of Science and Engineering, Ehime University, Matsuyama, Japan; 2. RIEC, Tohoku University, Sendai, Miyagi, Japan

AQ-15. Novel Soft Feedback Equalisation Method for Multi-level Magnetic Recording. P. Shah¹, M. Ahmed¹, M. Ambroze¹, C. Tjhai¹ and P.J. Davey¹. School of Computing, Communications and Electronics, University of Plymouth, Plymouth, United Kingdom

MONDAY MORNING GRAND BALLROOM

Session AR

SENSORS AND DEVICES (POSTER SESSION)

Alan Edelstein, Session Chair

AR-01. Shielded-loop type on-chip magnetic field probe to evaluate radiated emission from thin-film noise suppressor. M. Yamaguchi¹, S. Kaya¹, H. Torizuka¹, Y. Shimada¹, S. Aoyama¹ and S. Kawahito¹. Graduate School of Science and Engineering, Ehime University, Matsuyama, Ehime, Japan; 2. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. Research Institute of Electronics, Shizuoka University, Hamamatsu, Shizuoka, Japan

AR-02. One Dimensional AGMI Sensor With Co₈Fe₄Si₁₅B₁₅ Ribbon As Sensing Element. K. Pradap¹, C. Kim¹³, S.S. Yoon², C-O. Kim¹³ and K. Kim¹. I. CNU, Dejeon, South Korea; 2. Andong National University, Dejeon, South Korea; 3. Research Center for Advanced Magnetic Materials(ReCAMM), Daejeon, South Korea

AR-03. Hematite based novel nanoscale magnetic gas sensor: Gas selectivity and temperature dependence. A. Punnoose¹, K. Reddy¹, A. Thurber¹ and J. Hays¹. Physics, Boise State University, Boise, ID, USA

AR-04. Magnetic Properties of Spin Valves Having Extremely Thin MoN Underlayer. J. Kim¹ and S. Jo¹. School of Electronic Engineering, Soongsil University, Seoul, South Korea
AR-05. Wireless magnetic motion capture system – compensatory tracking of positional error caused by mutual inductance -. S. Hashi1, M. Toyoda1, S. Yabukami2, K. Ishiyama1, Y. Okazaki1 and K. Arai1.1. Department of Materials Science and Technology, Gifu University, Gifu, Japan; 2. Department of Electrical Engineering and Information Technology, Tokohu Gakain University, Tagajo, Japan; 3. Research Institute of Electrical Communication, Tokohu University, Sendai, Japan; 4. The Research Institute for Electric and Magnetic Materials, Sendai, Japan

AR-06. Compositional Dependence of the Magnetomechanical Effect in Substituted Cobalt Ferrite for Magnetoeelastic Stress. Sensors. C. Lo1, I. Center for NDE, Iowa State University, Ames, IA, USA


AR-08. IrMn/CoFe exchange-coupled multilayers for RF integrated inductors. R. Jiang1, C. Lai1 and N. Shams1. Materials Science and Engineering, National Tsing Hu University, HsinChu, Taiwan

AR-09. Tensor nature of permeability and its effects in the simulation of inductive magnetic devices. L. Li1, D. Lee1, S.X. Wang1, K. Hwang2, Y. Min3, M. Mao4, T. Schneider4 and R. Bubber4. Materials Science and Engineering, Stanford University, Stanford, CA, USA; 2. Intel Corporation, Chandler, AZ, USA; 3. Veeco Instruments Fremont, Fremont, CA, USA

AR-10. Investigation on Magnetostrictive Micro Devices. G. Scheerschmidt1, K.J. Kirk1 and G. McRobbie1. I. Microscale Sensors, University of Paisley, Paisley, United Kingdom; 2. School of Computing, University of Paisley, Paisley, United Kingdom

MONDAY MORNING

8:00

Session AS

ULTRATHIN FILMS AND SURFACE EFFECTS I

(PSTER SESSION)

Jian Shen, Session Chair

AS-01. STM/MFM study of Fe ultrathin film on MgO(001) in ultra-high vacuum. J. Lee1,2, M. Dreyer1,2, C. Krafft2 and R. Gomez1,2. 1. Electrical and Computer Engineering, University of Maryland, College Park, MD, USA; 2. Laboratory for Physical Science, College Park, MD, USA

AS-02. Growth and magnetism of ultra-thin Fe films on Pt (110). J. Park1,2 and Y. Lee1. Physics, Hanyang university, Seoul, South Korea; 2. KRISS, Daejen, South Korea

AS-03. Temperature effect on the magnetic properties of compositionally modulated ultrathin Fe/Al nano-structures. R. Bujjiriya1, S. Tripathi1, A. Sharma1, D. Jain1, V. Ganeshan1, T. Shripathi1 and S. Chaudhari1. UGC-DAE Consortium for Scientific Research, Indore, M.P., India

AS-04. Non-collinear magnetic coupling in tri-layer ultra-thin films of Fe and Ni on Cu(100). C. Andersson1, O. Karlis1, J. Hunter Dunn2 and D. Arvanitis1. 1. Department of Physics, Uppsala University, Uppsala, Sweden; 2. MAX-lab, Lund University, Lund, Sweden

AS-05. Ferromagnetic resonance study of Fe/Mn/Fe trilayers. F. Pelegrini1, B.R. Segatto1 and E.C. Passamani1. Instituto de Fisica, Universidade Federal de Goias, Goiania, Goias, Brazil; 2. Departamento de Fisica, Universidade Federal do Espirito Santo, Vitória, Espirito Santo, Brazil

AS-06. Morphology dependent capping layer effects in ultra-thin Co films and nanoparticles. C. Clavero1, J. Garcia-Martin1, A. Cebollada1, G. Armelles1, E. Navarro3 and Y. Hutte1. IMM-CSIC, Tres Cantos, Madrid, Spain; 2. ICMM-CSIC, Cantoblanco, Madrid, Spain; 3. UCM, Madrid, Madrid, Spain

AS-07. Magnetic properties and microstructure of ultrathin Co/Si(111) films. H. Chang1, J.S. Tsay2, F.T. Yuan1, Y.C. Hung3, W.Y. Chan1, W.B. Su1 and Y.D. Yao1. 1. Institute of Physics, Academia Sinica, Taipei, 11509, Taiwan; 2. Department of Physics, National Taiwan Normal University, Taipei, 116, Taiwan; 3. Department of Physics, National Chune Cheng University, Chia-Yi, Taiwan

AS-08. Effect of epitaxial strain on structure and magnetic properties of ultra-thin FeCo films. S. Mitani1 and K. Takanashi1. IMR Tohoku University, Sendai, Japan

AS-09. Microstructure of Co/X (X=Cu, Ag, Au) Epitaxial Thin Films Grown on Al2O3(0001) Substrates. M. Ohtake1, Y. Akita1, M. Futamoto1 and B.R. Segatto2. 1. Department of Electrical, Electronic, and Communication Engineering, Faculty of Science and Engineering, Chuo University, Tokyo, Japan

AS-10. Ferromagnetic resonance properties of diluted-moment [Ni81Fe19]1-xCux magnetic thin films. Y. Guan1, J. Hunter Dunn2,1 and D. Arvanitis1. 1. Department of Materials Science and Technology, Gifu University, Gifu, Japan; 2. Department of Electrical Engineering and Information Technology, Tokohu Gakain University, Tagajo, Japan; 3. Research Institute of Electrical Communication, Tokohu University, Sendai, Japan; 4. The Research Institute for Electric and Magnetic Materials, Sendai, Japan

AS-11. Calculation of spin wave mode response induced by a coplanar microwave line. K. Kennewell1, M. Kostylev1 and R.L. Stamps1. 1. School of Physics, University of Western Australia, Crawley, WA, Australia
Session AT
MULTILAYER FILMS AND SUPERLATTICES I
(POSTER SESSION)
Chih-Huang Lai, Session Co-chair
Minn-Tsong Lin, Session Co-chair

AT-01. Observation of magnetic configurations in antiferromagnetically-coupled films with perpendicular anisotropy by transport measurements. L.Y. Zhu¹ and C.L. Chien¹. Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA

AT-02. Stripes in a thin-film ferromagnet. D. Clarke¹, O.A. Tretiakov¹, O. Tchernyshyov¹ and V.I. Nikitenko²¹. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA; 2. NIST, Gaithersburg, MD, USA; 3. Institute of Solid State Physics, Chernogolovka, Russian Federation

AT-03. Multidomain states in ferromagnetic multilayers with perpendicular anisotropy. U.K. Rossler¹, N.S. Kiselev², I.E. Dragunov² and A.N. Bogdanov¹². IFW Dresden, Dresden, Germany; 2. Donetsk Institute for Physics and Technology, Donetsk, Ukraine

AT-04. A transition of interlayer coupling from antiferromagnetic to ferromagnetic observed at low temperature in CoFe/Bi/Co trilayers. J. Hsu¹² and Z. Xue¹. Physics, National Taiwan University, Taipei, Taiwan; 2. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan

AT-05. Magnetic properties of Tb₀.₃₀Gd₀.₇₀/X multilayers (X = Ti, Si) with different thicknesses of the magnetic layers. G.V. Karlyandyanskaya¹², A.V. Svalov², V.O. Vaskovskiy² and J.M. Barandiaran¹. Department of Electricity and Electronics, Basque Country University, Leioa, Bizkaia, Spain; 2. Department of Physics, Ural State University, Ekaterinburg, Russian Federation

AT-06. Dynamic Properties of Gd/Co Multilayer Structures. S. Demirus¹, R. Lopusnik¹, A.A. Faulkner¹, M.J. Wenger¹, I. Harward¹, M.R. Huss², A.R. Koymen², Z. Celinski¹ and R.E. Camley¹. Center for Magnetism and Magnetic Nanostructures, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Department of Physics, University of Texas at Arlington, Arlington, TX, USA

AT-07. Tunable Spin Waves in K-component Fibonacci Antiferromagnetic/Nonmagnetic Multilayers. X. Zhang¹, R. Peng¹, S. Kang², L. Cao¹, Z. Tang¹, Z. Wang¹, Z. Zhao¹ and M. Wang¹. National Laboratory of Solid State Microstructures, Nanjing, China; 2. Center for Materials for Information Technology, The University of Alabama, Tuscaloosa, AL, USA

AT-08. Abs observations on atomistic behaviors and magnetic properties in Fe-Cu multilayer system. C. Kim¹ and Y. Chung¹. Materials Science and Engineering, Hanyang University, Seoul, South Korea

AT-09. Photo-Induced Interlayer Exchange Coupling of Fe/Si/Fe Trilayer Structure. S. Ueda¹, Y. Iwasaki¹², Y. Uehara¹³ and S. Ushioda¹⁴.RIKEN Photodynamics Research Center, Sendai, Japan; 2. Core Component Business Group, Sony Corporation, Tagajo, Miyagi, Japan; 3. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 4. Japan Advanced Institute of Science and Technology, Ishikawa-ken, Japan

AT-10. Temperature Controlled Exchange Coupling in Co/Ru Multilayers Alloyed at the Interfaces. C.J. Kinane¹², L.A. Michez¹, C.H. Marrows¹, B.J. Hickey¹, T.R. Charlton¹ and S. Langridge¹. School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom; 2. ISIS, Rutherford Appleton Laboratory, Chilton, Oxford, United Kingdom

AT-11. Antiferromagnetic interlayer coupling through thin MgO layer in γ-Fe₂O₃/MgO/Fe(001) multilayers. H. Tanagihara¹, Y. Toyoda¹ and E. Kita¹. Institute of Applied Physics, University of Tsukuba, Tsukuba, Japan

AT-12. Perpendicular interlayer coupling through oscillatory RKKY interaction between Co/Pt multilayer and Co/TbCo bilayer. M. Lin¹ and C. Lai¹. Materials Science and Engineering, National Tsing Hua University, HsinChu, Taiwan

AT-13. Synthesis and magnetic properties of multilayered Fe/Au nanowires. J. Lee¹, J. Cho¹, J. Min¹, B. An¹, M. Cho¹, S. No¹, Y. Kim¹, H. Liu¹ and J. Wu¹. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Institute for Nano Science, Korea University, Seoul, South Korea; 3. Research Institute of Engineering and Technology, Korea University, Seoul, South Korea

AT-14. Ti layer thickness dependent magnetic properties of annealed Ti/Ni multilayers near solid state amorphization temperature. P. Bhan¹², S.M. Chaudhari¹, V.R. Reddy⁵ and M. Fahlman¹. Department of Science and Technology, Linköping University, SE-601 74 Norrköping, Sweden; 2. UGC-DAE Consortium for Scientific Research, University Campus, Khadva Road, Indore, 452017 M.P., India

AT-15. XMC studies of the enhancement of Fe spin moment in [Fe₇₀Co₃₀/Pd]₉ super-lattice films with high saturation magnetization. K. Noma¹, H. Kanaï¹, Y. Uehara¹, T. Nakamura¹, K. Nomura³, S. Doi³ and N. Awaji³. Advanced Head Technology Dept., Fujitsu Ltd., Nagano, Japan; 2. SPring-8, JASRI, Hyogo, Japan; 3. Nano-Electronic Materials Research and Engineering Lab., Fujitsu Laboratories Ltd., Atsugi, Japan
AT-18. Instability of a twisted phase in Fe3O4/Mn3O4 superlattice.

AT-19. The Reversible Susceptibility Tensor of Synthetic

AT-16. On the Physics of Magnetic Anisotropy in Co/Pd Multilayer Thin Films. D. Smith1, J.O. Rantschler1, J. Zhang1, D. Smith1, D. Weller1, S. Khizroev2 and D. Litvinov1,2. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA; 2. Electrical and Computer Engineering, University of Houston, Houston, TX, USA; 3. Materials Engineering, University of Houston, Houston, TX, USA; 4. Chemical and Biomedical Engineering, University of Houston, Houston, TX, USA; 5. Chemistry, University of Houston, Houston, TX, USA; 6. Electrical Engineering, University of California - Riverside, Riverside, CA, USA

AT-17. Annealing Study of Co/Pd Magnetic Multilayers for Applications in Bit-Patterned Media. E. Chunsheng1, J.O. Rantschler1, S. Zhang1, D. Smith1, D. Weller1, S. Khizroev2 and D. Litvinov1,2. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA; 2. Electrical and Computer Engineering, Florida International University, Miami, FL, USA; 3. Seagate Technology, Pittsburgh, PA, USA

AT-18. Instability of a twisted phase in FeO3/MnO3 superlattice. R. Su1, K. Koo1, D.S. Lee1 and G. Chern1. SPIN Research Center and Physics Department, National Chung Cheng University, Chiayi, Taiwan

AT-19. The Reversible Susceptibility Tensor of Synthetic Antiferromagnets. D. Cimpoeu1,2, A. Stancu1 and L. Spina1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 2. Faculty of Physics, Al. I. Cuza University, Iasi, Romania; 3. Department of Physics & Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA

AT-20. Reversible Susceptibility Studies of Magnetization Switching in FeCoB Synthetic Antiferromagnets. C. Radu1, E. Girt1, G. Ju1, D. Cimpoeu1, A. Stancu1 and L. Spina1. Department of Physics & Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 2. Seagate Technology, Fremont, CA, USA; 3. Seagate Technology, Pittsburgh, PA, USA; 4. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 5. Faculty of Physics, Al. I. Cuza University, Iasi, Romania

AT-21. The effect of interdiffusion on microstructure and magnetic properties of annealed Fe/Pt multilayer thin films. S. Oh1, P.D. Nguyen1, B. Lee1, C. Lee1, B. Koo1, T. Shimozaki1 and T. Okino1. School of Nano & Advanced Materials Engineering, Changwon National University, Changwon, South Korea; 2. Center for Instrumental Analysis, Kyushu Institute of Technology, Kitakyushu, Japan; 3. Department of Applied Mathematics, Faculty of Engineering, Oita University, Oita, Japan

AT-22. Ferromagnetic resonance study of magnetic phases in FeNi/Al/FeMn/Al and FeMn/Al/FeNi/Al multilayers. F. Pelegrini1, D.R. de Jesus1, J.F. Borges1, V.P. Nascimento1 and E.B. Saitovitch1. Instituto de Física, Universidade Federal de Goias, Goiania, Goias, Brazil; 2. Departamento de Fisica, Universidad Estadual de Ponta Grossa, Ponta Grossa, Paraná, Brazil; 3. Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Rio de Janeiro, Brazil

AU-01. Growth and properties of thin films of the ferromagnetic double perovskite La3NiMnO9. H. Guo1, J. Burgess1, E. Ada1, S. Street1, A. Gupta2, T.G. Calvaresi1 and M.A. Subramanian1. MINT Center and Department of Chemistry, University of Alabama, Tuscaloosa, AL, USA; 2. DuPont Central Research and Development, Wilmington, DE, USA

AU-02. On the Origin of the Reduced MagnetoResistance of Electron Doped Fe-Mo DOUBLE PEROVSKITES. D. Rubi1 and J. Fontcuberta1. Instituto de Ciencia de Materiales de Barcelona, Bellaterra, Barcelona, Spain

AU-03. Sr2CrOsO6: a half-semiconductor. Y. Krockenberger1,2, K. Mogare1, M. Reehuis3,1, M. Tovar1, M. Jansen1, G. Vaitheeswaran3, V. Kanchana4, F. Bultmark5, A. Delin4, F. Wilhelm6, A. Rogalev6, A. Winkler2 and L. Alff2. Solid State Research, Max Planck Institute, Stuttgart, Germany; 2. Department for material research, Darmstadt University of Technology, Darmstadt, Germany; 3. Hahn-Meitner-Institut Berlin, Berlin, Germany; 4. Department of Materials Science and Engineering, Royal Institute of Technology (KTH), Stockholm, Sweden; 5. Department of Physics, University of Uppsala, Uppsala, Sweden; 6. European Synchrotron Radiation Facility (ESRF), Grenoble, France

AU-04. Key role of Re orbital moment in the magnetic properties of Re-based double perovskites. J.M. De Teresa1, D. Serrate1, J.M. Michalik1, J. Blasco1, R. Ibarra1,3, C. Kapusta2 and M. Sikora2,4. Instituto de Ciencia de Materiales de Aragon, CSIC-Universidad de Zaragoza, Zaragoza, Spain; 2. Faculty of Physics and Applied Computer Sciences, AGH University of Science and Technology, Cracow, Poland; 3. Instituto de Nanociencia de Aragon, Universidad de Zaragoza, Zaragoza, Spain; 4. European Synchrotron Radiation Facility, Grenoble, France

AU-05. Investigation of the local Re and Fe magnetic moments in CaxFeReOy double perovskite through the metal-to-insulator transition. C. Azinonte1,2, E. Granado1,2, J. Cezar1, H. Tolentino1, J. Gopalakrishnan1 and K. Ramesha2. Instituto de Física “Gleb Wataghin”, UNICAMP Campinas, SP, Brazil; 2. Laboratório Nacional de Luz Síncrotron, Campinas, SP, Brazil; 3. European Synchrotron Radiation Facility, Grenoble, France; 4. Laboratoire de Cristallographie, Grenoble, France; 5. Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore, India
AU-06. sp-d exchange interaction in Mn : ZnO DMS. E. Chikoidze1,2, Y. Dumont1, W. Pacuski1 and J. Von Bardeleben1. GEMAC, CNRS, MEUDON, France; 2. Material Science Department, Thiliti State University, Thiliti, Georgia; 3. Institute of Experimental Physics, Warsaw University, Warszawa, Poland; 4. Institut des Nanosciences de Paris (INSP), CNRS-Universités Paris 6&7, Paris, France

AU-07. Evidence for Room Temperature Ferromagnetism in Cu_{x}Zn_{1-x}O from Magnetic Studies in Cu_{x}Zn_{1-x}O/CuO Composite. M.S. Sehra1, P. Dutta1, V. Singh1 and I. Wender1. Physics Department, West Virginia University, Morgantown, WV, USA; 2. Chemical and Petroleum Engineering, University of Pittsburgh, Pittsburgh, PA, USA

AU-08. Magnetic Interactions in n-type ZnMnO thin films: an electron paramagnetic resonance study. H.J. von Bardeleben1, A. BenMahmoud2, J.L. Cantin1, A. Mauger3 and E. Chikoidze4. INSP, University Paris 6, Paris, France; 2. LaPhyMNE, Faculté des Sciences, Gabes, Tunisia; 3. MIPU / CNRS, Paris, France; 4. GEMC, CNRS, Meudon, France


AU-10. Kinetically-controlled epitaxial growth and properties of ferromagnetic Ge_{x}Mn_{1-x} thin films. S. Yada1, M. Tanaka1,2 and S. Sugahara3. 1. Department of Electronic Engineering, The University of Tokyo, Tokyo, Japan; 2. SORST, Japan Science and Technology Agency, Kawaguchi, Saitama, Japan; 3. Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan

AU-11. Role of oxygen and annealing in room temperature ferromagnetism of 1D GeMn nanostructures. O. Kazakova1, J.S. Kulkarni2 and J.D. Holmes2. 1. Physics, University of Oxford, Oxford, United Kingdom; 2. MINT Center, University of Delaware, Newark, DE, USA; 3. SORST, Japan Science and Technology Agency, Kawaguchi, Ibaraki, Japan; 4. Graduate School of Engineering, Tohoku University, Sendai, Japan

AU-12. N-type magnetic semiconductor MnGeAs2 thin film: MBE growth and magnetic properties. S. Choi1,4, J. Choi1, S. Choi2, Y. Hwang1, J.B. Kettersson1 and Y. Kim1. 1. Physics, University of Ulsan, Ulsan, South Korea; 2. Electronics and Telecommunications Research Institute, Taejon, Taejon, South Korea; 3. Department of Physics and Astronomy, Northwestern University, Evanston, IL, USA; 4. Nanodevice Research Center, Korea Institute of Science and Technology, Seoul, South Korea; 5. Department of Electrophysics, Kwangwoon University, Seoul, South Korea

AU-01. Current and Resistance Noise Mechanisms in High TMR MgO-based Magnetic Tunnel Junctions. A. Goke1, E.R. Nowak1, G.X. Miao2, A. Gupta3, K. Tsunekawa3 and D. Djayaprawira1. Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. MINT Center, University of Alabama, Tuscaloosa, AL, USA; 3. Canon Anelva Corporation, Tokyo, Japan

AU-02. Differential conductance measurements of fully epitaxial bcc-Co(001)/MgO(001)/Co(001) magnetic tunnel junctions. S. Nishioka1, M. Mızuğuchi1, M. Shiraishi1, Y. Suzuki1,2, R. Matsumoto3, A. Fukushima1 and S. Yuasa1. Osaka University, Osaka, Japan; 2. AIST, Ibaraki, Japan

AU-03. Transmission Electron Microscopy study of the Fe(001)/MgO(001) interface for magnetic tunnel junctions. C. Wang1, A. Kohn1, S. Wang2, R.C. Ward2 and A.K. Petford-Long1. 1. Materials Department, Oxford University, Oxford, United Kingdom; 2. Physics Department, Clarendon Laboratory, Oxford University, Oxford, United Kingdom; 3. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA

AU-04. Grain-to-grain epitaxy as a prerequisite for the high magnetoresistance in polycrystalline MgO-based magnetic tunnel junction. Y. Nagamine1, Y. Choi1, K. Tsunekawa1 and D.D. Djayaprawira1. 1. Electron Device Equipment Division, Canon ANELVA corporation, Fuchu, Tokyo, Japan

AU-05. MTJ elements with MgO barrier using RE-TM amorphous layers for perpendicular MRAM. T. Hatori1, H. Kubota1, A. Kohn1, S. Nakagawa1 and K. Ando1. 1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 2. Graduate School of Pure and Applied Science, Tsukuba University, Tsukuba, Ibaraki, Japan; 3. Electron Device Equipment Division, Canon ANELVA Corporation, Fuchu, Tokyo, Japan

AU-06. Microfabrication of magnetic tunnel junctions using CH3OH ion etching. Y. Otani1,2, H. Kubota1, A. Fukushima1, H. Maehara1, T. Osa1, S. Yuasa1 and K. Ando1. 1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 2. Graduate School of Pure and Applied Science, Tsukuba University, Tsukuba, Ibaraki, Japan; 3. Electron Device Equipment Division, Canon ANELVA Corporation, Fuchu, Tokyo, Japan


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AU-02. Differential conductance measurements of fully epitaxial bcc-Co(001)/MgO(001)/Co(001) magnetic tunnel junctions. S. Nishioka1, M. Mızuğuchi1, M. Shiraishi1, Y. Suzuki1,2, R. Matsumoto3, A. Fukushima1 and S. Yuasa1. Osaka University, Osaka, Japan; 2. AIST, Ibaraki, Japan

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AV-08. Large Exchange Bias and High Blocking Temperature of MgO-Barrier-MTJs With L12-Ordered MnIr. K. Komagaki1, K. Yamada1, K. Noma1, H. Kana1, K. Kobayashi1, Y. Uehara1, M. Tsunoda2 and M. Takahashi1. Advanced Head Technology Dept., FUJITSU LIMITED, Nagano, Japan; 2. Department of Electronic Engineering, Tohoku University, Sendai, Japan

AV-09. Ab initio study on tunneling conductance in magnetic tunnel junctions of half-metallic full-Heusler alloys with MgO barrier. J. Miura1, Y. Oba1, K. Nagao1 and M. Shirai1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan

AV-10. Effect of work function in Co/Al2O3/CoGd magnetic tunnel junctions. T. Moriyama1, J.Q. Xiao1, Q. Wen2 and H.W. Zhang2.1. Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. School of Micro-electronic and Solid-state, University of Electronic Science and Technology of China, Chengdu, China

AV-11. SPECTROSCOPY OF A THREE-DIMENSIONAL DISORDER BY SPIN-DEPENDENT RESONANT TUNNELING. H. Jaffres1, V. Garcia2, M. Marangolo2, M. Eddrief2, V. Etgens3 and J. George4. 1. Unité Mixte de Physique CNRS-Thales, Palaiseau, France; 2. Institut des nanosciences de Paris, Université Paris 6 & 7, Paris, France


AV-13. Room Temperature Spin Filtering in CoFe2O4 Tunnel Barriers. M.G. Chapline1 and S.X. Wang1.1. Western Digital, Fremont, CA, USA; 2. Material Science and Engineering, Stanford University, Stanford, CA, USA

AV-14. Near 100% Spin Filtering with EuO Tunnel Barriers. T. Santos1 and J.S. Moodera1.1. Francis Bitter Magnet Lab, MIT, Cambridge, MA, USA

AV-15. Transport characteristics and magnetoresistance with EuS spin filter tunnel barriers. T. Nagahama1,2, T.S. Santos1 and J.S. Moodera1.1. Francis Bitter Magnet Lab, MIT, Cambridge, MA, USA; 2. Nano-electronics Research Institute, AIST, Tsukuba, Ibaraki, Japan

Monday Morning

MONDAY MORNING

8:00

Session AW

SPIN TORQUE: MICROWAVE OSCILLATIONS

(POSTER SESSION)

David Abraham, Session Chair

AW-01. Electrical measurement of spin-wave interactions between closely-spaced spin transfer nano-oscillators. M. Pufall1, W.H. Rippard1, S. Kaka2, S.E. Russek1 and J.A. Katine1. 1. NIST, Boulder, CO, USA; 2. Seagate Technology, Pittsburgh, PA, USA; 3. Hitachi Global Storage Technologies, San Jose, CA, USA

AW-02. Spin Transfer Dynamics in CoFe Spinvalves. W.H. Rippard2, M. Pufall1, M.L. Schneider1, K. Gerello1 and S. Russek1.1. NIST, Boulder, CO, USA


AW-04. Magnetization Dynamics in CoFe/AlO/Py and CoFe/MgO/Py Magnetic Tunnel JUNCTIONS. G. Finocchio1, L. Torres2, G. Consolo1, M. Carpentieri1, A. Romeo1 and B. Azzerboni1.1. University of Messina, Messina, Italy; 2. Departamento de Fisica Aplicada, Universidad de Salamanca, Salamanca, Spain

AW-05. Relaxation time and current pulse durations on spin-transfer magnetization switching in MgO-based magnetic tunnel junctions. C. Lee1, J. Lee2, L. Ye3, M. Weng1, Y. Chen3, J. Su4, Y. Hua4, Z. Diao5, Y. Ding6, A. Panchula5 and T. Wu6.1. General Education, National Yunlin University of Science and Technology, Touliu, Taiwan; 2. Graduate school of Engineering Science & Technology, National Yunlin University of Science and Technology, Touliu, Taiwan; 3. Department of Electrical Engineering, National Yunlin University of Science and Technology, Touliu, Taiwan. 4. Graduate School of Optoelectronics, National Yunlin University of Science and Technology, Touliu, Taiwan; 5. Taiwan SPIN Research Center, National Yunlin University of Science and Technology, Touliu, Taiwan; 6. Grandis Inc., Milpitas, CA, USA

AW-06. Estimation of spin transfer torque effect and thermal effect of magnetization reversal in CoFe/MgO/CoFeB magnetoresistive tunneling junctions. M. Yoshikawa1, T. Ueda1, H. Aikawa1, E. Kitagawa1, M. Nakayama1, T. Kail1, K. Nishiyama1, T. Nagase1, T. Kishi1, S. Ikegawa1 and H. Yoda1.1. Corporate Research & Development Center, TOSHIBA Corporation, Kawasaki, Japan

AW-07. Current-Driven Domain Wall Dynamics. B. Krueger1, M.A. Bolte2, G. Meier2, U. Merkt2 and D. Pfannkuche1.1. Institute of Theoretical Physics, University of Hamburg, Hamburg, Germany; 2. Institute of Applied Physics, University of Hamburg, Hamburg, Germany

AW-08. Effect of ac current on the current-induced domain wall motion. W. Kim1, K. Lee1 and T. Lee1.1. Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, South Korea; 2. Department of Materials Science and Engineering, Korea University, Seoul, South Korea

AW-10. Mode-hopping of current-driven excitations in spin-valve point-contacts. Q. Mistro1, M. van Kampen1, T. Devolder1, P. Crozat1, J. Kim1, C. Chappert1, L. Lagae2 and G. Borghs1.1. Institut d’Electronique Fondamentale, CNRS/Université Paris-Sud, Orsay, France; 2. IMEC, Leuven, Belgium

AW-11. Spin-torque in non-coplanar structures F1/P/F2/P/F3
D. Gusakova1, A. Vedyayev1 and U. Ebels1. SPINTEC, URA 2512 CEA/CNRS, CEA - Grenoble, Grenoble, France

AW-12. Magnetization reversal induced by spin-transfer torque from a FePt perpendicular spin polarizer. T. Seki1, S. Mitani1, K. Yakuhihi1 and K. Takanashi1. Institute for materials research, Tohoku University, Sendai, Japan


AW-14. Current-Induced switching study of the canting model for ferrimagnet thin films. A. Canizo-Cabrera1, V. Garcia-Vazquez2 and T. Wu1. Taiwan SPIN Research Center, National Yunlin University of Science & Technology, Touliu, Yunlin, Taiwan; 2. Instituto de Física Luis Rivera Terrazas, Universidad Autonoma de Puebla, Puebla, Puebla, Mexico

AW-15. Spin transfer torque effect in AgCo granular films. Y. Luo1, M. Esseling1, M. Münzenberg2 and K. Samwer1. J. Phys. Institute, University Göttingen, Göttingen, Germany; 2. IVPhys. Institute, University Göttingen, Göttingen, Germany

MONDAY MORNING
GRAND BALLROOM
8:00

Session AX
SPIN GLASSES, LOW-DIMENSIONAL AND STRONGLY CORRELATED SYSTEMS

(POSTER SESSION)
Henri Jansen, Session Chair

AX-01. Composition Dependence of Magnetic Behavior in Mixed Magnetic Mn/Ni Dichloride Monohydrate. G.C. DeFotis1, T.M. Owens1, W.M. May1, J.H. Boyle1, E.S. Vos1, Y. Matsuyama1 and A.T. Hopkinson1. Chemistry, College of William and Mary, Williamsburg, VA, USA

AX-02. Channel Width Effect on Spin-Orbit Coupling Parameter in a Two-Dimensional Electron Gas. J. Kwon1, H. Koo1, J. Eom1,2, J. Chang1 and S. Han1. Korea Institute of Science and Technology, Seoul, South Korea; 2. Sejong University, Seoul, South Korea

AX-03. Broken spin-Hall accumulation symmetry by external magnetic field. S. Chen1, M. Liu4, K. Chen1 and C. Chang1. Department of Physics, National Taiwan University, Taipei, Taiwan

AX-04. Multiple Delocalization of Electrons and Persistent Currents in Random n-mer Mesoscopic Rings Threaded by A Magnetic Flux. R. Zhang1, Z. Tang1, R. Peng1, L. Cao1, Z. Wang1, D. Li1, M. Wang1 and S. Kang1. National Laboratory of Solid State Microstructures, Nanjing, China; 2. Center for Materials for Information Technology, Taisaloosa. AL, USA

AX-05. Fermionic formulation for the Hopfield Ising spin-glass in a transverse field. S.G. Magalhaes1, C.J. Kipper1, F.M. Zimmer1 and P.R. Krebs1.1. Departamento de Física, Universidad Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil; 2. Instituto de Física e Matemática, Universidad Federal de Pelotas, Pelotas, Rio Grande do Sul, Brazil

AX-06. Composition dependence of the critical temperatures in 3d Heisenberg ±J spin glass. A.D. Beath1 and D.H. Ryan1. Physics Department and the Centre for the Physics of Materials, McGill University, Montreal, QC, Canada

AX-07. Magnetovolume effect and magnetic transition in Gd5Si4 of Physics, Peking University, Beijing, China

AX-08. Super heavy, possible non-Fermi liquid system CeNiGe at very high fields and low temperatures. C.R. Rotundu1,2, J. Kim2 and B. Andraka1. Physics, University of Florida, Gainesville, FL, USA

AX-09. Heat capacity of pyrochlore Pr3Ru2O7, M. Tachibana1, Y. Kohama1, T. Atake2 and E. Takayama-Muromachi1. National Institute for Materials Science, Tsukuba, Ibaraki, Japan; 2. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan

AX-10. Multiple magnetic transitions and magnon gap-like characteristics in the high purity TbB4 single crystal. J. Rhyee1,2, J. Kim2 and B. Cho2. Crystal growth gr. Max-Plank Institute for Solid State Research, Stuttgart, Germany; 2. Dept. of Materials Sci. and Eng., Gvagagi Institute of Sci. and Tech., Gwang-Ju, South Korea; 3. Center for strongly correlated materials research, Seoul National University, Seoul, South Korea

AX-11. Structure and thermal expansion anomaly study on Nd(Fe,Mo)12N2x. H. Du1, Y. Shan1, J. Yang1 and Y. Yang1. School of Physics, Peking University, Beijing, China
Session AY
MAGNETIC FLUIDS AND SEPARATION
(POSTER SESSION)
Norman Wereley, Session Chair

AY-01. Synthesis of Magnetic Activated Carbons For Removal of Environmental Endocrine Disrupter. H. Nagata1, S. Nakamura1, A. Nakahira1 and K. Fukunishi2.1, Osaka Pref Univ, Osaka, Japan; 2. Futaba Shoji Co. LTD, Osaka, Japan

AY-02. Magnetic behavior of magnetic ionic liquid [Bmim][FeCl4]. S. Lee1, S. Ha1, C. You1 and Y. Koo1.1. ERC for Advanced Bioseparation Technology, Inha University, Incheon, South Korea; 2. Department of Biological Engineering, Inha University, Incheon, South Korea; 3. Department of Physics, Inha University, Incheon, South Korea

AY-03. Magnetooptical properties of ionic magnetic fluids. G.D. Benicio1, K.L. Miranda2, P.P. Sartoratto2, F. Pelegri1 and A.F. Bakazi1.1. Instituto de Fisica, Universidade Federal de Goias, Goiania, GO, Brazil; 2. Instituto de Quimica, Universidade Federal de Goias, Goiania, GO, Brazil

AY-04. Magnetic field-induced fluid flow and its effects on resistance spot nugget formation process. Y. Li1,2, Z. Lin1, J. Ni1 and G. Chen1. Shanghai Jiao Tong University, Shanghai, China; 2. University of Michigan, Ann Arbor, MI, USA


AY-06. Field-flow-fractionation of nucleic acids and proteins under large-scale gradient magnetic fields. M. Iwasaka1. Faculty of Engineering, Chiba University, Chiba, Japan

AY-07. Numerical Research on the Behavior of Magnetic Fluid under the External Forces. G. Park1 and K. Seo1. Electrical Engineering, Pusan National University, Busan, South Korea

AY-08. 3-D Modeling of High Gradient Magnetic Separation from Biological Fluids. H. Chen1,3, D. Bockenfeld1, M.D. Kaminski3, D. Rempfer1 and A.J. Rosengart1.1. Neurology, The University of Chicago, Chicago, IL, USA; 2. Surgery, The University of Chicago, Chicago, IL, USA; 3. Mechanical, Material and Aerospace Engineering, Illinois Institute of Technology, Chicago, IL, USA; 4. Chemical Engineering Division, Argonne National Laboratory, Argonne, IL, USA; 5. Biomedical Engineering, Illinois Institute of Technology, Chicago, IL, USA

Session BA
SYMPOSIUM ON BOSE-EINSTEIN CONDENSATION AND QUANTUM MAGNETS
Marcelo Jaime, Session Chair

BA-01. Bose-Einstein condensation in Quantum Magnets. (Invited) V. Zapf1, D. Zocco1,2, C.D. Batista2, M. Jaime1, N. Harrison1, T. Murphy3, E. Palm1, S. Tozer1, A. Lacerda1 and A. Paduan-Filho1.1. National High Magnetic Field Laboratory, Los Alamos National Lab, Los Alamos, NM, USA; 2. Condensed Matter Theory Group, Los Alamos National Lab, Los Alamos, NM, USA; 3. NHMFL, Tallahassee, FL, USA; 4. Universidade de Sao Paulo, Sao Paulo, Brazil; 5. University of California at San Diego, La Jolla, CA, USA


Session BB
NANOPARTICLE SYNTHESIS I
Oksana Chubykalo-Fesenko, Session Chair

BB-01. Surface spin disorder and interparticle interaction in Fe3O4 nanoparticles probed by electron magnetic resonance spectroscopy and magnetometry. S. Fal1, P. Dutta1, M.S. Shehra1, N. Shah1 and G.P. Huffman1. Physics, West Virginia University, Morgantown, WV, USA; 2. Consortium for Fossil Fuel Science, University of Kentucky, Lexington, KY, USA
BB-01. Magnetic Properties of Heterostructured Au-Co Nanoparticles. Y. Xu and J. Wang. MINT Center & Dept. of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA

BB-02. Square root temperature dependence of coercive field over an anomalously large range of temperature and grain size. R.K. Das, S. Tognay, A.F. Hebard, A. Gupta and D. Kumar. Department of Mechanical and Chemical Engineering, North Carolina A & T State University, Greensboro, NC, USA

BB-03. Antiferromagnetic MnO nanoparticles with an Mn3O4 ferrimagnetic shell. G.F. Rodriguez, K. An, T. Hyeon, N. Agarwal, D.J. Smith, T. Hyeon, N. Agarwal, D.J. Smith, and A.E. Berkowitz. Center for Magnetic Recording Research, University of California-San Diego, La Jolla, CA, USA; 2. National Creative Research Center for Oxide Nanocrystalline Materials and School of Chemical and Biological Engineering, Seoul National University, Seoul, South Korea; 3. Center for Solid State Science and Department of Physics and Astronomy, Arizona State University, Tempe, AZ, USA


BB-05. Static and dynamic magnetic properties of “dumbbell” and “flower” shaped Au-Fe3O4 nanoparticles. N. Frey, S. Srinath, H. Srikanth, C. Wang, and S. Sun. Department of Physics, University of Konstanz, Konstanz, Germany; 2. Department of Chemistry, Brown University, Providence, RI, USA

BC-06. Asymmetry in the hysteresis loops of systems with both exchange-bias and shape anisotropy. H. Jang¹, P.A. Crowell¹ and E.D. Dahlberg². *Physics, University of Minnesota, Minneapolis, MN, USA*

2:42

BC-07. The complementary nature of coercivity enhancement and exchange bias in a general ferro-antiferromagnet (F-AF) exchange coupled system. C. Liu¹, M. Sun¹ and H. Fujiwara¹. *Department of Mathematics and MINT Center, The University of Alabama, Tuscaloosa, AL, USA; 2. Department of Physics and MINT Center, The University of Alabama, Tuscaloosa, AL, USA*

1:30

**Session BD**

**SPIN TRANSPORT IN NANOSTRUCTURES**

Bruce Gurney, Session Chair

1:30

**BD-01. X-ray Microscopy of Local Anisotropic Magnetoresistance.** M.A. Bolte¹, R. Eiselt¹, H. Ziehlke¹, U. Merkt¹, G. Meier¹, D. Kim² and P. Fischer². *Institute of Applied Physics and Center for Microstructure Research, University of Hamburg, Hamburg, Germany; 2. Center for X-ray Optics, LBL, Berkeley, CA, USA*

1:42

**BD-02. On-chip electrical detection of magnetization dynamics of a single nanoscale ferromagnet.** M.V. Costache¹, S.M. Watts¹, M. Sladkov¹, C.H. van der Wal¹ and B.J. van Wees¹. *Physics of Nanodevices, University of Groningen, Groningen, Groningen, Netherlands*

1:54

**BD-03. Ballistic Anisotropic Magnetoresistance in Electrodeposited Co Nanocontacts.** A. Sokolov¹,², C. Zhang², E.Y. Tsymbal¹,², J. Redepenning² and B. Doudin¹. *Department of Physics and Astronomy, University of Nebraska - Lincoln, Lincoln, NE, USA; 2. Nebraska Center for Materials and Nanoscience, University of Nebraska - Lincoln, Lincoln, NE, USA; 3. Department of Chemistry, University of Nebraska - Lincoln, Lincoln, NE, USA; 4. Institut de Physique et de Chimie des Matériaux de Strasbourg (IFCMS), Strasbourg, France*

2:06

**BD-04. EXTRAORDINARY HALL EFFECT IN CoPt:SiO2 COMPOSITE THIN FILMS.** J. Moritz¹, M. Miron¹, I.I. Prejbeanu¹, B. Rodmacq¹ and B. Dieny¹. *SPINTEC, Grenoble, France*

2:18

**BD-05. Confirmation of “Atom Pumping-up Mechanism” in Fe/Ta Film for the Fabrication of Ferromagnetic Nano-bridge.** M. Doi¹, Y. Abe¹, K. Miyake¹, H.N. Fuke², M. Takagishi², H. Iwasaki² and M. Sahashi¹. *Electronic Engineering, Tohoku University, Sendai, Japan; 2. Corporate R&D Center, TOSHIBA Corporation, Kawasaki, Japan*

2:30

**BD-06. Tuning magnetoresistance response of nanocontacts by electrode design.** G. Sarau¹, S. Gliga¹, R. Hertel¹ and C.M. Schneider¹. *Institute of Solid State Research (IFF), Research Center Jülich, Jülich, Germany*

2:42


1:30

**Session BE**

**NUMERICAL STUDIES OF DOMAIN WALLS**

Peter Visscher, Session Chair

1:30

**BE-01. AC current induced domain wall motion.** Y. Nakatani¹ and T. Ono¹. *Department of Computer Science, University of Electro-Communications, Chofu, Tokyo, Japan; 2. Kyoto University, Uji, Kyoto, Japan*
BE-02. Incoherent rotation and domain wall collisions in thin film rectangular magnetic stripes. A. Prabhakar. 1. Electrical Engineering, Indian Institute of Technology, Chennai, India

BE-03. Temperature dependence of domain wall properties in FePt: elliptical and linear walls. D. Hinze, P. Asselin, O.N. Mryasov, U. Nowak and R.W. Chantrell. 1. Physics, University of York, York, United Kingdom; 2. Seagate Research, 1251 Waterfront Place, Pittsburgh, PA, USA

BE-04. Domain wall switching: optimizing the energy landscape. Z. Lu, P.B. Visscher and W.H. Butler. 1. Physics, University of Alabama, Tuscaloosa, AL, USA

BE-05. Micromagnetics of the Decreasing Domain Wall Mobility in Permalloy Nanowires. A. Kunz and B. Kaster. 1. Physics, Marquette University, Milwaukee, WI, USA

BE-06. Thermal effects on domain wall motion along thin ferromagnetic wires. E. Martinez, L. Lopez-Diaz, L. Torres, C. Tristan and O. Alejos. 1. Electromechanics Engineering, University of Burgos, Burgos, Spain; 2. Applied Physics, University of Salamanca, Salamanca, Spain; 3. Electricidad and Electronics, University of Valladolid, Valladolid, Spain

BE-07. Various-type oscillatory transitions of magnetic domain walls during their dynamic motion in ferromagnetic nanowires. J. Lee, S. Choi, K. Lee, D. Jeong and S. Kim. 1. Research Center for Spin Dynamics & Spin-Wave Devices (ReC-SDSW) and Nanospintronics Laboratory, Seoul National University, Seoul 151-744, South Korea
Session BG
INSTRUMENTATION AND MEASUREMENT TECHNIQUES I
Fabio Da Silva, Session Chair

1:30

BG-01. Characterization of a Novel Magnetic Tracking System.
*J.T. Sherman*, J.K. Lukbert, R.S. Popovic and M.R. DiSilvestro. Global Concept Development, DePuy Orthopaedics, Inc., Warsaw, IN, USA; 2. Purdue University, West Lafayette, IN, USA; 3. Microsystems Institute, EPFL, Lausanne, Switzerland

1:42

*U. Marschner* and W. Fischer. Semiconductor and Microsystems Technology Laboratory, Dresden University of Technology, Dresden, Germany

1:54

BG-03. Demonstration of ultra-high MOKE sensitivity for nanomagneto-optics using dual layer nanofabrication process.
*S. Wang*, A. Barman, J.A. Maas, A.R. Hawkins, S. Kwon and H. Schmidt. School of Engineering, University of California, Santa Cruz, Santa Cruz, CA, USA; 2. ECE, Brigham Young University, Provo, UT, USA; 3. Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 4. USC NanoCenter and Department of Physics and Astronomy, University of South Carolina, Columbia, SC, USA; 5. School of Electrical Engineering, Seoul National University, Seoul, South Korea

2:06

BG-04. The transverse magneto-optical Kerr effect using mixed s- and p-polarized incident light.
*D.A. Allwood*, S. Basu, P. Seem and R.P. Cowburn. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. Department of Physics, Imperial College London, London, United Kingdom

2:18

BG-05. Angular dependent X-ray magnetic circular dichroism using total electron yield.
*C. Sanchez-Hanke*. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA

2:30

BG-06. Off-specular polarised neutron reflectivity investigation of periodic magnetic rings.
*S.Y. Ogrin*, S.M. Weekes, R. Cubitt, B. Toperverg, A. Wildes, A. Drew, W. Jung, C.A. Ross and R. Menon. 1. School of Physics, University of Exeter, Exeter, Devon, United Kingdom; 2. Institut Laue-Langevin, Grenoble, France; 3. Department of Physics, University of Fribourg, Fribourg, Switzerland; 4. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA; 5. Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA, USA

2:42

*S. Chen* and M.N. Afsar. Electrical and Computer Engineering, Tufts University, Medford, MA, USA; 2. High Frequency Materials Measurement and Information Center, Tufts University, Medford, MA, USA

MONDAY AFTERNOON

Session BH
NEW APPLICATIONS I
Lawrence Bennett, Session Chair

1:30

BH-01. Mach-Zehnder Interferometric Switch Utilizing Faraday Rotation.
*R. Bahuguna*, M. Mina and R.J. Weber. Electrical and Computer Engineering, Iowa State University, Ames, IA, USA

1:42

BH-02. Magnetic measurement of moisture content of grains.
*K. Tsukada* and T. Kiwa. Electrical and Electronic Engineering, Okayama University, Okayama, Japan

1:54

BH-03. Soft magnetic devices applied for low zero excursion (10-2/h) four mode RLG.
*C. Huanfu* and Z. Hong. Computer Science and Technology, Guangdong University of Finance, Guangzhou, Guangdong, China
BH-04. Analysis of Minor Hysteresis Loops for Neutron Irradiation and Plastic Deformation in Fe Metal. S. Takahashi¹, Y. Kamada¹, H. Kikuchi¹, S. Kobayashi¹, N. Ebine², K. Ara¹ and M. Suzuki¹. NDE&Science Research Center, Iwate University, Morioka, Japan; 2. Department of Reactor Safety Research, Japan Atomic Energy Agency, Tokai, Japan

BH-05. Magnetically driven formation of non-magnetic monodisperse emulsions. D.S. Halverson¹ and G. Friedman¹. ECE department, Drexel University, Philadelphia, PA, USA

BH-06. MAGNETORHEOLOGICAL BYPASS DAMPER EXPLOITING FLOW THROUGH A DUCT CONTAINING A POROUS MATERIAL. W. Hu¹, E. Cook¹ and N.M. Wereley¹. Aerospace Engineering, University of Maryland, College Park, MD, USA

BH-07. Modeling and Design of the Permanent Magnet Thrust Bearing. H. Yang¹ and R. Zhao¹. College of Electrical Engineering, Zhejiang University, Hangzhou, Zhejiang, China

CA-02. Wireless magnetoelastic physical, chemical and biological sensors. (Invited) C. Grimes¹. Department of Electrical Engineering, The Pennsylvania State University, University Park, PA, USA

CA-03. Materials optimization for magnetic MEMS application. (Invited) M. Gibbs¹. Centre for Advanced Magnetic Materials & Devices, University of Sheffield, Sheffield, United Kingdom

CA-04. Magnetic Templates for Nanometer Scale Manipulation and Assembly. (Invited) J. Moreland², D. Porpora², W. Krauser³ and V.M. Bright¹. NIST, Boulder, CO, USA; 2. Physics, Colorado School of Mines, Golden, CO, USA; 3. Mechanical Engineering, University of Colorado, Boulder, CO, USA

CA-05. Magnetic Micro-Machines for Novel Applications. (Invited) M. Nakano¹, F. Yamashita¹, T. Honda¹, Y. Yamazaki¹, K. Ishiyama¹, J. Fiedler², T. Yanai¹ and H. Fukunaga¹. Electronics and Electrical Engineering, Nagasaki University, Nagasaki, Japan; 2. Kyushu Institute of Technology, Kitakyushu, Japan; 3. Tohoku University, Sendai, Japan; 4. Matsushita Electric Industrial Co. Ltd., Daito, Japan; 5. Vienna University of Technology, Vienna, Austria


CA-02. Slider Dynamics on Patterned Media in Hard Disk Drives. V. Gupta¹ and D.B. Bogoly¹. Mechanical Engineering, University of California, Berkeley, CA, USA
CB-03. Mean-Plane Spacing Limit and Slider Technology for Fully Stable Head-Disk Interface Under Various Working Conditions. B. Liu¹, S. Yu¹, M. Zhang¹ and L. Gonzaga¹. Data Storage Institute, Singapore, Singapore

9:36

CB-04. Dynamics of Partial Contact Head Disk Interface. D. Chen¹ and D.B. Bogy¹. Computer Mechanics Laboratory, University of California at Berkeley, Berkeley, CA, USA

9:48

CB-05. Slider – Disk – Head Stack Assembly Modeling in Hard Disk Drives Using Model Order Reduction Technique. V. Gupta¹ and D.B. Bogy¹. Mechanical Eng, University of California, Berkeley, Berkeley, CA, USA

10:00

CB-06. A Novel HDD “Component-Level” Operational-Shock Measurement Method. B.H. Thornton¹, T. Eguchi² and M. Suk¹. Advanced Technology, Hitachi GST, San Jose, CA, USA; 2. Research & Development Group, Hitachi, Ltd., Ibaraki, Japan

10:12

CB-07. Advances of optical n&k testing of magnetic heads with imaging spectroscopic ellipsometry. M. Vaupel¹, S. Yunfeng² and Y. Zhimin¹. Nanofilm Technologie GmbH, Goettingen, Germany; 2. Data Storage Institute DSI, Singapore, Singapore

10:24

CB-08. Robustness under Mechanical Stress of IrMnCr heads. T. Ohtsu¹, K. Kataoka¹, M. Torigoe¹, H. Tanaka¹, S. Sasaki², D. Hsiao², D. Heim³, S. Lou¹ and C. Fox². Hitachi Global Storage Technologies Japan, Ltd., Odawara, Kanagawa, Japan; 2. Storage Technology Research Center, Hitachi, Ltd., Odawara, Kanagawa, Japan; 3. Hitachi Global Storage Technologies, Inc., Sanjose, CA, USA

10:36

CB-09. Study of lubricant pickup at the head-disk interface under laser irradiation. J. Zhang¹, R. Jil¹, J. Xu², J. Ng³, B. Xu¹, H. Yuan¹, S. Piramanayagam¹ and T. Liew¹. Data Storage Institute, Singapore, Singapore; 2. Institute of Materials Research & Engineering, Singapore, Singapore

10:48

CB-10. Flyability Failures Due to Siloxanes at the Head-Disk Interface Revisited: The Real Cause. X. Guo¹, V. Raman¹, T. Karis¹ and Y. Yao². Hitachi GST, San Jose, CA, USA; 2. Hitachi GST, Singapore, Singapore

11:00

CB-11. Lubricant Depletion due to Laser Heating in Heat-Assisted Magnetic Recording. L. Wu¹. ME, University of Nebraska-Lincoln, Lincoln, NE, USA

11:12

CB-12. Lifshitz-van der Waals and Lewis acid-base Approach for Analyzing Surface Energy of Molecularly Thin Lubricant Films. H. Chen¹, L. Li², P.M. Jones³, Y. Hsi⁴ and M.S. Jhon⁵. Depart of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Mechanical Integration and Tribology, Seagate Technology, Pittsburgh, PA, USA

11:24


11:36

CB-14. Molecular Adhesion Model for the Bridged State of a Magnetic Recording Slider. T. Karis¹ and X. Guo¹. Hitachi Global Storage Technologies, San Jose, CA, USA

TUESDAY MORNING 9:00

Session CC

PATTERNED STRUCTURES I

Dieter Weller, Session Chair

9:00

CC-01. Highly Ordered Arrays of Magnetic Nanostructures over Macroscopic Areas. S.M. Weekes¹, F.Y. Ogrin¹, J.D. Apweiler¹ and T.N. Evershed². Physics, University of Exeter, Exeter, United Kingdom
CC-02. Large-scale Magnetic Nanoring Arrays by Interference Lithography and Electrochemical Deposition. W. Lee1, R. Ji1, U. Gösele1 and K. Nielsch1. Max Planck Institute of Microstructure Physics, Halle, Germany


CC-04. Relationships between structure and properties in nanomagnetic materials. (Invited) A. Petford-Long1. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA

CC-05. Manipulating the dipolar magnetic interactions in FePt/CoPt square arrays: The role of edge roughness and soft magnetic inter-dot phases. S. Dreyer1, S. Schnittger1, J. Norpoth1, J. Hoffmann1, C. Jooss1, S. Sievers2, M. Albrecht2 and U. Siegner1. Institute of Materials Physics, University of Goettingen, Goettingen, Germany; 2. Physikalisch-Technische Bundesanstalt, Braunschweig, Germany

CC-06. Systematic investigation of Permalloy nanostructures for magnetologic applications. S.A. Haque1, R. Engel-Herbert1 and T. Hesjedal1. E&CE Dept., University of Waterloo, Waterloo, ON, Canada

CC-07. Magnetization reversal process in microfabricated FePt dot arrays. K. Takanashi1, D. Wang1, T. Seki1 and T. Shima1. Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Faculty of Engineering, Tohoku-Gakuin University, Tagajyo, Japan

CC-08. Direct Measurement of Switching Field Distributions in Nano-Patterned Media. B.D. Belle1, F. Schedin1, T.V. Ashworth2, N. Pilet1, P.W. Nutter1, E.W. Hill1, H.J. Hug1,3 and J.J. Miles1. School of Computer Science, The University of Manchester, Manchester, M13 9PL, United Kingdom; 2. Institute of Physics, University of Basel, Basel, 4056, Switzerland; 3. Swiss Federal Laboratory for Materials Testing and Research, Dibendorf, CH-8600, Switzerland

CC-09. Switching characterisation and control of pseudo-spin-valve ring structures. T.J. Hayward1, J. Llandro2, D. Morecroft2, F.D. Schackert1, R.B. Balsod1, J.C. Bland1, F.J. Castaño2 and C.A. Ross1. Department of Physics, University of Cambridge, Cambridge, United Kingdom; 2. Department of Material Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA

CC-10. Coupled magnetic, acoustic, and plasmonic modes after laser excitation through nanohole arrays. L. Le Guyader1, A. Kirilyuk1, G.A. Wurtz2, A.V. Zayats2, I.I. Smolyaninov3 and T. Rasing1. Institute for Molecules and Materials, Radboud University Nijmegen, Nijmegen, Netherlands; 2. School of Mathematics and Physics, The Queen’s University of Belfast, Belfast, United Kingdom; 3. Department of Electrical and Computer Engineering, University of Maryland, College Park, MD, USA

CC-11. Magnetic Bubbles in Perpendicular Anisotropy Nanodots. C. Moutafis1, S. Komineas1, C.A. Vaz1, J.A. Bland1, T. Shima1, T. Seki1 and K. Takanashi1. Physics Department, Cavendish Laboratory, Cambridge University, Cambridge, United Kingdom; 2. Max-Planck Institute of Complex Systems, Dresden, Germany; 3. Faculty of Engineering, Tohoku-Gakuin University, Tagajyo, Japan; 4. Institute for Materials Research Tohoku University, Sendai, Japan

CC-12. Magnetic domain structure of nanohole arrays in Ni films. D. Navas1, M. Jaafar1, A. Asenjo1, M. Hernandez-Velez2, J.M. Garcia-Martín1 and M. Vazquez1. Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; 2. Departamento de Física Aplicada, Universidad Autónoma de Madrid, Madrid, Spain; 3. Instituto de Microelectrónica de Madrid, Tres Cantos (Madrid), Spain
CC-13. Dynamic Properties of Arrays of Ferromagnetic Rectangular Bars. R. Adam¹, Y. Khivintsev², C.M. Schneider³, A. Hutchison⁴, R. Camley² and Z. Celinski². ¹. Institute for Solid State Research (IFF), Research Centre Jülich, Jülich, Germany; ². Center for Magnetism and Magnetic Nanostructures, UCCS, Colorado Springs, CO, USA

TUESDAY MORNING

9:00

Session CD

SPIN TORQUE: MICROWAVE OSCILLATIONS

Philip Trouilloud, Session Chair

9:00

CD-01. Angular dependence of microwave excitation threshold in current-driven magnetic nano-contacts. V. Tiberkevich⁵, A. Slavin¹ and G. Melkov¹. ¹. Physics, Oakland University, Rochester, MI, USA; ². Radiophysics Faculty, Taras Shevchenko Kiev University, Kiev, Ukraine

9:12

CD-02. Magnetization dynamics in point contacts to single Co films. O.P. Balkashin¹, I.K. Yanson¹, Vv. Fisun¹, L.Y. Trigunten¹, A. Konovalenko² and V. Korennivski². ¹. B. Verkin Institute for Low Temperature Physics and Engineering, National Academy of Sciences of Ukraine, Kharkiv, Ukraine; ². Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden

9:24

CD-03. Investigation of spin-wave excitation in single layered ferromagnetic film by nano-bridge point contacts. T. Kim¹, K. Shin² and K. Char¹. ¹. Center for Strongly Correlated Materials Research and Dept. of Physics and Astronomy, Seoul National University, Seoul, South Korea; ². Future Technology Research Division, Korea Institute of Science and Technology, Seoul, South Korea

9:36

CD-04. Spin Transfer, Oersted Field Induce a Vortex Nano-Oscillator in Thin Ferromagnetic Film Devices. M. Hoefer¹ and T.J. Silva¹. ¹. NIST, Boulder, CO, USA

10:00

CD-06. Spin-Torque Effect and FMR End-Modes in Current-In-Plane GMR Spin-Valves. N. Smith¹, J.A. Katine¹, J.R. Childress¹ and S. Maal¹. ¹. Hitachi Global Storage Technologies, San Jose, CA, USA

10:12

CD-07. Stochastic theory of spin-transfer oscillator linewidths. J. Kim¹. ¹. Institut d’Electronique Fondamentale, CNRS/Université Paris-Sud, Orsay, France

10:24

CD-08. Magnetic vortex oscillations driven by DC spin-polarized currents. V. Pribiag¹, P. Braganca¹, G. Fuchs¹, A. García¹, I. Krivorotov², O. Ozatay¹, J. Sankey¹, D. Ralph¹ and R. Buhrman¹. ¹. Applied & Engineering Physics, Cornell University, Ithaca, NY, USA; ². Physics, UC Irvine, Irvine, CA, USA

10:36

CD-09. Low-Field Ferromagnetic Resonance Studies of Spin-torque Driven Excitations in Magnetic Nanopillars. G.D. Fuchs¹, J.C. Sankey², P.M. Braganca¹, A. Garcia¹, E.M. Ryan¹, L. Qian¹, D.C. Ralph³ and R.A. Buhrman¹. ¹. Applied Physics, Cornell University, Ithaca, NY, USA; ². Physics, Cornell University, Ithaca, NY, USA; ³. Applied Physics, Stanford University, Palo Alto, CA, USA

10:48

CD-10. Analytical prediction of line-width in spin-torque driven magnetization self-oscillations. C. Serpico¹, G. Bertotti¹, R. Bonin³, M. d’Aquin³ and I.D. Mayergoyz². ¹. Dept. of Electrical Engineering, University of Napoli, Napoli, Italy; ². Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy; ³. ECE Department and UMIACS, University of Maryland, College Park, MD, USA
CD-11. Model of phase locking in spin-transfer-driven magnetization dynamics. R. Bonin\textsuperscript{1}, G. Bertotti\textsuperscript{1}, C. Serpico\textsuperscript{2}, M. d’Aquino\textsuperscript{2} and I.D. Mayergoyz\textsuperscript{3}. 1. INRIM, Torino, Italy; 2. Dept. of Electrical Engineering, University of Napoli Federico II, Napoli, Italy; 3. Dept. of Electrical and Computer Engineering, University of Maryland, College Park, MD, USA

CD-12. Simulation of mutual phase-locking in double point contacts. G. Hrkac\textsuperscript{1}, T. Schrefl\textsuperscript{2}, O. Ertl\textsuperscript{2}, S. Bance\textsuperscript{1} and A. Goncharov\textsuperscript{1}. 1. Department of Engineering Materials, University of Sheffield, Sheffield, South Yorkshire, United Kingdom; 2. Vienna University of Technology, Institute of Solid State Physics E138, Vienna, Vienna, Austria

CD-13. Intrinsic phase shift between a spin torque oscillator and an injected RF current. Y. Zhou\textsuperscript{1}, J. Persson\textsuperscript{1} and J. Åkerman\textsuperscript{1}. Department of Microelectronics and Applied Physics, Royal Institute of Technology, Electrum 229, 164 40 Kista, Sweden

CD-14. Spin Transfer Oscillators connected in series : Numerical simulations and Experiments. O. Boulle\textsuperscript{1}, J. Grollier\textsuperscript{1}, V. Cros\textsuperscript{1}, C. Deranlot\textsuperscript{1}, G. Faini\textsuperscript{2} and A. Fert\textsuperscript{1}. UMR CNRS-UMR Thales, Palaiseau, France; 2. LPN CNRS, Marcoussis, France

CE-01. Efficient spin injection from a ferromagnet into a semiconductor. V. Karpan\textsuperscript{1}, M. Zwierzycki\textsuperscript{2} and P.J. Kelly\textsuperscript{1}. University of Twente, Enschede, Netherlands; 2. Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany

CE-02. Efficient spin detection across the hybrid Co/GaAs Schottky interface. T. Trypiniotis\textsuperscript{1}, D.Y. Tse\textsuperscript{1}, S.J. Steinmuller\textsuperscript{1}, W. Cho\textsuperscript{1} and J.C. Bland\textsuperscript{1}. Department of Physics, University of Cambridge, Cambridge, United Kingdom

CE-03. Structure, spin polarization, and electrical spin injection from Fe\textsubscript{1-x}Ga\textsubscript{x} films on AlGaAs/GaAs heterostructures. A.T. Hanbicki\textsuperscript{1}, O.J. van ‘t Erve\textsuperscript{1}, C.H. Li\textsuperscript{1}, G. Kioseoglou\textsuperscript{1}, R. Goswami\textsuperscript{1}, M. Osowski\textsuperscript{1}, S. Cheng\textsuperscript{1}, G. Spanos\textsuperscript{1} and B.T. Jonker\textsuperscript{1}. Naval Research Laboratory, Washington, DC, USA

CE-04. Atomic structure of the Fe/AlGaAs interface and its influence on spin transport. (Invited) T. Zega\textsuperscript{1}. Materials Science and Technology Division, Naval Research Laboratory, Washington, D.C., DC, USA

CE-05. Electrical Spin Injection and Detection in Fe/GaAs Heterostructures. X. Lou\textsuperscript{1}, C. Adelmann\textsuperscript{2}, C.J. Palmstrøm\textsuperscript{2} and P.A. Crowell\textsuperscript{1}. School of Physics and Astronomy, University of Minnesota, Minneapolis, MN, USA; 2. Dept. of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, USA

CE-06. Electron Tunneling across EuS / InAs Heterojunctions. R.L. Kallner\textsuperscript{1}, P. Xiong\textsuperscript{1}, S. von Molnár\textsuperscript{1}, M. Field\textsuperscript{2} and G.J. Sullivan\textsuperscript{2}. MARTECH / Department of Physics, Florida State University, Tallahassee, FL, USA; 2. Rockwell Scientific Company LLC, Thousand Oaks, CA, USA

CE-07. Efficient spin filtering in GaAs/MgO/Fe structures. Y. Park\textsuperscript{1,2}, M. van Veenhuizen\textsuperscript{1}, J. Philip\textsuperscript{1}, J. Lee\textsuperscript{1,2}, J.S. Moodera\textsuperscript{1}, C.H. Perry\textsuperscript{1}, D. Heiman\textsuperscript{3}, C. Chang\textsuperscript{1} and S. Ramanathan\textsuperscript{1}. Francis Bitter Magnet Lab, Massachusetts Institute of Technology, Cambridge, MA, USA; 2. Nanodevice Research Center, Korea Institute of Science and Technology, Seoul, South Korea; 3. Department of Physics, Northeastern University, Boston, MA, USA; 4. Division of Engineering and Applied Sciences, Harvard University, Cambridge, MA, USA
CE-08. Tunable spin tunnel contacts to Si using low work function ferromagnets. B. Min¹, K. Motohashi¹, C. Lodder¹ and R. Jansen¹. MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands

11:00

CE-09. Magnetic Field Induced Suppression of Spin injection in Fe-based InAs Quantum Dots Spin LEDs. M. Yasar¹, I. Khan¹, M. Diaz-Avila¹, A. Petrou¹, C.H. Li², G. Kioseoglou², A.T. Hanbicki³, M.E. Ware³, D. Gammion¹ and B.T. Jonker¹. Physics, SUNY at Buffalo, Buffalo, NY, USA; 2. Naval Research Laboratory, Washington, DC, USA

11:12

CE-10. Spin polarization in a spin-FET structure. P. Kotissek¹, M. Bailleul¹,², M. Sperl¹, A. Spitzer¹, D. Schuh¹, W. Wegscheider¹ and G. Bayreuther¹. Institut für Experimentelle und Angewandte Physik, Universität Regensburg, Regensburg, Germany; 2. IPCMS, Strasbourg, France

11:24

CE-11. Spin injection into Au nanoparticles through a MgO tunnel barrier. Y. Nogi¹, H. Wang¹, S. Mitani¹,², K. Yakushiji¹, F. Ernult¹ and K. Takanashi¹,². IMR Tohoku University, Sendai, Japan; 2. CREST-JST, Kawaguchi, Japan

11:36

CE-12. Towards Electrical Spin Injection into a Single InAs/GaAs Quantum Dot. C.H. Li¹, G. Kioseoglou¹, A.T. Hanbicki¹, O.J. van ’t Erve² and B.T. Jonker¹. Code 6361, Naval Research Laboratory, Washington, DC, USA; 2. Philips Research Laboratories, Eindhoven, Netherlands

11:48

CE-13. Effect of additional ferromagnet on spin accumulation in Py/Au/Py device. J. Ku¹,³, J. Chang¹, J. Eom¹,², S. Han¹ and G. Kim¹. Nano device research center, Korea Institute of Science and Technology (KIST), Seoul, South Korea; 2. Department of Physics, Sejong University, Seoul, South Korea; 3. Department of Electrical Engineering, Korea University, Seoul, South Korea

9:00

Session CF
RARE-EARTH MAGNETS: MATERIALS AND PROCESSING
Christina Chen, Session Chair

9:00

CF-01. Microstructure and magnetic properties of rapidly solidified MRE-Fe-Co-M-B (MRE=Y+Dy+Nd, M=Zr+TiC). W. Tang¹, Y. Wu¹, K.W. Dennis¹, M.J. Kramer¹, I.E. Anderson¹ and R.W. McCallum¹. Ames Lab of USDOE, Ames, IA, USA

9:12

CF-02. Magnetic properties, phase evolution, and microstructure of melt spun SmCo₈₋ₓHₓFe₉₋ₓ₀.₃₋ₓ₁₀₋ₓ₀.₃ ribbons. H. Chang¹,², S. Huang³, C. Chang³, C. Chiu², W. Chang², A. Sun³ and Y. Yao¹. Academia Sinica, Taipei, Taiwan; 2. physics, National Chung Cheng University, Chia-Yi, Taiwan; 3. physics, National Taiwan University, Taipei, Taiwan

9:24

CF-03. Magnetic properties of Sm₃Fe₁₉ melt-spun ribbon. T. Saito¹. Mechanical Science and Engineering, Chiba Institute of Technology, Narashino, Japan

9:36

CF-04. Effect of ternary alloying elements on the microstructures and magnetic properties of Co-rich Sm-Co alloys. R.K. Valiveti¹, C. Baudot²,³ and J.E. Shield¹. Mechanical Engineering, University of Nebraska, Lincoln, NE, USA; 2. University of Rouen, Rouen, France

9:48

CF-05. Effect of Ga substitution on the structural and magnetic properties of melt spun Pr₆(Fe,Co,Ti)₁₂ system. S. Kuchimanchi¹, Q. Chen¹, B. Ma¹, M. Huang¹ and M.E. McHenry¹. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Currently at US Banks, HongKong.; Formerly at Rhodia Inc., Cranbury, NJ, USA; 3. Spang, Pittsburgh, PA, USA; 4. UES Inc., Dayton, OH, USA
CF-06. Order-Disorder Transformations in Rare Earth-Transition Metal Systems. Y.Y. Kostogorova-Beller1, J.E. Shield1 and M.J. Kramer2. 1. University of Nebraska-Lincoln, Lincoln, NE, USA; 2. Iowa State University, Ames, IA, USA

CF-07. New hybrid permanent magnets for high-temperature applications. M. Marinescu1, J. Liu2, D. Sultana1, P. Vora2 and G.C. Hadjipanayis1. 1. Department of Physics & Astronomy, Univ. of Delaware, Newark, DE, USA; 2. Electron Energy Corporation, Landisville, PA, USA

CF-08. Numerical simulation of a magnetostatically coupled composite magnet. A. Gabay1 and G.C. Hadjipanayis1. 1. Physics and Astronomy, University of Delaware, Newark, DE, USA

CF-09. High-throughput Investigation of Exchange Coupling Interaction in Soft/ Hard Magnetic Bilayer Systems for Development of Nanocomposite Magnets. A.J. Zambano1, H. Oguchi1, I. Takeuchi1, S. Lofland2, D. Jostell1, L.A. Bendersky3 and J. Liu1. 1. Department of Materials Science & Engineering and Center for Superconductivity Research, University of Maryland, College Park, MD, USA; 2. Department of Physics and Astronomy, Rowan University, Glassboro, NJ, USA; 3. National Institute of Standards and Technology, Gaithersburg, MD, USA; 4. Department of Physics, University of Texas at Arlington, Arlington, TX, USA


CF-11. Spherical Nd-Fe-B fine powder with high performance prepared by mechanical alloying. J. Han1, S. Liu1, X. Zhang1, C. Wang1, H. Du1 and Y. Yang1. 1. School of Physics, Peking University, Beijing, China

CF-12. EBSD texture analysis of SmCo5 and NdFeB magnets. M.F. de Campos1, T. Yonamine1, R. Machado1, S.A. Romero1, F.G. Landgraf3, D. Rodrigues4 and E.P. Missel1,5. 1. Dimat - Predio 3, Unicamp, Duque de Caxias RJ, RJ, Brazil; 2. Instituto de Física, Universidade de Sao Paulo, Sao Paulo SP, SP, Brazil; 3. Dept. Metalurgia e Materiais - Escola Politecnica, Universidade de Sao Paulo, Sao Paulo SP, SP, Brazil; 4. Instituto de Pesquisas Tecnologicas, Sao Paulo SP, SP, Brazil; 5. Universidade de Caxias do Sul, Caxias do Sul RS, RS, Brazil

CF-13. The effect of key process parameters on the X-ray crystallographic texture of PrFeB HD sintered magnets produced using high-energy milling. A. Périgo1,2, E.P. Soares1, N.B. Lima1, H. Takishii1, C.C. Mistra2 and R.N. Faria1. 1. Laboratório de Materiais Magnéticos, Instituto de Pesquisas Energéticas e Nucleares, São Paulo, São Paulo, Brazil; 2. Laboratório de Microondas de Potência, Centro Tecnológico da Marinha em São Paulo, São Paulo, São Paulo, Brazil

CF-14. New Preparation Method of Rare Earth Bonded Magnets with Continuously Controlled Anisotropy Directions. F. Yamashita1, K. Kawamura1, Y. Okada1, H. Murakami1, M. Ogushi1, M. Nakano2 and H. Fukunaga1. 1. Matsushita Electric Industrial Co., Ltd., Daito, Japan; 2. Nagasaki Univ., Nagasaki, Japan


TUESDAY MORNING

Session CG
CRITICAL PHENOMENA: SUPERCONDUCTIVITY
Matthew Stone, Session Chair

CG-01. Bose-Einstein condensation in spin systems. (Invited) T. Giamarchi1, R. Citro1, E. Orignac2 and M. Zvonarev1. 1. DPMC-MaNEP, University of Geneva, Geneva, Switzerland; 2. CNRS UMR 5672 - Laboratoire de Physique, Ecole Normale Superieure de Lyon, Lyon, France; 3. Dipartimento di Fisica, Universita degli Studi di Salerno and CNISM, Salerno, Italy
CG-02. Bose-Einstein condensation of magnons in nanostructures.
L.H. Bennett1,2, E. Della Torre1,2, PR. Johnson2 and
R.E. Watson1. 1. ECE, George Washington University, Ashburn,
MD, USA; 2. National Institute of Standards and Technology,
Gaithersburg, MD, USA; 3. Brookhaven National Laboratory,
Upton, NY, USA

9:48

CG-03. Finite-size Nanoscaling of the Critical Temperatures of
Ferromagnets with Variable Range of Interactions. R.F. Willis1,
M.G. Birke1, T.S. Bramfeld1 and K.R. Podolak1. Physics, The
Pennsylvania State University, University Park, PA, USA

10:00

CG-04. Temporal magnetic fluctuations measured with X-ray photon
correlation spectroscopy. S. Konings1, C. Schüssler-
Langheine1, H. Ott2, E. Weschke1, E. Schierle1 and
J. Goedkoop1. van der Waals - Zeeman Institute, University of
Amsterdam, Amsterdam, NL, Netherlands; 2. II. Physikalisches
Institut, Universität zu Köln, Cologne, NW, Germany; 3. Institut
fur Experimentalphysik, Freie universität Berlin, Berlin, BE,
Germany

10:12

CG-05. Electronic Raman scattering in magnetite: evidence for the
charge gap. L. Gasparov1, G. Guntherodt2, K. Choi2, H. Berger3,
L. Forro1 and G. Margaritondo1. Chemistry and Physics,
University of North Florida, Jacksonville, FL, USA; 2. II
Physikalisches Institut, RWTH Aachen, Aachen, Germany; 3. EPFL, Lausanne, Switzerland

10:24

CG-06. Ultrafast kinetics of magnetic phase transition in HoFeO3
A.V. Kimel1, P.A. Usachev2, R.V. Pisarev2, A. Kirilyuk1 and
T. Rasing1. 1. Radboud University Nijmegen, Nijmegen,
Netherlands; 2. Ioffe Physical Technical Institute, St. Petersburg,
Russian Federation

10:36

CG-07. Magnetic configurations of hybrid ferromagnetic
dot–superconductor systems. V. Pokrovsky1, K. Romanov1 and
H. Wei1. Physics Department, Texas A&M University, College
Station, TX, USA

10:48

CG-08. Neutron Diffraction Analysis of Magnetic Ordering In
YSr2RuCu2O8. W.B. Yelon1,2, Q. Cai1, H.A. Blackstead1,
M. Kornecki1, V. Awana4, H. Kishan4, S. Balamurugan3 and
E. Takayama-Muromachi1. Materials Research, University of
Missouri-Rolla, Rolla, MO, USA; 2. Department of Physics,
University of Missouri, Columbia, MO, USA; 3. Department of
Physics, University of Notre Dame, Notre Dame, IN, USA; 4.
National Physical Lab, New Delhi, India; 5. SMC, NIMS,
Tsukuba, Ibaraki, Japan

11:00

CG-09. Magnetic Instabilities along the Superconducting Phase
Boundary of Nb/Ni Multilayers. A.G. Joshi1, S.A. Kryukov1,
L.E. De Long1, E.M. Gonzalez2, E. Navarro2, J.E. Villegas2 and
J.L. Vicent1. 1. Physics and Astronomy, University of Kentucky,
Lexington, KY, USA; 2. Fisica de Materiales, Universidad
Complutense, 28040 Madrid, Spain

11:12

CG-10. Direct measurement of spin diffusion length in a mesoscopic
superconductor. N. Poli1, M. Urech1, V. Korenivski1 and
D.B. Haviland1. 1. Nanostructure Physics, Royal Institute of
Technology, Stockholm, Sweden

11:24

CG-11. Pattern formation in type-I superconducting films. J. Vincent1,
G. Catherin2, C. Andrejs3 and T. Okada1. 1. CNRS, Univ. Paris 6,
INSP, Paris, France; 2. Institute of Physics, University of Latvia,
Salaspils-I, Riga, Latvia; 3. Laser Spectroscopy Laboratory,
Osaka University, Osaka, Japan

11:36

CG-12. All MgB2 superconductor based on Josephson junction with
Al2O3 or MgO tunnel barriers. H. Shim1, K. Yoon1 and
J.S. Moodera1. 1. Francis Bitter Magnet Laboratory, Massachusetts
Institute of Technology, Cambridge, MA, USA

11:48

CG-13. Flux rotation and dimensional crossover in La1.86Sr1.15CuO4
Y. Bruckental1, A. Shaulov1 and Y. Yeshurun1. 1. Physics, Bar Ilan
University, Ramat Gan, Israel
**Session CH**

**MOLECULAR MAGNETIC MATERIALS**

Kyungwha Park, Session Chair

**9:00**

**CH-01.** Magnetization and EPR studies of the single molecule magnet Ni₄ with integrated sensors. *G. de Loubens*, G.D. Chaves¹, A.D. Kent¹, C. Ramsey², E. del Barco³, C. Beedle⁴ and D.N. Hendrickson¹. *Physics, New York University, New York, NY, USA; 2. Physics, University of Central Florida, Orlando, FL, USA; 3. Chemistry and Biochemistry, University of California San Diego, La Jolla, CA, USA*

**9:12**

**CH-02.** Raman Scattering Study of Mn₁₂-acetate and related single molecule magnets. *R. Furstenberg*¹, C. Kendziora¹ and J. Macossay-Torres¹. *Naval Research Laboratory, Washington, DC, USA; 2. Chemistry, University of Texas Pan American, Edinburg, TX, USA*

**9:24**

**CH-03.** Single-electron transport through Mn₁₂ single-molecule magnets. *J.J. Henderson*¹, C.M. Ramsey¹, E. del Barco¹, A. Mishra¹ and G. Christou¹. *1. Physics, University of Central Florida, Orlando, FL, USA; 2. Nanoscience Technology Center, University of Central Florida, Orlando, FL, USA; 3. Chemistry, University of Florida, Gainesville, FL, USA*

**9:36**

**CH-04.** Concentration Dependence of Fe₈ as a Magnetic Resonance Imaging Contrast Agent: A Cautionary Note. *B. Cage*¹, S. Russek¹, R. Shoemaker², A. Barker², C. Stoldt², and V. Ramachandarin³ and N. Dalal¹. *1. National Institute of Standards and Technology, Boulder, CO, USA; 2. University of Colorado, Boulder, CO, USA; 3. Florida State University, Tallahassee, FL, USA*

**9:48**

**CH-05.** Spin-Phonon Relaxation in the Fe₃ Single-Molecule Magnet Induced by High-Intensity Pulsed Millimeter Wave Radiation. *M. Bal¹, N. Schmidth¹, J.R. Friedman¹, M.T. Tuominen², W. Chen¹, E.M. Rumberger¹ and D.N. Hendrickson¹*. *1. Department of Physics, Amherst College, Amherst, MA, USA; 2. Physics Department, University of Massachusetts, Amherst, MA, USA; 3. Physics Department, Stony Brook University, Stony Brook, NY, USA; 4. Department of Chemistry and Biochemistry, University of California at San Diego, La Jolla, CA, USA*

**10:00**

**CH-06.** An *ab initio* Investigation on the Endohedral Metallofullerene Gd₃N@C₈₀. *M. Qian*¹, S.V. Ong¹ and S.N. Khanna¹. *Department of Physics, Virginia Commonwealth University, Richmond, VA, USA*

**10:12**

**CH-07.** Ferromagnetism in carbon-based material. *W. Lin¹, K. Xue², S. Chen², R. Wei² and H. Sang¹*. *1. National Laboratory of Solid State Microstructures, Nanjing University, Nanjing, China; 2. Department of Chemistry, Nanjing Normal University, Nanjing, China*

**10:24**

**CH-08.** Magnetic properties of a non-interpenetrating chiral porous Cobalt Metal-Organic Framework (MOF). *C. Yu¹, S. Ma², M. Pechan¹ and H. Zhou²*. *1. Physics, Miami University, Oxford, OH, USA; 2. Department of Chemistry & Biochemistry, Miami University, Oxford, OH, USA*

**10:36**

**CH-09.** Magnetic Properties of Polyaniline doped with Organic Acceptors. *I. Terry¹, N. Zaidi¹, S.R. Giblin² and A.P. Monkman¹*. *1. Physics, Durham University, Durham, United Kingdom; 2. ISIS, Rutherford Appleton Laboratory, Oxford, United Kingdom*

**10:48**

**CH-10.** Photo-induced charge transfer phase transition in magnetic material of cesium manganese hexacyanoferrate. *T. Matsuda¹,², H. Tokoro¹,², K. Hashimoto³ and S. Ohkoshi¹,²*. *1. Department of Chemistry, School of Science, The University of Tokyo, Tokyo, Japan; 2. Department of Applied Chemistry, School of Engineering, The University of Tokyo, Tokyo, Japan*

**11:00**

**CH-11.** Electrical Properties of the Interface between Pentacene and Permalloy Films. *T. Kim¹, N. Lee¹, J.H. Lee², A. Babajayan³, K. Lee¹, E. Lim¹ and M. Iwamoto⁴*. *1. Physics, Ewha Womans University, Seoul, South Korea; 2. Microgate Inc., Anyang, South Korea; 3. Physics, Sogang University, Seoul, South Korea; 4. Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan*

**11:12**

**CH-12.** Magnetic Properties of a Novel Fe(II) meso-tetra(4-pyridyl)porphyrin Network. *D. Danilovic¹, T. Yuen¹, C. Lin¹, L. Pan¹ and J. Li²*. *1. Physics, Temple University, Philadelphia, PA, USA; 2. Chemistry & Chemical Biology, Rutgers University, Piscataway, NJ, USA*
CH-13. Magnetic Properties of Iron Oxalatophosphates with Layer and Framework Structures. S. Lee1, T. Tsai2, C. Sheu3 and K. Liu4,5. 1. Institute of Physics Academic Sinica, Taipei, Taiwan; 2. Department of Chemistry, National Central University, Chungli, Taiwan; 3. Institute of Chemistry, Academia Sinica, Taipei, Taiwan

CH-14. Field Cool Induced Perpendicular Exchange Bias in FeMn/FeNi Multilayers. L. Sun1, H. Xing1, K. Keshoju1 and S. Zhou1,2,3. 1. Department of Physics, Arizona State University, Tempe, AZ, USA; 2. Center for Magnetic Recording Research, University of South Florida, Tampa, FL, USA; 3. MINT Center, University of Alabama, Tuscaloosa, AL, USA

CP-05. Effects of CoFe insertion layer on perpendicular exchange bias characteristics in [Pd/CoFe/5FeMn] layered thin films. S. Kim4, S. Bae1, L. Lin1, H. Joo2, D. Hwang2 and S. Lee1. Biomagnetics Lab., Department of Electrical and Computer Engineering, National University of Singapore, Singapore 117576, Singapore; 2. Nano Bio Lab., Department of Applied Physics and Electronics, Sangji University, Wonjoo, Gangwon, South Korea

CP-06. Asymmetric magnetization reversal of perpendicular exchange-biased (Co/Pt)/IrMn probed by magnetoresistance and magnetic force microscopy. X. Ji1, A.B. Pakhomov1 and K.M. Krishnan1. Materials Science & Engineering, Univ. of Washington, Seattle, WA, USA


CP-08. Control over the vortex chirality in exchange-biased elliptical magnetic rings. W. Jung1, F.J. Castano1 and C.A. Ross1. DMSE, M.I.T., Cambridge, MA, USA

CP-09. In-plane Correlation Length Scales in an Exchange Biased Co/FeF2. S. Roy1, J.B. Kortright2, E. Blackburn1, S.K. Sinha1, B.J. Kirby1, Z. Li1, R. Morales1, I.V. Roshchin1 and K. Liu1. 1. Physics Department, University of California, Los Angeles, CA, USA; 2. Department of Physics and Astronomy, University of California-San Diego, La Jolla, CA, USA; 2. Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. Center for Magnetic Recording Research, University of California - San Diego, La Jolla, CA, USA; 4. Department of Physics, University of California - San Diego, La Jolla, CA, USA

CP-10. Exchange-biased Co/Co(Mg)O bilayers with Co ferromagnet grown above and below the diluted antiferromagnet Co(Mg)O. T. Leo1, J. Hong1, A.E. Berkowitz1,2,3,4 and D.J. Smith5,6. School of materials, Arizona State University, Tempe, AZ, USA; 2. Department of Physics, Arizona State University, Tempe, AZ, USA; 3. Center for Magnetic Recording Research, University of California - San Diego, La Jolla, CA, USA; 4. Department of Physics, University of California - San Diego, La Jolla, CA, USA

CP-11. Positive Exchange Bias in GdFe/CoNiCr Thin Films. J. Olamit1 and K. Liu1. Physics Department, University of California, Davis, CA, USA

CP-12. Epitaxial growth and magnetic properties of Fe3O4/NiO bilayers grown on MgO (001) substrate. S.K. Arora1, H. Wu1, R.J. Choudhary1 and I.V. Shvets1. 1. Centre for Adaptive Nanostructures and Nanodevices (CRANN), School of Physics, Trinity College Dublin, Dublin, Dublin, Ireland

CP-13. Magnetic anisotropy and exchange bias in epitaxial CrO2/Cr2O3 bilayer thin films. S. Srinath1, N. Frey1, H. Srikant1, G. Miao1 and A. Gupta1. Department of Physics, University of South Florida, Tampa, FL, USA; 2. MINT Center, University of Alabama, Tuscaloosa, AL, USA
V. Laukhin1,2, X. Martí1, F. Sánchez2, N. Dix1, D. Hrabovsky2, 
V. Skumryev2, M.V. García-Cuenca3, C. Ferrater1, M. Varel3, 
U. Lüders3, J.F. Bobo1 and J. Fontcuberta1. Instituto de Ciencia de 
Materials de Barcelona, CSIC, 08193, Bellaterra, Spain; 2. 
Institut Català de Recerca i Estudis Avançats (ICREA), 
Barcelona, Spain; 3. Física Aplicada i Óptica, Universitat de 
Barcelona. Diagonal 647, 08028, Barcelona, Spain; 4. LNMH, 
CNRS-ONERA, BP 4025, 31055, Toulouse, France

CP-15. Co nanoparticles epitaxially dispersed in a single crystal Co 
matrix: analysis by magnetometry and torque measurements. 
S. McCald1, I.H. Neumann1, E.S. Mushailov2, B.V. Vasiliev3, 
D.J. Smith4 and A.E. Berkowitz1. Physics and CMRR, University of 
California-San Diego, La Jolla, CA, USA; 2. Chemistry & 
Materials Science, Lawrence Livermore National Laboratory, 
Livermore, CA, USA; 3. Physics, University of California - Davis, 
Davis, CA, USA; 4. Laboratory of Magnetodynamics, Kirensky 
Institute of Physics, Krasnoyarsk, Russian Federation; 5. 
Krasnoyarsk State Pedagogical University, Krasnoyarsk, Russian 
Federation; 6. Physics and Astronomy and Center for Solid State 
Science, Arizona State University, Tempe, AZ, USA

TUESDAY MORNING 
8:00

Session CQ 
ELECTRONIC STRUCTURE I 
(POSTER SESSION) 
Markus Eisenbach, Session Chair

CQ-01. Structural stability study of Ga(1-x)Mn(x)As alloys in alpha- 
and beta- phases in first principles. M. Kim1. Physics, Seoul 
National University, Seoul, South Korea

CQ-02. Band Structure and Matrix Elements Effects in L-edge 
XMCD for Er2Fe17. Y. Lee1, B.N. Harmon1, A.I. Goldman1 and 
J.C. Lang1. Ames Laboratory, Iowa State University, Ames, IA, 
USA; 2. Advanced Photon Source, Argonne National Laboratory, 
Argonne, IL, USA

CQ-03. Dichroism Soft X-ray Absorption Spectromicroscopy and 
Antiferromagnetic Surfaces and Interfaces. H. Ohldag1, 
A. Scholl1, M. Liberati2, E. Arenalholz2, S. Maat1 and J. Stöhr1. 
SSRL, Stanford University; Menlo Park, CA, USA; 2. ALS, 
Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. 
Hitachi Global Storage technologies, San Jose, CA, USA

CQ-04. Induced effects by the substitution of Mg in MgCNi3 
G. Zhong1, J. Wang1, Z. Zeng1 and H. Lin1. Key Laboratory of 
Materials Physics, Institute of Solid State Physics, Chinese 
Academy of Sciences, Hefei 230031, China; 2. Department of 
Physics and Institute of Theoretical Physics, The Chinese 
University of Hong Kong, Shatin, Hong Kong, China

CQ-05. Correlation Effect and Magnetic Moments in Cr2Te3, S. Youn1, 
S. Kwon1 and B.I. Min1. Department of Physics Education, 
Gyeongsang National University, Jinju, Gyeongnam, South Korea; 
2. Department of Physics, Pohang University of Science and Technology, Pohang, Gyeongbuk, South Korea

CQ-06. First-principles study on the spin polarization of benzene- 
adsorbed on Fe(100) surface. X. Sun1,2, T. Suzuki1, 
M. Kurashashi1, J. Zhang1,2 and Y. Yamauchi1. National Institute for 
Materials Science, Tsukuba, Japan; 2. Department of Physics, 
University of Science and Technology of China, Hefei, China

CQ-07. Valence states of Transition-metal Ions in Cubic Perovskites 
SrMn1-xFe17+x O3. H. Lee1, G. Kim1, J.H. Lee1, J.S. Kang1, 
B. Dabrowski2, S.W. Han1, S.S. Lee1, C. Hwang1, M.C. Jung1, 
H.J. Shin1, H.G. Lee1, J.Y. Kim1 and B.I. Min1. Department of 
Physics, The Catholic Univ. of Korea, Bucheon, South Korea; 2. 
Department of Physics, Northern Illinois University, Dekalb, IL, 
USA; 3. Korea Research Institute of Standard and Science, 
Daejon, South Korea; 4. Pohang Accelerator Laboratory, Pohang, 
South Korea; 5. Department of Physics, POSTECH, Pohang, 
South Korea

CQ-08. Low temperature Neutron diffraction studies showing 
evidence for CE-type magnetic ordering in Mn doped 
SrRuO3. B. Singh1, S.S. Manoharan1, S.K. Sahu1, 
P.R. Krishnan1, A.B. Shinde1 and K. Jain1. Chemistry, Indian 
Institute of Technology Kanpur, Kanpur, India; 2. Center for 
Superconductivity, University of Maryland, Maryland, MD, USA; 
3. National Metallurgical Laboratory, Jamshedpur, Jharkhand, 
India; 4. Solid State Physics Division, Bhabha Atomic Research 
Center, Mumbai, Maharastra, India; 5. NanoScience center, 
University of Cambridge, Cambridge, United Kingdom

CQ-09. Surface Electronic Structure and Magnetism of NiAs 
Structured MnAs(0001) and MnSb(0001). J. Lee1,2, M. Taniguchi1,2 
T. Ueno1, T. Moko1, A. Kimura1, H. Namatame2 and 
B. Min1. Physics, Seoul National University, Seoul, South Korea

CQ-10. Magnetism of Fe nano-structures on quasi one-dimentional 
Cu(110)(2x1)-O substrate. M. Nagira1, N. Sawada2, K. Yaji1, 
T. Ueno1, T. Moko1, A. Kimura1, H. Namatame2 and 
M. Taniguchi1,2. Hiroshima University; Hiroshihi-Hiroshima, 
Japan; 2. Hiroshima Synchrotron Radiation Center, Hiroshihi- 
Hiroshima, Japan

CQ-11. Electronic structures and magnetic properties of layered 
compound RCrSb3 (R=La, Yb). H. Choi1, J. Shim1, S. Kwon1 
and B. Min1. Physics, Pohang University of Science and Technology, Pohang, Kyungbook, South Korea

CQ-12. Ferromagnetic one dimensional Ti atomic chain. J. Hong1, 
M. Kim1, J.C. Lang2, B.N. Harmon1, A.I. Goldman1 and 
S. Maat3 and J. Stöhr1. Physics and CMRR, University 
Nanotechnology, Institute of Solid State Physics, Chinese 
Academy of Sciences, Hefei 230031, China; 2. Department of 
Physics, Pohang University of Science and Technology, Pohang, Gyeongbuk, South Korea

CQ-13. The effects of magnetic structure on displacements in fcc FeNi 
alloys. Y.S. Puzyrev1, A.E. Berkowitz1, M. Eisenbach1, D.M. Nicholson2, 
G.M. Stocks3 and G.E. Ice1. Materials Science and Technology 
Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA; 
2. Computer Science and Mathematics Division, Oak Ridge 
National Laboratory, Oak Ridge, TN, USA
CQ-14. MAGNETISM IN GOLD NANO-CLUSTERS. R.J. Magyar, C. Gonzalez and M. Marquez. 1. INEST Group, Gaithersburg, MD, USA; 2. Center for Nanoscience, NIST, Gaithersburg, MD, USA; 3. PM US, Richmond, VA, USA

CQ-15. Antiferromagnetic fluctuations in the quantum phase transition of the one-dimensional electron system. N. Tomita. 1. Physics, Yamagata University, Yamagata, Yamagata, Japan

CQ-16. Electronic Structure in Polycrystalline La_{0.7}Ca_{0.3}MnO_{3-δ}. J. Park, Y. Lee and Y. Lee. 1. Quantum Photonic Science Research Center, Seoul, South Korea; 2. Hanbat Univ., Daejon, South Korea

TUESDAY GRAND BALLROOM

MORNING

8:00

Session CR
MAGNETIC TUNNEL JUNCTIONS II
(POSTER SESSION)

Janusz Nowak, Session Chair


CR-02. 80% TMR at room temperature for thin Al-O barrier magnetic tunnel junction with CoFeB as free and reference layers. H. Wei, Q. Qin, M. Ma and X. Han. 1. Institute of Physics CAS, Beijing, Beijing, China

CR-03. Annealing temperature dependence of tunneling spectroscopy in CoFeB/MgO/CoFeB magnetic tunnel junctions. Y. Ando, T. Miyakoshi, T. Daibou, M. Oogane and T. Miyazaki. 1. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan

CR-04. Effects of exchange coupling on the low frequency noise of MgO-based magnetic tunnel junction sensors. X. Liu, B.D. Schrag, D. Mazumdar, W. Shen and G. Xiao. 1. Micro Magnetics Inc. Fall River, MA, USA; 2. Physics Dept, Brown Univ, Providence, RI, USA

CR-05. Structural analysis of the CoFeB thin film in Ru/CoFeB and MgO/CoFeB multilayers. D. Kim, J. Bae, W. Lim, K. Kim, T. Kim and T. Lee. 1. Department of Materials Science and Engineering, KAIST, Daejeon, South Korea; 2. Device Lab., SAIT, Sawon, South Korea

CR-06. The straining effect on tunneling magnetoresistance in exchange biased Co/AlOx/Co/IrMn and CoFeB/AlOx/Co/IrMn junctions. S.U. Jen, Y.T. Chen, W.C. Chen, Y.D. Yao, J.M. Wu and W.C. Cheng. 1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 3. Department of Mechanical Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan

CR-07. Magnetic and structural investigation of epitaxial Fe3O4/MgO/Fe3O4 magnetic tunnel junctions. H. Wu, S. Arora, I. Shivets, A. Boger, M. Opel and W. Kaiser. 1. Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN), School of Physics, Trinity College Dublin, Dublin 2, Ireland; 2. Walther Meissner Institute, Bavarian Academy of Science, D-85748 Garching, Germany


CR-09. Microstructure and magnetoresistance of MgO thin film with CoFeB and CoFeC underlayers. C. Chou, Y. Yao, P. Kuo, K. Cheng and C. Yu. 1. Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan

CR-10. MgO based magnetic tunnel junctions deposited using a high target utilisation sputtering system. N.P. Aley, S. Ladak and K. O’Grady. 1. Physics, University of York, York, Yorks, United Kingdom


CR-12. Magnetoresistance in Fe(30nm)/Fe3O4(3nm)/MgO(2nm)/Fe(30nm) Grown on MgO(001). C. Yang, K. Kuo, C.Y. Wang, G. Chern, L. Horng and J.C. Wu. 1. SPIN Research Center and Physics Department, National Chung Cheng University, Chia-Yi, Taiwan; 2. SPIN Research Center and Department of Physics, National Changhua University of Education, Changhua, Changhua, Taiwan

CR-14. Spin polarized tunnelling in hybrid single crystal-polycrystalline magnetic tunnel junctions. F Greu1, C.V. Tiusan1, M. Hehn1, F. Montaigne1, G. Lengaigne1, M. Alnot1, C. Belloir2 and D. Lacour1. Nancy University, CNRS, Institut de Physique des Matériaux, Vandœuvre les Nancy, Lorraine, France

CR-15. Effect of Ta getter on the quality of MgO barrier in the polycrystalline CoFeB/MgO/CoFeB magnetic tunnel junction. Y. Choi1, Y. Nagamine1, K. Tsumekawa1, H. Maehara1, D.D. Djayaprawira1, S. Yusa2 and K. Ando2. Electron Device Equipment Division, Canon Anelva Corporation, Fuchu-shi, Tokyo, Japan; 2. Nanoelectronic Research Institute, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan

TUESDAY MORNING 8:00

GRAND BALLROOM

Session CS
FERRITES, GARNETS, PARTICLES AND COMPOSITES
(POSTER SESSION)
Leonard Spinu, Session Chair

CS-01. MAGNETIC STUDIES OF BixY3-xFe5O12 FABRICATED USING MECHANOCHEMICAL PROCESS. M. Niyafar1, R. Ramani1, M. Radhakrishna1, A. Hassanpour2, M. Mozaffari2, J. Amighian1 and D. Das1. 1. Physics, Bangalore University, Bangalore, Karnataka, India; 2. Physics, Isfahan University, Isfahan, Isfahan, Iran; 3. UGC-DAE Consortium, Kolkata center, Bangalore, Karnataka, India; 2. Physics, Isfahan University, Isfahan, Isfahan, Iran; 3. UGC-DAE Consortium, Kolkata center, Bangalore, Karnataka, India

CS-02. Microwave electromagnetic and absorption properties of Nd2Fe14B/α-Fe nanocomposites in 0.5-18 and 26.5-40GHz range. L. Lian1, L. Deng1 and S. Feng1. 1. University of Electronic Science and Technology of China, State Key Laboratory of Electronic Thin Film and Integrated Devices, Chengdu, Sichuan, China

CS-03. Detection of low temperature Spin glass transition in rare earth substituted magnetite ferrofluids: Ac-susceptibility study. R.V. Upadhyay1,2, K. Parekh1, V. Strom1, K.V. Rao1, A. Banerjee1, K. Kumar3, R. Desai1 and R. Patel1. 1. Materials Science –Tmfy-MSE, Royal Institute of Technology, Stockholm, Sweden; 2. Department of Physics, Center for Excellence in Nanotechnology of Nanomagnetic Particles (GUJCOST), Bhavnagar University, Bhavnagar, Gujarat, India; 3. UGC-DAE Consortium for Scientific Research, University Campus, Khandwa Road, Indore, India

CS-04. Permeability of submicron and nanometer ferromagnetic particle composites. Y. Shimada1, G.W. Qin1, M. Yamaguchi1, S. Okamoto2, O. Kitakami2 and K. Oikawa1. Electrical and Communication Engineering, Tohoku University, Sendai, Miyagi-ken, Japan; 2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Miyagi-ken, Japan; 3. Metallurgy, Tohoku University, Sendai, Miyagi-ken, Japan

CS-05. Ultra-high-resistivity nano-granular Co-Al-O films for high-frequency applications. P. Khalili Amiri1, Y. Zhuang1, H. Schellevis2, Y. Ma1, B. Rejaci1, M. Vroubel1 and J.N. Burghartz2,3,1. HiTeC/DIMES, Delft University of Technology, Delft, Netherlands; 2. ECTM/DIMES, Delft University of Technology, Delft, Netherlands; 3. Institute for Microelectronics Stuttgart, Stuttgart, Germany

CS-06. Crystallographic and Mössbauer studies of Li1-xFe2.5O4 prepared by HTTD and sol-gel methods. S. Hyun1 and C. Kim1. Physics, Kookmin University, Seoul, South Korea

CS-07. Effects of bismuth substitution on Tb3-xBiFe5O12 ion of I. Park and C. Kim1. Physics, Kookmin University, Seoul, South Korea

CS-08. Effects of cation distribution for AFeO3 (A = Ga, Al). J. We1, S. Kim1 and C. Kim1. Physics, Kookmin University, Seoul, South Korea

CS-09. Magnetic Properties of Nanoparticles of Co9-xFe3-xO4 (0.05 ≤ x ≤ 1.6) Prepared by Combustion Reaction Process. A.J. Franco1, V. Zapf2 and P. Egani2,3. 1. Matematica e Fisica, Universidade Catolica de Goias, Goiania-GO, Goias, Brazil; 2. National High Magnetic Field Laboratory, Los Alamos Laboratory, Los Alamos, NM, USA; 3. Physics, Oklahoma State University, Stillwater, OK, USA

CS-10. Control of the cation occupancies of MnZn ferrite synthesized via reverse micelles. M.J. Alsbrook1, E.E. Carpenter1 and M.D. Shultz1. 1. Department of Chemistry, Virginia Commonwealth University, Richmond, VA, USA


CS-12. PERFECT ENCAPSULATION OF MAGNETIC METAL PARTICLES WITH FERRITE LAYER IN AQUEOUS SOLUTION USING INDUCTION HEATING. N. Matsushita1, T. Watanabe1, Y. Kato1, M. Abe2 and M. Yoshimura1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. Dept. of Physical Electronics, Tokyo Institute of Technology, Meguro, Tokyo, Japan
CS-13. Pulsed laser ablation deposition of nanocrystalline exchange-coupled Ni_{11}Co_{11}Fe_{66}Zr_{7}B_{4}Cu films for planar inductor applications. A.K. Baraskar², S.D. Yoon¹, A. Geiler¹, A. Yang¹, C.N. Chinnasamy¹, Y. Chen¹, N. Sun¹,², C. Vittoria¹,², R. Goswami³, M. Willard³ and V.G. Harris¹,²,³, Center for Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Boston, MA, USA; 2. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA; 3. Naval Research Laboratory, Washington, DC, USA

CS-14. Reduced Magnetization in Magnetic Oxide Nanoparticles. T. Kim¹ and M. Shima¹. Department of Materials Science and Engineering, Rensselaer Polytechnic Institute, Troy, NY, USA

CS-15. Size Dependent Magnetic Properties and Cation Inversion in Chemically Synthesized MnFe₂O₄ Nanoparticles. V.G. Harris¹, C. Chinnasamy¹, H. Kaileen¹, S.D. Yoon¹, A. Yang¹, M.D. Shultz², E.E. Carpenter², C. Vittoria¹ and S. Mukerjee¹, Electrical & Computer Engineering, Northeastern University, Boston, MA, USA; 2. Dept. of Chemistry, Virginia Commonwealth University, Richmond, VA, USA; 3. Department of Chemistry and Chemical Biology, Northeastern University, Boston, MA, USA

TUESDAY MORNING

8:00

Session CT

HYSTERESIS MODELING AND CONTINUUM METHODS

(Poster Session)

Amr Adly, Session Chair

CT-01. Efficient Implementation of Anisotropic Vector Preisach-Type Models Using Coupled Step Functions. A. Adly¹ and S. Abd-El-Hafiz²,¹. Elect. Power & Machines Dept., Cairo University, Giza, Egypt; 2. Engineering Mathematics Dept., Cairo University, Giza, Egypt

CT-02. A Macroscopic Differential Preisach Model for Matlab/Simulink. L.A. de Almeida¹, C.C. Aguiar¹ and R.A. Travi¹. Department of Electrical Engineering, Universidade Federal da Bahia, Salvador, BAHIA, Brazil

CT-03. Preisach model for systems with asymmetric FORC distributions. A. Stancu¹, B. Negulescu¹ and R. Tanasa¹. Faculty of Physics & CARPATH, “Alexandru Ioan Cuza” University, Iasi, Romania

CT-04. Generalization and Identification of Three-Dimensional Isotropic Vector hysteresis Models Represented by the Superposition of Stop and Play Models. T. Matsuo¹ and M. Shimasaki¹. Dept. of Engineering, Kyoto University, Kyoto, Japan

CT-05. Modelling of Hysteresis in Multidomain Magnetic Nanostructures. E. Cardelli¹, M. Carpentieri² and A. Faba¹,²,³. Dept. of Industrial Engineering, University of Perugia, Perugia, Italy; 2. Polo Scientifico Didattico, University of Perugia, Terni, Italy

CT-06. Percolation, universality and fractal geometry of magnetic domains in thin FePt/MgO and FePt/Pt layers. J. Attane¹, A. Marty¹, M. Tissier², Y. Samson¹, H. Durand¹, A. Mougin¹ and J. Jamet³. 1. DFRMC/SP2M, CEA Grenoble, Grenoble, France; 2. LPTMC, Univ. Paris VI, Paris, France; 3. LPS, Univ Paris-Sud, Orsay, France

CT-07. Z-Transform Based FDTD Analysis of Perfectly Conducting Cylinder Covered with Unmagnetized Plasma. M. Yan¹, K. Shao¹, X. Hu¹, Y. Guo¹, J. Zhu¹ and J. Lavers¹. 1. Dept. of Electrical Engineering, HUST, Wuhan, Hubei, China; 2. The faculty of Engineering, University of Technology, Sydney, NSW, Australia; 3. Dept. of E & C Engineering, University of Toronto, Toronto, ON, Canada

CT-08. FEM Analysis of Conduction Noise Attenuation by Magnetic Composite Sheets on Microstrip Line. S. Kim¹, G. Ryu¹, S. Kim¹, J. Jeong¹ and S. Kim¹. Department of Materials Engineering, Chungbuk National University, Cheongju, South Korea

CT-09. Large-scale Magnetic Field Analysis of Laminated Core by Using the Hybrid Finite Element and Boundary Element Method Combined with the Fast Multipole Method. Y. Takahashi¹, S. Wakao¹, K. Fujiwara¹ and S. Fujino¹. Department of Electrical Engineering and Bioscience, Waseda University, Tokyo, Japan; 2. Department of Electrical and Electronic Engineering, Okayama University, Okayama, Japan; 3. Computing and Communications Center, Kyushu University, Fukuoka, Japan

CT-10. Numerical Techniques for Spin-Waves Absorption based on different site-dependent damping functions. G. Consolo¹, L. Lopez-Diaz², L. Torres² and B. Azzerbonì¹. Fisica della Materia e Tecnologie Fisiche Avanzate, University of Messina, Italy; Messina, Italy; 2. Fisica Aplicada, University of Salamanca, Salamanca, Spain

CT-11. Temperature Dependence of the Magnetostatic Interactions in Ferromagnetic nanowires systems. V. Goian¹, I. Astefanoaei¹, I. Dumitru¹, L. Spinu² and A. Stancu¹. 1. Department of Solid State and Theoretical Physics, University Al. I. Cuza, Iasi, Romania; 2. Advanced Materials Research Institute and Department of Physics, University of New Orleans, New Orleans, LA, USA

CT-13. Ferrofluid shape formation based on electromagnetic body force. H. Choi1, Y. Kim1 and I. Park1. School of Information and Communication Engineering, Sungkyunkwan Univ., Suwon, South Korea

CT-14. Magnetoelastic Deformation of Soft and Hard Magnetic Materials using Virtual Airgap Scheme Generating the Magnetic Body Force. S. Lee1, H. Choi2 and I. Park2. Advanced Power Apparatus Group, Korea Electrotechnology Research Institute, Changwon, South Korea; 2. The school of Information and Communication Engineering, Sungkyunkwan University, Suwon, South Korea

CT-15. Finite element solution of Maxwell equations for cylindrical magnetic microstructures. M. Barbagallo1, W.S. Lew1 and J. Bland1. Physics, Cavendish Laboratory, University of Cambridge, JJ Thomson Avenue, Cambridge CB3 0HE, United Kingdom

TUESDAY MORNING 8:00

Session CU
MICROMAGNETICS: APPLICATIONS I
(POSTER SESSION)

Werner Scholz, Session Chair

CU-01. Micromagnetic simulation of the (α-Fe/TbFe2)n magnetostrictive multilayers. T. Rujun1, P. Bin1, Z. Wenxu1, J. Hongchuan1 and Z. Wanli1. University of Electronic Science and Technology of China, Chengdu, China

CU-02. Vortex Core Dynamics in Submicron Ferromagnetic Disks. Q.F. Xiao1, B. Choi1, J. Rudge1, Y.K. Hong2 and G. Donohoe1. Dept. of Physics & Astronomy, University of Victoria, Victoria, BC, Canada; 2. Dept. of Electrical & Computer Engineering, University of Alabama, Tuscaloosa, AL, USA; 3. Dept. of Electrical & Computer Engineering, University of Idaho, Moscow, ID, USA

CU-03. Hotspots mediated spin-transfer switching in low resistance magnetic tunnel junctions. Y. Zhang1, Z. Zhang1, Y. Liu1, B. Ma1 and Q. Jin1. Department of Optical Science and Engineering, Fudan University, Shanghai, China; 2. Department of Physics, Tongji University, Shanghai, China

CU-04. DYNAMICS OF SUPERPARAMAGNETIC AND FERROMAGNETIC NANO-OBJECTS IN CONTINUOUS-FLOW MICROFLUIDIC DEVICES. L. Clime1, B. Le Drogo1 and T. Veres1. Industrial Material Institute, Montreal, QC, Canada

CU-05. THE EFFECTS OF THE INTERACTION FIELD COMPONENTS ON THE FERROMAGNETIC RESONANCE CONDITION IN MAGNETIC NANOWIRES SYSTEMS. I. Dumitru1, A. Stancu1, D. Cimpoesu2 and L. Spina1. 1. Department of Solid State and Theoretical Physics, “Alexandru Ioan Cuza” University, Iasi, Iasi, Romania; 2. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 3. Department of Physics & Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA

CU-06. Evolution of magnetization from the vortex state in soft magnetic square platelets. M. Wölf1, U.K. Rossler1 and R. Schäfer1. IFW Dresden, Dresden, Germany

CU-07. Micromagnetic simulation for detection of ac field focused magnetic labels by spin-valve sensors. Z. Hou1 and Y. Liu1. Department of Physics, Tongji University, Shanghai, China


CU-09. MICROMAGNETIC INVESTIGATION OF PRECESSION DYNAMICS IN MAGNETIC NANOPILLARS. M. Carpentieri1, G. Finocchio1, B. Azzerboni1, L. Torres2 and L. Lopez-Diaz2. Fisica della Materia e Tecnologie Fisiche Avanzate, University of Messina, Messina, Messina, Italy; 2. Fisica Aplicada, University of Salamanca, Salamanca, Salamanca, Spain

CU-10. Phase controls of spinwaves traveling along magnetic nanowires using the Oersted fields. S. Kim1, K. Lee1 and S. Choi1. Research Center for Spin Dynamics & Spin-Wave Devices (ReC-SDSW) and Nanospintronics Laboratory, Seoul National University, Seoul, South Korea


CU-12. NUMERICAL ANALYSIS OF FAST SWITCHING INDUCED BY SPIN POLARIZED CURRENT IN SPIN-VALVES. M. Carpentieri1, B. Azzerboni1 and A. Romeo1. Fisica della Materia e Tecnologie Fisiche Avanzate, University of Messina, Messina, Italy
CU-13. Simulation of temperature effects in Magnetic Random Access Memory. D. Cimpoesu1,2, A. Stancu2 and L. Spinu1. Advanced Materials Research Institute (AMRI), University of New Orleans, New Orleans, LA, USA; 2. Faculty of Physics and CARPATH, Al. I. Cuza University, Iasi, Romania; 3. AMRI and Department of Physics, University of New Orleans, New Orleans, LA, USA

CU-14. Micromagnetic simulations of nonlinear magnetization dynamics in ultra-thin films subject to high power microwave fields. M. d’Aquino1, G. Bertotti2, C. Serpico2, I.D. Mayergoyz3 and R. Bonin1 I. Dept. of Electrical Engineering, University of Napoli, Napoli, Italy; 2. Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy; 3. ECE Department and UMIACS, University of Maryland, College Park, MD, USA

**TUESDAY GRAND BALLROOM**

**MORNING**

8:00

Session CV

**MICROMAGNETICS: FUNDAMENTAL ASPECTS**

(POSTER SESSION)

Anthony Arrott, Session Chair


CV-02. A systematic approach to multiphysics extensions of finite-element based micromagnetic simulations: mmag. T. Fischbacher1, G. Bordignon1, M. Franchin1 and H. Fangohr1 I. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom

CV-03. Micromagnetic study on thermally induced magnetization reversal of a coupled spin chain system. X. Cheng1, M. Jalil1 and H. Lee1. Information storage material lab, National University of Singapore, Singapore, Singapore; 2. Bioinformatics Institute, Singapore, Singapore

CV-04. Order parameter profiles through a domain wall in twisted Heisenberg models. A.D. Beath1 and D.H. Ryan1 I. Physics Department and the Centre for the Physics of Materials, McGill University, Montreal, QC, Canada

CV-05. Micromagnetic study of the complex transverse susceptibility of uniaxial ferromagnets with quartic anisotropy. D. Cimpoesu1,2, A. Stancu2 and L. Spinu1. Advanced Materials Research Institute (AMRI), University of New Orleans, New Orleans, LA, USA; 2. Faculty of Physics and CARPATH, Al. I. Cuza University, Iasi, Romania; 3. AMRI and Department of Physics, University of New Orleans, New Orleans, LA, USA

CV-06. Coherent rotation and effective anisotropy. G. Zhao1,2, X. Wang1 and Y. Feng1 I. Institute of Solid State Physics, Sichuan Normal University, Chengdu, Sichuan, China; 2. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 3. Department of Physics, National University of Singapore, Singapore, Singapore

CV-07. Mode Anticipation Fields for Symmetry Breaking. A.S. Arrott1 and R. Hertel1 I. Simon Fraser University, Burnaby, BC, Canada; 2. Research Center Juelich, Juelich, Germany

CV-08. Three-dimensional magnetostatic computations using the Fast Multipole Method. P. Andrei1 and A. Adedoyin1. Electrical and Computer Engineering, FAMU-FSU College of Engineering, Tallahassee, FL, USA

CV-09. Fast semi-analytical time integration schemes for the Landau-Lifshitz equation. B. Van de Wiele1, F. Olyslager2 and L. Dupré1 I. Department of Electrical Energy, Systems and Automation, Ghent University, Ghent, Belgium; 2. Department of Information Technology, Ghent University, Ghent, Belgium

CV-10. An improved finite differences magnetostatic scheme for convex bodies. J.E. Militat1. Lab. Physique des Solides, Univ. Paris-Sud & CNRS, Orsay, France

CV-11. Superparamagnetic properties and ferromagnetic resonance for magnetic nanoparticles assembly. D. Hasegawa1, T. Ogawa2 and M. Takahashi1. Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Miyagi, Japan

CV-12. Analytical expressions for domain wall motion in nanowires of rectangular cross section. C. Tristan1, L. Lopez-Diaz1, L. Torres1 and E. Martinez1 I. Applied Physics, University of Salamanca, Salamanca, Spain; 2. Electromechanic Engineering, University of Burgos, Salamanca, Spain

Program 91

Tuesday Morning

8:00

Session CW

HIGH FREQUENCY MATERIALS AND DEVICES

(Poster Session)

Weikang Shen, Session Co-chair
Yangki Hong, Session Co-chair

CW-01. Ferromagnetic films for loss reduction in on-chip transmission lines. P. Khalili Amiri1, B. Rejaei1, Y. Zhuang1, M. Vroubel1 and J.N. Burghardt1,2. 1. HITEC/DIMES, Delft University of Technology, Delft, Netherlands; 2. Institute for Microelectronics Stuttgart, Stuttgart, Germany


CW-03. Ferrite-Dielectric-Wire Composite Negative Index Materials. F.J. Rachford1, D.N. Armstead2, V.G. Harris3 and C. Vittoria3. 1. Materials and Sensors Branch, Naval Research Laboratory, Washington, DC, USA; 2. Physics Department, The College of Wooster, Wooster, OH, USA; 3. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA

CW-04. Magnetic and Electric Field Tunable Ferrite-Ferroelectric Hybrid Wave Microwave Resonators. A. Ustinov1, V. Tiberkevich1, A. Slavin1, G. Srinivasan1 and B. Kalinikos1. 1. Department of Physics, Oakland university, Rochester, MI, USA; 2. Department of Physical Electronics and Technology, St.Petersburg Electrotechnical University, St.Petersburg, Russian Federation

CW-05. Observation of the Power-Dependent Switching of Microwave Pulses in a Ferrite-Film Nonlinear Directional Coupler. A.B. Ustinov1,2, M.A. Timofeeva2 and B.A. Kalinikos1. 1. Department of Physics, Oakland University, Rochester, MI, USA; 2. Department of Physical Electronics and Technology, St.Petersburg Electrotechnical University “LETI”, Saint Petersburg, Russian Federation

CW-06. Ferromagnetic resonance and microwave behavior of bulk ASn-substituted (A=Ni,Co,Zn) BaM-hexaferrites. D. Lisiak1, S. Perez2 and M. Pasquale1. 1. Advanced Materials, Jozef Stefan Institute, Ljubljana, Slovenia; 2. Materials, INRIM, Torino, Italy

CW-07. Intelligent phased array flat antenna system with magnetic micro strip line phase shifter. H. Tsujimoto1. Electrical engineering, Osaka City University, Osaka, Japan

CW-08. In-plane broadband circular magnetostatic simulation for application at X-band frequency. S. Yoon1, J. Wang1, N. Sun1, C. Vittoria1 and V.G. Harris1. 1. ECE, Northeastern University, Boston, MA, USA

CW-09. Refractive Index, Absorption Coefficient, Complex Real and Imaginary Permittivity, and Loss Tangent Measurements of Ferrimagnetic Materials at Millimeter Wave and Terahertz Range. U.A. Khan1, N. Nguyen1 and M.N. Afsar1. Electrical and Computer Engineering, Tufts University, Medford, MA, USA

CW-10. Fabrication and demonstration of a near-field microwave probe for local FMR characterization. D.I. Micrea1,2, N.J. Gokemeijer1 and T.W. Clinton1. Seagate Research, Seagate Technology, Pittsburgh, PA, USA; 2. Center for Superconductivity Research, Department of Physics, University of Maryland, College Park, MD, USA


CW-12. Experimental demonstration of the influence of the magnetic field non-uniformity on the X-band Y-junction circulator bandwidth. A. Guennou1, P. Quéféllec1, P. Gelin1 and J. Mattei1. LEST - UMR CNRS 6165, Brest cedex 3, France

CW-13. High power microwave effects on iron based microstrip filter. B. Kuann1, Y. Khivintsev1,2, D. Hatchinsom1, R.E. Camley1 and Z.J. Celinski1. 1. Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Institute of Radio Engineering and Electronics, RAS, Saratov, 410019, Russian Federation

CW-14. Increasing operational frequency in microwave devices by using [SmCo/NiFe] multilayered structures. B. Kuann1, Y.Y. Khivintsev1,2, I. Harward1, R.E. Camley1, Z.J. Celinski1, M. Bedenbecker1 and H.H. Gatzen1. 1. Physics, University of Colorado at Colorado Springs, Colorado Springs, CO, USA; 2. Institute of Radio Engineering and Electronics, RAS, Saratov, 410019, Russian Federation; 3. Institut fuer Mikrotechnologie, Leibniz Universitaet Hannover, Garbsen, 30823, Germany
CW-15. Bias field effects on the low frequency and microwave frequency behaviors of a PZT/YIG/GGG magnetoelectric composite. C. Pettiford, S. Dasgupta, S. Yoon, V.G. Harris, C. Vittoria and N.X. Sun. Northeastern University, Boston, MA, USA

TUESDAY MORNING 8:00

Session CX

INSTRUMENTATION AND MEASUREMENT TECHNIQUES II (POSTER SESSION)
Pallavi Dhagat, Session Co-chair
Jim Deak, Session Co-chair

CX-01. Magnetic Manipulation of Micro-cantilever for the New Concept Atomic Force Microscopy. S. Lee and K. Jung. School of Mechanical Engineering, Andong National University, Andong, South Korea; 2. Mechanical Engineering, Chungju National University, Chungju, South Korea

CX-02. Enhanced longitudinal MOKE contrast in nanomagnetic structures. U.J. Gibson, A.A. Allwood and S. Basu. Engineering, Dartmouth College, Hanover, NH, USA; 2. Engineering Materials, University of Sheffield, Sheffield, United Kingdom

CX-03. Optical production of any orthogonal states of the linear and circular polarization modes in the soft x-ray ranges using a simple magnetic thin-film structure. D. Jeong, K. Lee and S. Kim. Research Center for Spin Dynamics & Spin-Wave Devices (ReC-SDSW) and Nanospintronics Laboratory, Seoul National University, Seoul 151-744, South Korea

CX-04. Determination of complex magnetic structures from PNR data by flexible modeling of depth dependent vector magnetization. A.D. Mont, S.M. Watson, J.A. Borchers and P.A. Kuentzle. U Maryland, College Park, MD, USA; 2. NIST, Gaithersburg, MD, USA


CX-08. MEASUREMENT OF THICKNESS OF NICKEL PLATED STEEL USING ELECTROMAGNETIC METHOD. N. Takahashi, Y. Goto and A. Matsuoka. Electrical and Electronic Eng., Okayama University, Okayama, Japan; 2. Electrical and Electronic Eng., Kurume National College of Technology, Kurume, Japan

CX-09. Evaluation of heterogeneous magnetic properties by single-yoke. H. Kikuchi, H. Murakami, K. Ara, Y. Kamada, S. Kobayashi and S. Takahashi. NDE & SRC, Faculty of Engineering, Iwate University, Morioka, Iwate, Japan

CX-10. A new method for defining the mean path length of the Epstein frame. P. Marketos, S. Zurek and A.J. Moses. School of Engineering, Cardiff University, Cardiff, United Kingdom

CX-11. Finite Element Method (FEM) simulation of the space and time distribution and frequency dependence of the magnetic field density, and simulation of MAE in a ferritic steel plate. M. Augustyniak, B. Augustyniak, M.J. Sablìa, M. Chmielewski and W. Sadowski. Physics, Technical University of Gdańsk, Gdańsk, Poland; 2. Sensor Systems and NDE Technology, Southwest Research Institute, San Antonio, TX, USA


CX-14. AN ACTIVE PELTIER CELL CALORIMETER WITH POWER COMPENSATION FOR MEASURING THE MAGNETOCALORIC EFFECT. M. Kuepferling, C.P. Sasso, V. Basso and L. Giudici. Materials Department, Istituto Nazionale di Ricerca Metropolitaca, Torino, TO, Italy
SESSION DA
SYMPOSIUM ON RECENT ADVANCES IN MODELING OF MAGNETIC AND SPIN-DEPENDENT PROPERTIES
Oleg Mryasov, Session Chair

DA-01. Magnetoelectric coupling in multiferroic materials from first principles. (Invited) C. Ederer1,2. Materials Department, University of California, Santa Barbara, CA, USA; 2. Department of Physics, Columbia University, New York, NY, USA

2:00


2:36

DA-03. Magnetic impurity doping in semiconductor nanocrystals. (Invited) S. Erwin1. Center for Computational Materials Science, Naval Research Lab, Washington, DC, USA

3:12

DA-04. Role of Thermodynamic Fluctuations in Magnetic Recording. (Invited) R. Skomski1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA

4:24

DA-05. The write process and thermal stability in bit-patterned recording media. (Invited) M. Schabes1. Hitachi San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA

5:00
DB-06. Patterned Exchanged Coupled Composite Media. D.W. Coats\textsuperscript{2}, M. Hao\textsuperscript{1}, X. Yao\textsuperscript{1}, W. Shen\textsuperscript{1}, J. Bai\textsuperscript{1} and J. Wang\textsuperscript{1}. Univ. Of Minnesota, Minneapolis, MN, USA; 2. Physics, Harvey Mudd College, Claremont, CA, USA

3:36

DB-07. Magnetization Reversal in Patterned Media. V. Lomakin\textsuperscript{1}, B. Livshitz and J. Bertram\textsuperscript{1,2}. Center for Magnetic Recording Research and Department of Electrical and Computer Engineering, University of California, San Diego, La Jolla, CA, USA; 2. Hitachi San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA

3:48

DB-08. Size dependent precessional dynamics in [Co/Pd]\textsubscript{8} patterned nanomagnet arrays. A. Barman\textsuperscript{1,3}, S. Wang\textsuperscript{1}, O. Hellwig\textsuperscript{2}, E. Dobisz\textsuperscript{2}, D. Kercher\textsuperscript{2}, E. Fullerton\textsuperscript{2} and H. Schmidt\textsuperscript{1}. School of Engineering, University of California Santa Cruz, Santa Cruz, CA, USA; 2. Hitachi Global Storage Technologies, San Jose Research Center, San Jose, CA, USA; 3. NanoCenter and Physics and Astronomy, University of South Carolina, Columbia, SC, USA

4:00

DB-09. Noise sources in patterned media. A. Moser\textsuperscript{1}, T. Olson\textsuperscript{1}, O. Hellwig\textsuperscript{1}, D. Kercher\textsuperscript{1} and E. Dobisz\textsuperscript{1}. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA

4:12

DB-10. Fabrication of Flyable Perpendicular Discrete Track Media. M.T. Moneck\textsuperscript{1}, J. Zhu\textsuperscript{1}, X. Che\textsuperscript{2}, Y. Tang\textsuperscript{2}, H. Lee\textsuperscript{2} and N. Takahashi\textsuperscript{3}. Electrical & Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Samsung Information Systems America, San Jose, CA, USA; 3. Fuji Electric Advanced Technology Co. Ltd., Nagano, Japan

4:24

DB-11. Hard Mask Fabrication for Patterning Ultra-High Bit Densities by Large-Area Electron Beam Lithography. C. Fabrie\textsuperscript{1}, J. Kohlhepp\textsuperscript{1}, H. Swagten\textsuperscript{1}, B. Koopmans\textsuperscript{1}, M. Andreisse\textsuperscript{2} and E. van der Drift\textsuperscript{2}. Applied Physics, TU/e, Eindhoven, Noord-Brabant, Netherlands; 2. Kavli Institute, TUD, Delft, Zuid-Holland, Netherlands

4:36

DB-12. The growth of L\textsubscript{1}\textsubscript{0} FePt thin films with (001) texture on Fe\textsubscript{100-x}Ru\textsubscript{x} underlayer. S. He\textsuperscript{1}, B. Ma\textsuperscript{1}, Z. Zhang\textsuperscript{1}, F. Gan\textsuperscript{1} and Q. Jin\textsuperscript{1}. Department of Optical Science and Engineering, Fudan University, Shanghai, China

4:48

DB-13. Narrow switching field distributions in polycrystalline and epitaxial Co/Pd perpendicularly-magnetized nanopatterned arrays. J.M. Shaw\textsuperscript{1}, W.H. Rippard\textsuperscript{1}, S. Russek\textsuperscript{1}, T. Reith\textsuperscript{2} and C.M. Falco\textsuperscript{1}. Magnetics Group, National Institute of Standards and Technology, Boulder, CO, USA; 2. College of Optical Sciences, University of Arizona, Tucson, AZ, USA
DC-04. Microscopic origin and a role of uncompensated AFM spins in exchange biased Mn-Ir/Co-Fe bilayers. M. Tsunoda, S. Yoshitaki, C. Mitsumata, T. Nakamura and M. Takahashi. 1. Department of Electronic Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Advanced Electronics Research Labo., Hitachi Metals Ltd., Kamagaya, Saitama, Japan; 3. NICHe, Tohoku University, Sendai, Miyagi, Japan; 4. JASRI/SPring-8, Sayou-cho, Hyougo, Japan

DC-05. Spiral Domain Wall Formation in Spin Valves with Ultra Thin Antiferromagnetic Layers. S.M. Watson, S.M. Moyerman, J.A. Borchers, M. Doucet, W. Gannett, M.J. Carey, P.D. Sparks and J.C. Eckert. 1. CNCR, NIST, Gaithersburg, MD, USA; 2. Harvey Mudd College, Claremont, CA, USA; 3. University of Maryland, College Park, MD, USA; 4. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 5. Physics, Harvey Mudd College, Claremont, CA, USA

DC-06. The micromagnetic structure during magnetization reversal of amorphous CoFeB films exchange-biased by IrMn. A. Kohn, A. Zeltser and M.J. Carey. 1. Materials, University of Oxford, Oxford, United Kingdom; 2. Hitachi Global Storage Technologies, San Jose, CA, USA

DC-07. FMR and BLS study of the interfacial coupling in (NiO/Pt) bilayers. F. Zighem, H. Hurdequint, Y. Roussigné, S. Chérif and P. Moch. 1. LPMTM, Université Paris 13, Villetaneuse, France; 2. LPS, Université Paris Sud, Orsay, France

DC-08. Influence of the cooling field and temperature on exchange bias effects in GdFe/TbFe bilayer. T. Hauet, S. Mangin, J. Borchers, F. Montaigné and E.E. Fullerton. 1. Laboratoire de Physique des Matériaux, Nancy-University CNRS, Vandoeuvre, France; 2. NIST Center for Neutron Research, Gaithersburg, MD, USA; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA


DC-10. Interplay between reversal asymmetry, training, and induced anisotropy, in epitaxial exchange biased bilayers. C. Leighton and M.S. Lund. 1. University of Minnesota, Minneapolis, MN, USA

DC-11. Two-component training effect in exchange-biased Co/FeMn bilayers. J. Parker, M. Chan, B. Bolon, P.A. Crowell and C. Leighton. 1. Physics, University of Minnesota, Minneapolis, MN, USA; 2. Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, USA

DC-12. Length Scale Relevance in Asymmetric Magnetization Reversal. Z. Li and I.K. Schuller. 1. Physics Department, UC San Diego, La Jolla, CA, USA


TUESDAY HARBORSIDE D AFTERNOON

2:00

Session DD

MAGNETIC TUNNEL JUNCTIONS (MgO) III

Sining Mao, Session Chair

2:00

DD-01. Negative tunneling magnetoresistance from spin accumulation in isolated superconductors. H. Yang, S. Yang and S. Parkin. 1. IBM/Stanford Univ., San Jose, CA, USA

2:12

DD-02. Double barrier tunnel junctions based on MgO displaying inverse magnetoresistance. T. Leo, H. Yang, S. Yang, S. Parkin and D.J. Smith. 1. School of Materials, Arizona State University, Tempe, AZ, USA; 2. Department of Physics, Arizona State University, Tempe, AZ, USA; 3. IBM Almaden Research Centre, San Jose, CA, USA
DD-03. Giant tunnel magnetoresistance ratio of 472% at room temperature and 804% at low temperature in sputtered pseudo spin-valve CoFeB/MgO/CoFeB magnetic tunnel junctions. Y. Lee1, J. Hayakawa2, S. Ikeda2, F. Matsukura1, H. Takahashi2 and H. Ohno1. RIEC, Tohoku University, Sendai, Japan; 2. ARL, Hitachi, Tokyo, Japan

DD-04. Defect-mediated properties of magnetic tunnel junctions. (Invited) J. Velev1, K.D. Belashchenko1, M.Y. Zhuravlev1, S.S. Jaswal1, E.Y. Tsymbal1, T. Katayama1 and S. Yuasa1. Department of Physics, University of Nebraska, Lincoln, NE, USA; 2. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan

DD-05. An oscillation of tunneling magnetoresistance with respect to tunneling barrier thickness in MgO-based fully epitaxial magnetic tunnel junctions. (Invited) R. Matsumoto1,2, A. Fukushima1, Y. Suzuki1, K. Ando1 and S. Yuasa1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. Graduate School of Engineering Science, Osaka University, Toyonaka, Japan

DD-06. MgO-based magnetic tunnel junction (MTJ) sensors with synthetic antiferromagnetic (SAF) free layer. W. Shen1, D. Mazumdar1, X. Liu1, B. Schrag1 and G. Xiao1. Physics Department, Brown University, Providence, RI, USA; 2. Micro Magnetics, Inc., Fall River, MA, USA

DD-07. Fabrication of fully epitaxial Co8Cr4Fe30Al/MgO/Co8Cr4Fe30Al tunnel junctions and their tunnel magnetoresistance characteristics. T. Marekame1, T. Ishikawa1, S. Hakamata1, K. Matsuda1, T. Uemura1 and M. Yamamoto1. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan

DD-08. Atomic and Electronic Structure of the CoFeB/MgO Interface from First Principles. J.D. Burton1, S.S. Jaswal1, E.Y. Tsymbal1, O.N. Myrasov2 and O.G. Heinonen1. Physics and Astronomy, Nebraska Center for Materials and Nanoscience, University of Nebraska Lincoln, Lincoln, NE, USA; 2. Seagate Research, Pittsburgh, PA, USA; 3. Seagate Technology, Bloomington, MN, USA

TUESDAY HARBORSIDE E
AFTERNOON
2:00

DE-01. Transition between creep and viscous motion in ultrathin Pt/Co/Pt films with perpendicular anisotropy. P.J. Metaxas1,3, J. Janet1, A. Mougin1, M. Cormier1, J. Adam1, J. Ferré1, V. Baltz2, B. Rodmacq2, B. Dieny2 and R.L. Stamps1. Laboratoire de Physique des Solides, Université Paris-Sud, Orsay, France; 2. SPINTEC, CEA Grenoble, Grenoble, France; 3. School of Physics, University of Western Australia, Crawley, WA, Australia

DE-02. Ultrafast laser induced changes to the magnetic anisotropy in epitaxial ferromagnetic metals. V.A. Stoica1 and R. Clarke1. Applied Physics, University of Michigan, Ann Arbor, MI, USA
DE-03. Measurement of surface pinning at a Py/Co interface using inductive magnetometry. K.J. Kennewell, M. Ali, M. Kostylev, D. Greig, B.J. Hickey and R. Stamps. 1. Physics, University of Western Australia, Crawley, WA, Australia; 2. Physics, University of Leeds, Leeds, United Kingdom

DE-04. Ferromagnetic resonance in the proximity of an unstable equilibrium: a study in permalloy thin films and nano-scale dots. M.J. Pechan, C. Yu, R. Bennett, J. Katine, L. Folks and M. Carey. 1. Physics, Miami University, Oxford, OH, USA; 2. Hitachi Global Storage Technologies, San Jose, CA, USA


DE-06. Anisotropy of surface resonant states on Fe(001) due to spin-orbit coupling. A. Chantis, M. van Schilfgaarde, K.D. Belashchenko and E.Y. Tsymbal. 1. Department of Chemical and Materials Engineering, Arizona State University, Tempe, AZ, USA; 2. Department of Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE, USA

DE-07. Evidence of Anisotropic Damping Coefficient in Single Crystal Ultrathin Fe Films by Ferromagnetic Resonance. Y. Zhai, Y. Fu, Y. Xu, C. Ni, Y. Lu, J. Wu and H. Zhai. 1. Department of Physics, Southeast University, Nanjing, China; 2. Department of Electronics, The University of York, York, United Kingdom; 3. Department of Physics, The University of York, York, United Kingdom; 4. Center for Materials Analysis, National Laboratory for Solid Microstructures, Nanjing University, Nanjing, China

DE-08. Interface atomic structure and magnetic anisotropy in ultrathin Fe films grown by TD and PLD on GaAs(001). B. Kardasz, J. Zukrowski, O. Mosendz, M. Przybylski, B. Heinrich and J. Kirschner. 1. Physics, Simon Fraser University, Burnaby, BC, Canada; 2. Solid State Physics, AGH University of Science and Technology, Krakow, Poland; 3. Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany

DE-09. Structure of Epitaxially Grown Iron on GaAs(001). P. Ryan, J. Kim, J.M. Shaw, P.F. Miceli and C.M. Falco. 1. Ames Laboratory, Argonne, IL, USA; 2. Optical Sciences Center, University of Arizona, Tucson, AZ, USA; 3. Dept. of Physics and Astronomy, University of Missouri-Columbia, Columbia, MO, USA

DE-10. Anisotropy of Ultrathin Epitaxial Fe$_3$O$_4$ Films on GaAs(100). Y. Zhai, Z. Huang, Y. Fu, C. Ni, Y. Lu, Y. Xu, J. Wu and H. Zhai. 1. Spintronics Laboratory, Department of Electronics, University of York, York, United Kingdom; 2. Department of Physics, Southeast University, Nanjing, China; 3. Department of Physics, University of York, York, United Kingdom; 4. National Laboratory of Solid Microstructures, Center for Materials Analysis, Nanjing University, Nanjing, China

DE-11. In-plane magnetic anisotropies in sputtered CoFe/AIGaAs(001) spin-injector heterostructures. A.T. Hindmarsh, C.J. Kinane, C.H. Marrows, B.J. Hickey, M. Henini, D.A. Arena and J. Dvorak. 1. School of Physics & Astronomy, University of Leeds, Leeds, United Kingdom; 2. School of Physics & Astronomy, University of Nottingham, Nottingham, United Kingdom; 3. National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY, USA; 4. Department of Physics, Montana State University, Bozeman, MT, USA

DE-12. RE-TM amorphous alloy and Fe bi-layered films for buffer layer to attain MgO (100) texture. T. Hatori, H. Ohmori, M. Tada and S. Nakagawa. 1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Tokyo, Japan
DE-13. Influence of substrate roughness on the magnetic properties of thin fcc Co films. \( ^3 \)S.J. Steinmuller, \( ^1 \)C.F. Vaz, \( ^1 \)V. Ström, \( ^4 \)C. Moutafis, \( ^1 \)C.M. Gürtler, \( ^1 \)M. Kläui, \( ^1 \)J.C. Bland and \( ^2 \)Z. Cui. 1. Department of Physics, University of Cambridge, Cambridge, United Kingdom; 2. Rutherford Appleton Laboratory, Oxford, United Kingdom

DE-14. Thickness and Organic Functional Group Dependent Magnetic Properties of Deposited Cobalt Thin Film over Self-Assembled Monolayer. \( ^1 \)S.G. Rao, \( ^1 \)S.N. Ahmad and \( ^1 \)S.A. Shaheen. 1. Physics, Center for Materials Research and Technology, Florida State University, Tallahassee, FL, USA

DE-15. Controlled magnetic anisotropy of SrRuO3 thin films grown on nominally exact SrTiO3(001) substrates. \( ^1 \)G. Herranz, \( ^1 \)F. Sánchez, \( ^1 \)N. Dix, \( ^1 \)D. Hrabovský, \( ^1 \)J.C. Infante, \( ^1 \)M.V. García-Cuenca, \( ^1 \)C. Ferrater, \( ^1 \)J. Fontcuberta and \( ^1 \)M. Varela. 1. Institut de Ciència de Materials de Barcelona, Bellaterra, Spain; 2. Física Aplicada i Òptica, Universitat de Barcelona, Diagonal 647, 08028 Barcelona, Spain

TUESDAY ESSEX
AFTERNOON
2:00

Session DF
OXIDE MAGNETIC SEMICONDUCTORS I
Ronnie Jansen, Session Chair

DF-01. The Road to Diluted Magnetic Semiconducting Oxides. \( ^1 \)T. Venkatesan. 1. Department of Physics, University of Maryland, College Park, MD, USA

DF-02. Characteristics of Ti\(_{1-x}\)Co\(_x\)O, Thin Films Deposited by MOCVD. \( ^1 \)A.M. McClure, \( ^1 \)A. Kayani, \( ^1 \)M. Liberati, \( ^1 \)J. Holroyd, \( ^1 \)R.J. Smith, \( ^1 \)Y.U. Idzerda and \( ^1 \)E. Arenholz. 1. Physics, Montana State University, Bozeman, MT, USA; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, USA

DF-03. Anomalous Hall Effect in superparamagnetic Co-(La,Sr)TiO3. \( ^1 \)S. Zhang, \( ^1 \)W. Yu, \( ^1 \)S.B. Ogale, \( ^1 \)S.R. Shinde, \( ^1 \)D.C. Kundaliya, \( ^1 \)J. Higgins, \( ^1 \)R. Sahu, \( ^1 \)R.L. Greene and \( ^1 \)T. Venkatesan. 1. Department of Physics, University of Maryland, College Park, MD, USA

DF-04. The effect of oxygen growth pressure on Co precipitation in TiO\(_x\)Co: An experimental investigation. \( ^1 \)E. Hu, \( ^1 \)P.A. Stampe, \( ^1 \)R.J. Kennedy, \( ^1 \)Y. Xin and \( ^1 \)S. von Molnár. 1. MARTECH and Physics Department, Florida State University, Tallahassee, FL, USA; 2. Physics Department, Florida A&M University, Tallahassee, FL, USA; 3. National High Magnetic Field Laboratory, Tallahassee, FL, USA
4:24

DF-09. SWITCHING THE FERROMAGNETISM OF ZnO:(Co, Mn) POWDERS. D. Rubí1, J. Fontcuberta1, J. Arbiol2, A. Calleja3, L. Aragónes1, X.G. Capdevila3 and M. Segarra3. I. Institut de Ciencia de Materials de Barcelona, 08193, Bellaterra, Spain; 2. TEM-MAT Serveis Cientificotècnics, Universitat de Barcelona, Solé i Sabaris 1-3, 08028, Barcelona, Spain; 3. Quality Chemicals, 08292, Esparraguera, Spain; 4. Facultat de Química, Universitat de Barcelona, Martí i Franquès 1, 08028, 08028, Barcelona, Spain

4:36

DF-10. Magnetic Properties of Zn1-xCoxO (0 < x < 0.1) and Co3-yZnyO4 (y=0, 0.25, and 1) Thin Films on Vacuum Annealing. S. Chandran1, P. Kharel1, G. Lawes1, R. Suryanarayanana1, R. Naik1 and V.M. Naik2. 1. Department of Physics and Astronomy, Wayne State University, Detroit, MI, USA; 2. LPCES, Université Paris-Sud, Orsay, France; 3. Department of Natural Sciences, University of Michigan-Dearborn, Dearborn, MI, USA

4:48

DF-11. Magnetic and Transport properties of ZnO films co-doped with Al and Co or Mn. J.R. Neal1, A.J. Behan1, A. Mokhtari1, H.I. Blythe1, A.M. Fox1 and G.A. Gehring1. 1. Department of Physics and Astronomy, The University of Sheffield, Sheffield, United Kingdom

TUESDAY LAUREL AFTERNOON

2:00

Session DG
4f, 5f AND STRONGLY CORRELATED SYSTEMS
Ross Erwin, Session Chair

2:00

DG-01. Muon spin resonance study on UCu1.5Sn2. S.T. El-Khatib1,2, G. Kalvius3, D. Noakes4, E.J. Ansaldo5, C.E. Stronach6, E. Brück7, A. Llobet1 and H. Nakotte1. 1. J. Physics, New Mexico State University, Las Cruces, NM, USA; 2. Los Alamos National Laboratory, Los Alamos, NM, USA; 3. University of California, Irvine, CA, USA; 4. Oak Ridge National Laboratory, Oak Ridge, TN, USA; 5. Los Alamos National Laboratory, Los Alamos, NM, USA; 6. Argonne National Laboratory, Argonne, IL, USA

2:12

DG-02. Multiple Phase Transitions in Γ4 Quartet Ground-State SnAgIn and Heavy-Electron Behavior in TmAgIn. H. Tanida1, S. Takagi1, H.S. Suzuki2, H. Onodera1 and K. Tanigaki1. 1. Physics Department, Tohoku University, Sendai, Japan; 2. National Institute for Materials Science, Tsukuba, Japan

2:24

DG-03. Nonmagnetic impurities in a two-leg Hubbard ladder. A. Medhi1, S. Basu2 and C. Kadolkar1. 1. Department of Physics, Indian Institute of Technology Guwahati, Guwahati, Assam, India

2:36

DG-04. Local Investigation of Magnetism at R And In Sites in RNiIn (R = Gd, Tb, Dy, Ho) compounds. A.L. Lapolli1, D.T. Leite1, J. Mestnik-Filho1, R.N. Saxena1 and A.W. Carbonari1. 1. CRPq, Instituto de Pesquisas Energeticas e Nucleares - IPEN-CNEN/SP, Sao Paulo, Sao Paulo, Brazil

2:48

DG-05. Weak ferromagnetism in single crystalline YbB6-δ. J. Kim1, N. Sung1 and B. Cho1. 1. Material Science and Engineering, Gwangju institute of science and technology, Gwangju, South Korea

3:00

DG-06. Crystal field excitations in the singlet ground state compound PrIn. A.D. Christianson1,2, J.M. Lawrence2, K.C. Littrell3,4, J.D. Thompson1 and J.L. Sarrao1. 1. Oak Ridge National Laboratory, Oak Ridge, TN, USA; 2. University of California, Irvine, CA, USA; 3. Los Alamos National Laboratory, Los Alamos, NM, USA; 4. Argonne National Laboratory, Argonne, IL, USA

3:12

DG-08. Low dimensional intermediate valence fluctuation in single crystalline YbB4. J. Kim1, B. Cho1,2, H. Lee3 and H. Kim3. 1. Materials Science and Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, South Korea; 2. Center for Strongly Correlated Material Research (CSCMR), Seoul National University, Seoul, South Korea; 3. System Research Team, National Fusion Research Center, Daejon, South Korea

DG-09. Magnetic Ordering in Heavy Rare Earth Metals from ab initio. I. Hughes1, M. Däne2, A. Ernst3, W. Hergert3, M. Lüders4, J. Poulter3, J.B. Staunton1, A. Svane5, D. Szotek4 and W.M. Temmerman4. 1. Department of Physics, University of Warwick, Coventry, United Kingdom; 2. Fachbereich Physik, Martin-Luther-Universität Halle-Wittenberg, Halle, Germany; 3. Max Planck Institut für Mikrostrukturphysik, Halle, Germany; 4. Daresbury Laboratory, Warrington, United Kingdom; 5. Department of Mathematics, Mahidol University, Bangkok, Thailand; 6. Institute of Physics and Astronomy, University of Aarhus, Aarhus, Denmark

Session DH
MAGNETIC SENSORS (NOT MAGNETIC RECORDING)
Albrecht Jander, Session Co-chair
Arthur Pohm, Session Co-chair


DH-02. 1/f Noise in Linear Magnetic Tunnel Junctions with Picture Frame Geometry. J.M. Almeida1,2, R. Ferreira1,2 and P.P. Freitas1,2. 1. Instituto de Engenharia de Sistemas e Computadores - Microsistemas e Nanotecnologias (INESC-MN), Lisbon, Portugal; 2. Physics Department, Instituto Superior Técnico (IST), Lisbon, Portugal

DH-03. Low-field magnetic tunnel junction sensor characterization via sensitivity “asteroid” curves. B.D. Schrag1,2, X. Liu1,2, D. Mazumdar3, W. Shen4 and G. Xiao1,2. 1. Micro Magnetics, Inc., Fall River, MA, USA; 2. Department of Physics, Brown University, Providence, RI, USA


DH-06. High-frequency Carrier-type Thin-film Sensor with a sub-pT resolution at room temperature. S. Yabukami1, K. Ishiyama2 and K. Arai3. 1. Dept. of Electrical Engineering and Information Technology, Tohoku-Gakuin University, Tagajo, Japan; 2. RIEC, Tohoku University, Sendai, Japan; 3. The Research Institute For Electric and Magnetic Materials, Sendai, Japan

DH-07. New magnetic sensor technology. J.L. Prieto1, M. González-Guerrero1, C. Aroca1, M. Blamire2, R. Tomov2, W. Booij3, A. Vogl1, D.T. Wang1, J. Kubík2, P. Ripka2, M.D. Michelena4, R.P. del Real1 and H. Guerrero1. 1. Dept. of Electrical Engineering and Information Technology, Tohoku-Gakuin University, Tagajo, Japan; 2. RIEC, Tohoku University, Sendai, Japan; 3. The Research Institute For Electric and Magnetic Materials, Sendai, Japan; 4. Física Aplicada, Universidad Politécnica de Madrid, Madrid, Madrid, Spain; 5. Laboratorio de Optoelectrónica, Instituto Nacional de Técnica Aeroespacial - INTA, Madrid, Spain

3:36

DH-09. A triaxial orthogonal fluxgate magnetometer made of a single magnetic wire with three U-shaped branches. K. Goleman and I. Sasada. Kyushu University, Fukuoka, Japan

3:48

DH-10. A Bi-Layer Sensor System for Measuring Air Flow. G.S. Katranas and T. Meydan. Wolfson Centre for Magnetics, Cardiff University, Cardiff, South Glamorgan, United Kingdom

4:00


4:12

DH-12. A Rate of Change of Torque Sensor. I.J. Garshelis, R.J. Kari and S. Tollens. MagCanica Inc., San Diego, CA, USA

4:24

DH-13. Plasma Sprayed Cobalt Ferrite Thick Film Coatings for Magnetostrictive Sensor Application. S. Liang, B.G. Ravi, R.I. Gambino and S. Sampath. Department of Materials Science and Engineering, Stony Brook University, Stony Brook, NY, USA

4:36


4:48


TUESDAY AFTERNOON 1:00

GRAND BALLROOM

SESSION DP

TRANSFORMERS AND INDUCTORS

(Point Session)

Masahiro Yamaguchi, Session Chair


DP-02. Design and Characteristics of 1 MVA Cable Transformer with Epoxy-Moulded Low-Voltage Side. J. Park, W. Heo, I. Cho, H. Jeong, M. Jang and Y. Kwon. Hysong Coperation, Changwon, South Korea; 2. School of Electrical Engineering, Pusan National University, Busan, South Korea

DP-03. A VIBRATION MODE ANALYSIS OF HELICAL WINDING OF POWER TRANSFORMER BY THE PSEUDOSPECTRAL METHOD. J. Lee, P. Shin and J. Ha. Electrical Engineering, Hongik University, Jochiwon, Chungnam, South Korea; 2. Mechano-Informatics, Hongik University, Jochiwon, Chungnam, South Korea

DP-04. The Normal Flux Distribution for 3-Phase Transformer Core at T-joints and Corners under Sinusoidal and PWM Excitations. X. Yao, A. Moses and F. Anayi. School of Engineering, Cardiff University, Wolfson Centre for Magnetics Technology, Cardiff, Wales, United Kingdom

DP-05. Improvement of electromagnetic compatibility of induction motor drives using optimized chaotic PWM. Z. Wang and K. Chau. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China

DP-06. Microwave Absorbers of Two-layer (Dielectric/Magnetic) Composites Laminate for Wide Oblique Incidence Angles. J. Kim, J. Jeong, S. Kim and S. Kim. Department of Materials Engineering, Chungbuk National University, Cheongiu, South Korea


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TUESDAY GRAND BALLROOM

AFTERNOON

1:00

Session DQ

MAGNETO-OPTIC RECORDING AND ALTERNATIVE MAGNETIC STORAGE (POSTER SESSION)

James Bain, Session Chair

DQ-01. Sub-picosecond Magnetization Reversal in Ferrimagnetic GdFeCo: The Role of Magnetization Compensation. C. Stanciu, A. Tsukamoto, A. Kimel, F. Hansteen, A. Itoh, A. Kirilyuk and T. Rasing. IMM, Radboud University Nijmegen, Nijmegen, Netherlands; 2. Department of Science and Technology, College of Science and Technology, Nihon University, Funabashi, Chiba, Japan


DQ-03. Cu doped FePt Grains Fabricated On SiO2 Substrates Having Self-Organized Nano-Pores and domain structure in ThFeCo/FePt CGC-like film. A. Itoh, A. Tsukamoto, H. Sato, Y. Adachi, M. Motohashi and Y. Yoda. Dept. of Electronics & Computer Science, College of Science and Technology, Nihon University, Funabashi, Chiba, Japan; 2. Dep. of Electronics, Graduate School of Nihon University, Funabashi, Chiba, Japan

DQ-04. Optical Head with a Butted Grating Structure that Generates a Subwavelength Spot for Laser-assisted Magnetic Recording. F. Tawa, S. Hasegawa and W. Odajima. Fujitsu laboratories Ltd., Atsugi, Japan

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TUESDAY GRAND BALLROOM

AFTERNOON

1:00

Session DR

NANOPARTICLE SYNTHESIS II (POSTER SESSION)

Andris Baku, Session Co-chair

Tomoyuki Ogawa, Session Co-chair

DR-01. Memory effect of magnetic nanoparticle systems originating from particle size distribution. G. Zhang, S. Zhou, K. Potzger, A. Mücklich, Y. Ma and J. Fassbender. Institute of Ion Beam Physics and Materials Research, Forschungszentrum Rossendorf, Dresden, Sachsen, Germany; 2. Department of Modern Physics, University of Science and Technology of China, Hefei, Anhui, China
DR-02. Quench of Orbital Magnetism in Cd1-xMnxSe Quantum Dots. W. Jian1, J. Fang2 and J. Lin1,3,1. Department of Electrophysics, National Chiao Tung University, Hsinchu, Taiwan; 2. Department of Chemistry and Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA; 3. Institute of Physics, National Chiao Tung University, Hsinchu, Taiwan

DR-03. Synthesis and Magnetic Properties of Size Controlled Soft Magnetic Co1-xIrx Alloy Nanoparticles for High Frequency Applications. C. Chinnasamy1,3, T. Ogawa3, D. Hasegawa2, H.T. Yang2, S.D. Yoon1, V.G. Harris3 and M. Takahashi2,1. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan; 2. Dept. of Electronic Engineering, Tohoku University, Sendai, Japan; 3. Electrical & Computer Engineering, Northeastern University, Boston, MA, USA

DR-04. Ion Irradiation Effect on Icosahedral and Octahedral Al Phase FePt Nanoparticles. J. Qiu1, J. Bai1, Y. Wang2 and J. Wang1. 1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA; 2. Los Alamos National Laboratory (LANL), Los Alamos, NM, USA

DR-05. Microstructure and magnetic properties of β-MnOOH nanowires. R. Zheng1,2, X. Zhang2, N. Wang3, S.P. Ringer1 and X. Zhang1. Australian Key Center for Microscopy and Microanalysis, The University of Sydney, Sydney, NSW, Australia; 2. Department of Physics, The Hong Kong University of Science and Technology, Kowloon, Hong Kong

DR-06. Magnetic Characteristics of Co nano particle. J. Lee1, M. Kim1, D. Suess2, T. Schreff1, K. Oh3 and J. Fidler1. Materials Science and Engineering, Seoul National University, Seoul, South Korea; 2. Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; 3. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom

DR-07. Improvement of structural and magnetic properties of L10-FePd nanocrystals by Co addition. A. Kovacs1, K. Sato1 and Y. Hirotsu1. The Institute of Scientific and Industrial Research, Osaka, Japan

DR-08. Synthesis of magnetic-luminescent Fe3O4@CdTe core-shell nanoparticles. B. An1, J. Cho1, J. Min1, J. Lee1, Y. Kim3, H. Liu2 and J. Wu1. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Institute for Nano Science and Technology, Korea University, Seoul, Korea; 3. Research Institute of Engineering and Technology, Korea University, Seoul, South Korea


DR-10. Memory effect in magnetic nanoparticle systems: super-spin glass or super spin-rash. R. Zheng1,2, H. Gu2, J. Du3, B. Zhang2, B. Xu1, S.P. Ringer1 and X. Zhang1. Australian Key Center for Microscopy and Microanalysis, The University of Sydney, Sydney, NSW, Australia; 2. Department of Physics, The Hong Kong University of Science and Technology, Kowloon, Hong Kong; 3. Department of Chemistry, The Hong Kong University of Science and Technology, Kowloon, Hong Kong

DR-11. Multifunctional Fe3O4/Au@Fe3O4 nano-onions. J. Wu2, H. Liu3, M. Jung4, J. Min1 and Y. Kim1. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Research Institute of Engineering and Technology, Korea University, Seoul, South Korea; 3. Institute for Nano Science, Korea University, Seoul, South Korea; 4. Quantum Materials Research Team, Korea Basic Science Institute, Daejeon, South Korea

DR-12. Correlation between hcp Ni nanoparticle core and fcc NiO shell. Y. Jo1, S. Park1, M. Jung1, K. Lee2, J. Lee2, S. Yoon1 and J. Choi1. Quantum Magnetic Material Research Team, Korea Basic Science Institute, Daejeon, South Korea; 2. Division of Materials Science and Engineering, Korea University, SEOUL, South Korea; 3. Display Device & Material Lab, Samsung Advanced Institute of Technology, Suwon, South Korea

DR-13. Magnetic Properties of Cobalt Ferrite Nano-particles Produced by Carbon Combustion Synthesis of Oxide. L.Y. Chang1,2, K. Martirosyan3,4, D. Luss2,1, J. Rantschler1,3, S. Khizroev4 and D. Litvinov1,3. 1. Department of Electrical and Computer Engineering, University of Houston, Houston, TX, USA; 2. Department of Chemical Engineering, University of Houston, Houston, TX, USA; 3. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA; 4. Department of Electrical Engineering, University of California - Riverside, Riverside, CA, USA

DR-14. Synthesis and Characterization of Sr-doped Lanthanum Manganite Nanoparticles. N.D. Lipham1, G.M. Tsoi2 and L.E. Wenger1. 1. Physics, University of West Georgia, Carrollton, GA, USA; 2. Physics, University of Alabama at Birmingham, Birmingham, AL, USA


DR-16. AC susceptibility of Ni-ferrite coated iron nanoparticles for biomedical applications. M.D. Shultz2, C. Sangregorio1, C. Innocenti1 and E.E. Carpenter1. 1. LA.M.M. Dept of Chemistry, University of Florence, Sesi Fiorentino, Italy; 2. Chemistry, Virginia Commonwealth University, Richmond, VA, USA
DR-17. Engineering water-dispersible FePt nanoparticles for biological applications. D. Hung1, P. Chiang2, C. Ho2 and Y. Yao1. Information & Telecommunications Engineering, Ming Chuan University, Taipei, Taiwan; 2. Department of Chemical Engineering, Tunghai University, Taichung, Taiwan

DR-18. Synthesis of modified hydroxyapatite(HAP) substituted with Fe ion for DDS application. S. Nakamura1, M. Horimoto1, K. Fujiwara1 and A. Nakahira1. Osaka Pref Univ, Osaka, Japan

DR-19. Bacteria mediated precursor dependant biosynthesis of nanocrystalline iron oxides and greigite. A.A. Bhardwaj1, B. Prasad1 and M. Sastry1,2,1. Physical and Materials Chemistry Division, National Chemical Laboratory, Pune, Maharashtra, India; 2. Innovation Centre, Tata Chemicals Ltd., Mumbai, Maharashtra, India

DR-20. Optical and Electron Paramagnetic Resonance Spectroscopies of Mn-doped PbS Nanocrystals. R.S. Silva1,2, P.C. Morais1, H.S. Sullasi1, W.E. Ayta1, F. Qu1 and N.O. Dantas1. Instituto de Fisica, Laboratorio de Novos Materiais Isolantes e Semicondutores, Universidade Federal de Uberlandia, Uberlandia, Minas Gerais, Brazil; 2. Instituto de Fisica, Nucleo de Fisica Aplicada, Universidade de Brasilia, Brasilia, Distrito Federal, Brazil

DR-21. Control of microstructures of Fe-Si-B particles. J. Hong1, P. Madras2, D.J. Smith2 and A.E. Berkowitz2,1. Center for Magnetic Recording Research, University of California-San Diego, La Jolla, CA, USA; 2. Center for Solid State Science and Department of Physics and Astronomy, Arizona State University, Tempe, AZ, USA

DR-22. MBE-grown Fe Magnetic Quantum Dots in ZnS Matrix. S. Lok1, B. You1, B. Zhang1, X. Zhang1, I. Sou1 and G. Wong1. Physics, The Hong Kong University of Science and Technology, Hong Kong, China

TUESDAY AFTERNOON
1:00

Session DS
NANOPARTICLE ARRAYS I (POSTER SESSION)
Matsushi Shima, Session Chair

DS-01. Nano inverse sphere Ni arrays by guided self-assembly. X. Li1, D. Claudio Gonzalez1, M.E. Kiziroglou1, C.H. de Groot1, A.A. Zhukov2, P.J. de Groot1 and P.N. Bartlett1. School of Electronics and Computer Science, University of Southampton, Southampton, Hampshire, United Kingdom; 2. School of Physics and Astronomy, University of Southampton, Southampton, Hampshire, United Kingdom; 3. School of Chemistry, University of Southampton, Southampton, Hampshire, United Kingdom

DS-02. Large Enhancement of Coercivity of Magnetic Nanodots with Perpendicular Anisotropy. F. Zhu1, J. Shang1, L. Zhu1 and C. Chien1. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA

DS-03. Controlled growth and magnetism in nanoparticle assemblies on nano-structured insulating layer Al,O,NiAl(100). W.C. Lin1,2, Z. Gai1, L. Gao1, S. Wong1, P. Huang1, C. Wu1, K. Song2 and M. Lin1,2,1. Physics, National Taiwan University, Taipei, Taiwan; 2. Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan; 3. Center for Nanophase Material Science & Condensed Matter Sciences Division, ORNL, Oak Ridge, TN, USA


DS-05. An Mossbauer Study on One-dimensional Magnetite Nano-chains Synthesis by chemical Self-Assembly in Magnetic Field. Y. Zhang1, Y. Zhai1, H. Huang2, R. Huang2 and H. Zhai2,1. Department of Physics, Southeast University, Nanjing, China; 2. Department of Material Science and Engineering, Southeast University, Nanjing, China; 3. Department of Physics, Nanjing University, Nanjing, China; 4. Center for Materials Analysis, National Laboratory for Solid State Microstructures, Nanjing University, Nanjing, China

DS-06. Dynamic relaxation time measurement in magnetic nanowires. A. Gandhi1, Z. Rahman1, T.F. Lynch1, V. Khaddem-Mousavi1 and A. Rahman1. Department of Physics, Materials and Surface Science Institute (MSSI), University of Limerick, Limerick, Ireland; 2. Department of Electronic and Computer Engineering, University of Limerick, Limerick, Ireland

DS-07. Microwave absorption of patterned arrays of Permalloy nanostripes with different aspect ratios. L.M. Malkinski1, M. Yu1, A. Vokv1, D.J. Scherer II1, Z. Davis1, S. Whittenburg1 and J. Jung1. Advanced Materials Research Institute University of New Orleans, New Orleans, LA, USA; 2. Department of Chemistry, Kangnung National University, Kangnung, South Korea

DS-08. Domain Stability in (Co/Pd)n Nanodots. E. Chunsheng1, V. Park1, J.O. Rantschler1, K. Sakhra1 and D. Litvinov1. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA; 2. Electrical Engineering, University of California - Riverside, Riverside, CA, USA

DS-09. Nanotemplate based fabrication of magnetic nanoparticles encapsulated by noble-metal thin film. J. Kim1, J. Kim1, N. Oh1, K. Back1, J. Park1, C. Kim1 and C. Yoon1. Department of Materials Science and Engineering, Hanyang University, Seoul, Seoul, South Korea
DS-10. Facile large-scale synthesis of monodisperse Fe nanoparticles by modest-temperature decomposition of Fe(CO)5. H. Yang1, F. Ito1, D. Hasegawa1, T. Ogawa1 and M. Takahashi21. Department of Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan

DS-11. Magnetization of γ-Fe2O3 nanoparticles diluted in porous vycor glass: Effects of particle size. W.C. Nunes1, D.C. Gomes2, I.O. Mazali2, M. Knobel1 and O.L. Alves21. Instituto de Física, UNICAMP, São Paulo, Campinas, Brazil; 2. Instituto de Química, Unicamp, Campinas, São Paulo, Brazil

TUESDAY AFTERNOON

1:00

Session DT
HALF-METALLIC FERROMAGNETS I
(POSTER SESSION)
Tom Ambrose, Session Chair

DT-01. Enhanced spin-dependent tunneling magnetoresistance in magnetite films coated by polystyrene. W. Wang1 and J. Tang1. Department of Physics, University of New Orleans, New Orleans, LA, USA

DT-02. Half-metallicity and disorder effects in Co2TiSn. H.C. Kandpal1, C.Felser1, M. Wojcik2 and V. Ksenofontov11. Institute of Inorganic and Analytic Chemistry, Johannes Gutenberg-University, Mainz, Rheinland-Pfalz, Germany; 2. Institute of Physics, Polish Academy of Sciences, Warszawa, Poland

DT-03. Magnetite/semiconductor based spintronic structures with MgO tunnel barrier. Y. Lu1, D. Niu1, S. Hassan1, Y. Xu1 and S. Thompson1. Department of Electronics, University of York, York, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom

DT-04. Comparison of the magnetic and electrical properties of (110) and (100)-oriented epitaxial CrO2 films. K.B. Chetry1,2, W.H. Butler1,3, A. Gupta1,2 and P. Padhan11. Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA; 2. Chemistry and Chemical Engineering, University of Alabama, Tuscaloosa, AL, USA; 3. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL, USA

DT-05. CoCrFe0.5Si: A promising Half-metallic Ferromagnet with High Spin Polarization and Saturation Magnetization. S.V. Karthik1,2, A. Rajanikanth1,2, Y.K. Takahashi3 and K. Hono311. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan; 2. National Institute of Materials Science, Tsukuba, Japan

DT-06. Effect of crystallographic orientation of Co2MnGe Heusler-alloy film on its surface roughness and ordered structure. Y. Takeda1, S. Yoshimura1, M. Takano1, H. Asano1 and M. Matsui1. Department of Crystaline Materials Science, Graduate School of Engineering, Nagoya University, Nagoya, Japan


DT-08. Magnetic and magneto-optical properties of CoFeSi and Co2Cr0.6Fe0.4Al Heusler compounds. J. Hamrle1, O. Gaier2, S. Blomeier1, B. Reuscher1, A. Brodyski2, M. Kopnarski2, R. Schäfer3, C. Felser1, M. Jourdan5, G. Jakob2 and B. Hillebrands1. Fachbereich Physik and Forschungsschwerpunkt MINAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. Institut für Oberflächen- und Schichtanalytik, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 3. IFW Dresden, Dresden, Germany; 4. Institute of Inorganic and Analytical Chemistry, Johannes Gutenberg-Universität Mainz, Mainz, Germany; 5. Institut für Physik, Johannes Gutenberg-Universität Mainz, Mainz, Germany

DT-09. Room-temperature magnetoresistance in magnetic tunnel junctions with Fe3O4 electrode. T. Kado1, H. Saito1 and A. Fukushima1. Nanoelectronics, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki, Japan

DT-10. Half-Metallic Behavior in Cr Spacer Layers Induced by Heusler Electrodes. M. Williams2, M. Chahie1, C. Culbert1 and W. Butler11. MINT Center, University of Alabama, Tuscaloosa, AL, USA; 2. Department of Mathematics and Computer Sciences, University of Maryland Eastern Shore, Princess Anne, MD, USA

DT-11. CPP-GMR in Co2MnSi / Cr / Co2MnSi trilayers on various buffer layers. K. Yuksulji1, K. Saito2, S. Mitani2, K. Takahash2, Y.K. Takahashi3 and K. Hono3. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan; 3. National Institute for Materials Research, Tsukuba, Japan


DT-13. Anisotropic magnetoresistance and planar Hall effect in magnetite thin films. Y. Bason1, L. Klein1, H. Tang2, J. Hoffman2 and C. Ahn1. Department of Physics, Bar-Ilan University, Ramat Gan, Israel; 2. Department of Applied Physics, Yale University, New-Haven, CT, USA
DU-01. Fe-based amorphous alloys with giant magnetocaloric effect for room-temperature magnetic refrigerant. Q. Nguyen1, D. Ngo2,3, V. Vuong4, D. Hoang5, C. Nguyen6, S. Oh7 and S. Yu8. 1. Department of Physics, Chungbuk National University, 361-763, Cheongju, South Korea; 2. Department of Physics and Astronomy, University of Glasgow, G12 8QQ, Glasgow, United Kingdom; 3. Center for Materials Science, College of Science, Vietnam National University Hanoi, Hanoi, Viet Nam

DU-02. Enhanced Magnetocaloric effect in single crystalline Nd0.5Sr0.5MnO3. R. Venkatesh1, M. Pattabiraman1, K. Sethupathi1 and G. Rangarajan1. 1. Low temperature laboratory, Department of Physics, Indian Institute of Technology, Chennai, Tamilnadu, India

DU-03. Magnetocaloric properties of Fe and Ge doped Ni2Mn1-xCuxGa. M.U. Khan1, S. Stadler1 and N. Ali1. 1. Physics, Southern Illinois University, Carbondale, IL, USA

DU-04. Large magnetocaloric effect in LaCaPbMnO3 manganites. M. Phan1, H. Peng1 and S. Yu1. 1. Department of Aerospace Engineering, University of Bristol, Bristol BS8 1TR, United Kingdom; 2. Department of Physics, Chungbuk National University, Cheongju, 361-763, South Korea

DU-05. Magneto-caloric effect in layer structural Gd5(SixGe1-x)4/Gd composite materials. M. Yue1, J. Zhang1, H. Zeng1, H. Chen1 and X. Liu1. 1. The Key Laboratory of Advanced Functional Materials, Ministry of Education, Beijing University of Technology, Beijing, China; 2. Center for the physics of materials and Department of Physics, McGill University, Montreal, QC, Canada

DU-06. Sensitivity of tuning Fe content to magnetic properties and magnetocaloric effect around phase boundary in La(Fe1-xAlx)2O4 compounds. F. Hu1, B. Shen1, J. Sun2 and J. Gao3. 1. Department of Physics, The University of Hong Kong, Hong Kong, Hong Kong, China; 2. State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing 100080, China

DU-07. Magnetocaloric properties in RPTGa with R= Dy, Ho and Er. L.M. da Silva1, F.G. Gandra1, A.O. dos Santos1, L.P. Cardoso1 and A.N. Medina1. 1. Physics Institute, University of Campinas, Campinas, Sao Paulo, Brazil; 2. Physics Institute, State University of Maringa, Maringa, Parana, Brazil
DV-03. Hydrogen patterning of perpendicularly magnetized (Ga,Mn)As thin films. L. Thevenard1, A. Lemaître1, A. Miard1, L. Largeau1, O. Mauguin1, G. Patriarche1, N. Vernier2 and J. Ferré3. Laboratoire de Photonique et Nanostructures, Marcoussis, France; 2. Laboratoire de Physique des Solides, Université Paris-Sud, Orsay, France

DV-04. Thermal stability of nanostructured trilayer synthetic antiferromagnets. J. Han1, K. Shin2 and S. Lim1. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Nano Device Research Center, Korea Institute of Science and Technology, Seoul, South Korea

DV-05. Domain wall injection study in spin valve system with different geometry reservoir. K. Cheng1,2, C. Yu2, Y. Chen3, D. Chen3, S. Lee2, Y. Liou2, J. Huang4 and Y. Yao1. Department of Materials Science and Engineering, National Tsing-Hua Univ., Hsinchu, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 3. Department of Physics, National Taiwan Univ., Taipei, Taiwan

DV-06. Effect of inhomogeneous spin configurations on spin wave modes. D.Y. Tse1, S.J. Steinmuller1, T. Trypiniotis2 and J.C. Bland1. Department of Physics, University of Cambridge, Cambridge, United Kingdom


DV-08. The magnetic properties of nanoscale anti-structure arrays. C. Wang1, N. Singh1 and A.O. Adeyeye1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Institute of Microelectronics, Singapore, Singapore

DV-09. Magnetic properties and domain formation in hybrid magnetic thin films. J. McCard1, J. Fassbender2, I. Mönch1, R. Kaltofen1, A. Möcklich1, A. Gerber1, E. Quandt1 and L. Schultz1. IFW Dresden, Dresden, Germany; 2. FZ Rossendorf, Dresden, Germany; 3. FZ CAESAR, Bonn, Germany

DV-10. Influence of IrMn Exchange Bias Layer on the Magnetic Properties of Half Ring NiFe Micron Structures. A. Chen1,2, L. Chang1,2, K. Cheng1 and S. Lee1,2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Institute of Optoelectronic Sciences, National Taiwan Ocean University, Keelung, Taiwan

DV-11. Quasi-exponential law of the magnetic domain wall depinning from a natural defect. J. Attane1, A. Marty1, D. Ravelosona2, Y. Samson1 and C. Chappert1. Nanostructures and Magnetism, CEA Grenoble, Grenoble, France; 2. IEF, CNRS, Orsay, France

DV-12. Domain wall width and velocity behaviors in notched magnetic devices. S. Kim1, B. Chun2 and Y. Kim1. Materials Science and Engineering, Korea University, Seoul, South Korea

DV-13. Switching field study by domain wall injection of the permalloy wires with step structures. C. Yu1, S.H. Wu1, Y. Liou1, Y.S. Chen2, K.W. Cheng1, D.C. Chen1 and Y.D. Yao1. Physics, Academia Sinica, Taipei, Taiwan; 2. physics, National Taiwan university, Taipei, Taiwan; 3. Materials Science & Engineering, National Chiao Tung University, Hsinchu, Taiwan

DV-14. Creation and manipulation of surface magnetic moment flips. J. Lin1, J. Chen1, S. Wu1, Y. Ma1, Y. Liou2 and W. Su1. Physics, National Dong Hwa University, Hualien, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan

DV-15. Electrical voltage manipulation of ferromagnetic microdomain structures in a ferromagnetic/ferroelectric hybridstructure. T. Taniyama1, K. Akasaka1, D. Fu1, M. Ishii1 and H. Takashima1. Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; 2. ERATO, Japan Science and Technology Agency, Kagawuchi, Japan; 3. National Research Institute of Advanced Industrial Science and Technology, Tsukuba, Japan

DV-16. Observation of multiple transitions on permalloy ring using magnetic force microscopy. L. Lin1, C. Chang1, C. Kuo1, C. Chang1 and J. Wu1. Physics, National Changhua University of Education, Changhua City, Taiwan; 2. Physics, National Taiwan University, Taipei, Taiwan

DV-17. Size dependence of reversal mechanisms in permalloy ellipses. Z. Wei1, M. Lai1, J. Wu1 and C. Chang1. National Taiwan University, Taipei, Taiwan; 2. National Tsing Hua University, Hsinchu, Taiwan; 3. National Changhua University of Education, Changhua, Taiwan

DV-18. Parallel pumping in ferromagnetic metal stripes. M. Kostylev1, J. Hu2,2 and R.L. Stamps1. School of Physics, University of Western Australia, Crawley, WA, Australia; 2. Physics Department, Yangzhou University, Yangzhou, China

DV-19. Size and (Py film) thickness dependencies of ferromagnetic resonance in nanoscale antidot arrays. M. Yu1, L. Malkinski1, S.L. Whittenburg1, W. Zhou1 and J.B. Wiley1. Advanced Materials Research Institute, University of New Orleans, New Orleans, LA, USA
Program 125

Tuesday Grand Ballroom

1:00

Session DW

Spin Transport in Spin Valves and Nanostructures
(Poster Session)

Ruithua Cheng, Session Chair


DW-02. Study of spin valves with different L10 FePt pinned layers. H. Zhao1, Z. Zhang1, B. Ma1 and Q. Jin1. Department of Optic Science and Engineering, Fudan University, Shanghai, China

DW-03. Comparison between top and bottom NiO-pinning spin valves: correlation between the extraordinary Hall effect and resistivity. J. Zhang1, J. Du1, X. Bai1, L. Sun1, B. You1, X. Wu1, H. Sang1, A. Hu1 and S. Zhou1. Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Surface Physics Laboratory (National Key Laboratory) and Department of Physics, Shanghai, China

DW-04. Transport of spins in magnetic multilayers. K. Akabli1, H.T. Diep1 and S. Reynal1. Laboratoire de Physique Théorique et Modélisation, Université de Cergy-Pontoise, Cergy-Pontoise, France

DW-05. The Effects of Ruthenium and Grain Size on Spin Valves with Ultra Thin Antiferromagnetic Pinning Layers. W. Buchanan1, D. Draganova1, C. Furjanic1, W. Gannett1, M. Carey2 and J.C. Eckert1. Physics, Harvey Mudd College, Claremont, CA, USA; 2. Hitachi Global Storage Technologies, San Jose, CA, USA

DW-06. Lateral spin valve in a concentric-ring structure. D. Chen1, C. Yu1, S. Lee1 and Y. Yao1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Material Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan

DW-07. Electron Transport through Disordered Domain Walls: Coherent and Incoherent Regimes. P.E. Falloon1, R.A. Jalabert1, D. Weimann2 and R. Stamps1. Physics, University of Western Australia, Crawley, WA, Australia; 2. IPCMS, CNRS, Strasbourg, France

DW-08. Magnetoresistance characterization of NiFe films with a planar point contact. Y. Ohsawa1. CR&D center, Toshiba corp., Kawasaki, Japan; 2. RIEC, Tohoku University, Sendai, Japan

DW-09. Time-Varying Magnetoresistance in Highly Resistive Fe/Fe-O Core-Shell Nanoparticle Assemblies. H. Sakuma1, H. Aoshima1, T. Kobayashi1, T. Tanigawa2 and K. Ishii1. Utsunomiya University, Utsunomiya, Japan; 2. Tokyo Institute of Technology, Yokohama, Japan

DW-10. High Frequency Magnetoeimpedance and Permeability in Py/FeMn/Ta Exchange Biased Films. R.B. da Silva1, A.D. Viegas2, M.A. Correa1, V.P. Nascimento1, E.B. Saitowitch3 and R.L. Sommer1. Departamento de Fisica, UFSC, Santa Maria, RS, Brazil; 2. Departamento de Fisica, UFSC, Florianópolis, SC, Brazil; 3. CBPF, Rio de Janeiro, RJ, Brazil

DW-11. Photoemission study of manganite/Alq3 interface. Y. Zhan1, I. Bergenti1, A. Arishi1, A. Riminucci1, L.E. Hueso1 and V. Dedieu1. ISMN CNR, Bologna, Italy

DW-12. Structural and Magnetism Considerations for CoFe/Cr pin-NOL by comparison of Co-rich and Fe-rich NOLS on CIP-GMR and Hex of SPSV systems. H. Endo1, K. Sawada1, M. Doi1, N. Hasegawa1 and M. Sahashi1. Electronic Engineering, Tohoku University, Sendai, Japan; 2. ALPS Electric Corporation, Niigata, Japan

DW-13. WITHDRAWN

DW-14. Transport properties of low coupling field spin valves: Dependencies on spacer thickness, deposition rate and temperature. J.M. Teixeira1, J. Ventura1, R. Fermento1, J.P. Araújo1, S. Cardoso2 and P.P. Freitas2. FCUP, IFIMUP, Porto, Portugal; 2. INESC-MN, Lisbon, Portugal

Tuesday Grand Ballroom

1:00

Session DX

Magnetooptic and Magnetooelastic Materials
(Poster Session)

Radek Lopusnik, Session Chair

DX-01. Magnetic Properties of Aluminium-substituted R-T Deuterides Ho6(Fe,Al)23Dz. J. Ostéro1 and M. Guillot2. UPR 209, CNRS, Thiais Cedex, France; 2. LCMI, CNRS, Grenoble Cedex, France
DX-02. Faraday-like magneto-optical effect of one-dimensional magnetic grating. J. Kim1, G. Lee1, Y. Lee1, J. Rhee2, K. Kim3 and C. Yoon1. Quantum Photonic Science Research Center and BK21 Program Division of Advanced Research and Education in Physics, Hanyang University, Seoul, South Korea; 2. BK21 Physics Research Division and Institute of Basic Science, Sungkyunkwan University, Suwon, South Korea; 3. Department of Physics, Sunmoon University, Asan, South Korea; 4. Department of Materials Science and Engineering, Hanyang University, Seoul, South Korea

DX-03. Enhanced Kerr effect with high reflectance in one-dimensional asymmetric magnetic photonic crystals with three defects. Y. Lu1, M. Huang1, S. Park1, P. Kim1, Y. Lee1 and J. Rhee2. Quantum Photonic Science Research Center and BK21 Program Division of Advanced Research and Education in Physics, Hanyang University, Seoul, South Korea; 2. BK21 Physics Research Division and Institute of Basic Science, Sungkyunkwan University, Suwon, South Korea

DX-04. Perpendicular Magnetic Properties of Rare Earth-Transition Metal Thin Film Using Pulse Electrodeposition Technique. M. Shu1, T. Wu2 and C. Yang1. Graduate School of Engineering Science and Technology (Doctoral Program), National Yunlin University of Science and Technology, Touliu, Yunlin, Taiwan; 2. Taiwan SPIN Research Center, National Yunlin University of Science and Technology, Touliu, Yunlin, Taiwan; 3. Department of Chemical Engineering, National Yunlin University of Science and Technology, Touliu, Yunlin, Taiwan

DX-05. Enhancement of Modulation Rate of Magneto-Optical Spatial Light Modulators with Magnetophotonic Crystals. K. Takahashi1, H. Takagi2, K. Shin3, H. Uchida1, P. Lim1 and M. Inoue1. 1. Dept. Electrical and Electronic Engineering, Toyohashi University of Technology, Toyohashi, Japan; 2. Toyota National College of Technology, Toyota, Japan; 3. Kyungsung University, Pusan, South Korea; 4. JST-CREST, Kagawach, Japan

DX-06. Magneto-optical Properties of CoFe2−xGaxO4, S. Lee1, S. Song1, C. Lo1, S.T. Aldini1 and D.C. Jiles1. Center for Nondestructive Evaluation, Iowa State University, Ames, IA, USA; 2. Materials and Engineering Physics Program, Ames Laboratory, US Dept. of Energy, Iowa State University, Ames, IA, USA; 3. Department of Materials Science and Engineering, Iowa State University, Ames, IA, USA; 4. Wolfson Centre for Magnetics, Cardiff University, Cardiff, Cardiff CF24 3AA, United Kingdom

DX-07. Magneto-optical energy gap of MnZnFe2O4 magnetic thin films with nanohole arrays on PAA/GaN/sapphire multiple thin films. C. Hsu1 and H. Liu1. Mechanical department, Chung Cheng Institute of Technology, Taoyuan, Taiwan

DX-08. Stress dependence of the magnetic domains in FeCoSiB amorphous thin films. B. Peng1, Q. Xie1, W. Zhang1, H. Jiang1 and W. Zhang1. State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronic Science and Technology of China, ChengDu, SiChuan, China

DX-09. Effect of Mn substitution on some properties of spinel CoFe2O4 prepared by citrate method. M.N. Palamaru1, A.R. Jordan1, I. Dumitru1 and O. Caltun1. Faculty of Chemistry, “Alexandru Ioan Cuza” University, Iasi, Romania; 2. Department of Solid State and Theoretical Physics, “Alexandru Ioan Cuza” University, Iasi, Romania

DX-10. Magnetic and magnetoelastic behavior of Mn substituted CoFe2O4. S.D. Bha1 and P.A. Joy1. Physical and Materials Chemistry Division, National Chemical Laboratory, Pune, Maharashtra, India; 2. Physical and Materials Chemistry Division, National Chemical Laboratory, Pune, Maharashtra, India

DX-11. 1600 ppm Unloaded Magnetostriction in Epoxy-Bonded Terfenol-D Continuous-Fiber Composites with [112] Crystallographic Orientation. C. Lo1, S. Or1 and H. Chan1. Department of Applied Physics, The Hong Kong Polytechnic University, Kowloon, Hong Kong

DX-12. Magnetomechanical performance of directionally solidified Fe-Ga alloys. X. Zhao1, D.G. Lord1 and N.J. Mellors1. Institute for Materials Research, University of Salford, Salford, United Kingdom

DX-13. Magnetism and phase transition of NiTi shape memory alloys. B. Hou1, Q. Zhou1, S. Mao1, Y. Ma2, F. Liu1 and X. Han1. College of Applied Sciences, Beijing University of Technology, Beijing, Beijing, China; 2. Institute of Physics, Chinese Academy of Science, Beijing 100080, China, Beijing, China

DX-14. MAGNETO-ACOUSTIC PROPERTIES OF SELF BIASED TERFENOL-D-2-2 COMPOSITES. L. Garcia-Gancedo1, S.C. Busbridge1, P. Pernod2 and V. Preobrazhensky2. 1. School of Engineering, University of Brighton, Brighton, East Sussex, United Kingdom; 2. IEMN-DOAE, Ecole Centrale de Lille, Villeneuve d’Ascq Cedex, France

DX-15. Structure and magnetic properties of melt-spun ribbons of Tb0.27Dy0.73Fe3 alloys. X. Meng1, Y. Li1, H. Liu1, Z. Lu1, J. Qu1, X. Xu1 and Y. Zhao1. Hebei University of Technology, Tianjin, China

TUESDAY AFTERNOON 1:00

Session DY

HARD MAGNETIC FILMS (POSTER SESSION)

Alejandra Lukaszew, Session Chair

DY-01. Magnetic properties of epitaxial Nd-Fe-B films on Mo buffer deposited on different substrates. A. Kwon1, S. Faler1, V. Neu1 and L. Schultz1. Institute for the metallic materials, IFW-Dresden, Dresden, Germany
DY-02. An effective route to fabricate RE-Fe-B thin films with highly c-axis texture and excellent permanent magnetic properties. S. Tang¹, M. Gibbs² and H. Davies².¹. Department of Physics, Nanjing University, Nanjing, Jiangsu, China; ². Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom

DY-03. Enhancement in coercivity of PLD-made Nd-Fe-B thick film magnets by high-speed crystallization. H. Takeda¹, S. Sato¹, T. Yanai¹, M. Nakano¹, H. Fukunaga¹ and F. Yamashita².¹. Nagasaki University, Nagasaki, Japan; ². Motor R&D Lab., Matsushita Electric Industrial Co. Ltd., Osaka, Japan

DY-04. THE Co CONTENT AND STRATIFICATION EFFECT ON THE MAGNETIC PROPERTIES, MICROSTRUCTURE AND PHASE EVOLUTION OF [NdFeBnCu/Co]xn THIN FILMS. H. Chiriac¹, M. Grigoras¹ and M. Urse¹.¹. MDM, NIRDTP Iasi, Iasi, Romania

DY-05. Structural and magnetic properties of 5 μm thick sputter deposited SmCo films. A. Walther¹,², K. Khlopkov³, O. Gutfleisch³, D. Givord³ and N.M. Dempsey³.¹. Laboratoire Louis Néel, CNRS, Grenoble, France; ². LCMS, CEA-LETI, Grenoble, France; ³. IFW Dresden, Institute of Metallic Materials, Dresden, Germany


TUESDAY AFTERNOON

1:00

Session DZ
MAGNETIZATION PROCESSES AND MAGNETIC CHARACTERIZATION (POSTER SESSION)
Jian-Ping Wang, Session Chair

DZ-01. Pinning in Epitaxial Exchange Coupled SmCo₅ Films. A. Singh¹, V. Neu¹, S. Fahler¹, K. Nenkov¹, L. Schultz¹ and B. Holzapfel¹. IFW Dresden, Institute for Metallic Materials, Dresden, Germany

DZ-02. Self-Pinning: the dominant coercivity mechanism in exchange-coupled nanomagnets? G. Zhao¹,² and X. Wang¹. Institute of Solid State Physics, Sichuan Normal University, Chengdu, Sichuan, China; ². Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia

DZ-03. Magnetic Characterization of the (Zr,Sm)Co₃ phase in Sm(CoFeCuZr)₁ₓ magnets. M.F. de Campos¹, R.K. Murakami², S.A. Romero¹, H.R. Rechenberg¹ and F.P. Missel1¹,².¹. Dimat - Predio 3, Inmetro, Duque de Caxias RJ, RJ, Brazil; ². Universidade Federal do ABC, Santo André, SP, SP, Brazil; ³. Instituto de Física, Universidade de São Paulo, São Paulo, SP, SP, Brazil; ⁴. Universidade de Caxias do Sul, Caxias do Sul RS, RS, Brazil

DZ-04. Fine pole-pitch magnetizing method for Nd-Fe-B isotropic magnet with high coercivity. H. Komura¹, M. Kitaoka¹, T. Kiyomiya¹ and Y. Matsu¹.¹. R & D, FDK Corporation, Kosai, Japan

DZ-05. Demagnetization of high-performance permanent magnets with superconducting magnet. S. Kato¹, G. Kido¹ and N. Kishimoto¹. National Institute for Materials Science, Tsukuba, Japan

TUESDAY GRAND BALLROOM

1:00

Session DAA
HARD MAGNETIC MATERIALS (POSTER SESSION)
Ichiro Takeuchi, Session Chair

DAA-01. HIGH MAGNETIC FIELD PROPERTIES OF YTTRIUM-SUBSTITUTED Ho₆Fe₂₃ ALLOYS AND DEUTERIDES. J. Ostorero¹ and M. Guillot².¹. UPR 209, CNRS, 94320 Thiais Cedex, France; ². Grenoble High Magnetic Field Laboratory, CNRS, GRENOBLE Cedex 9, France

DAA-02. ¹¹⁹Sn hyperfine fields in ErMn₆Sn₈Ga₁ L.K. Perry¹, D.H. Ryan¹ and G. Venturini².¹. Physics, McGill, Montreal, QC, Canada; ². Laboratoire de Chimie du Solide Minéral, Université Henri Poincaré-Nancy I, Vandoeuvre les Nancy, Cedex, France

DAA-03. Spin flop transition driven by exchange springs in ErFe₂/YFe₂ multilayers. K.N. Martin¹, J.P. Zimmermann², K. Wang¹, G.J. Bowden¹, A.A. Zhukov¹, H. Fangohr², R. Ward³ and P. de Groot¹.¹. School of Physics and Astronomy, University of Southampton, Southampton, Hampshire, United Kingdom; ². Computational Engineering and Design Group, School of Engineering Sciences, University of Southampton, Southampton, Hampshire, United Kingdom; ³. Clarendon Laboratory, Oxford University, Oxford, Oxfordshire, United Kingdom

DAA-04. Anomalous magnetic properties of Er₆Ni₁₄. D. Banerjee¹, P. Kumar¹, K. Suresh¹ and A.K. Nigam².¹. Department of Physics, IIT Bombay, Mumbai, Maharashtra, India; ². Tata Institute of Fundamental Research, Mumbai, Maharashtra, India
DAA-05. Anomalous Magnetic Age Hardening in a Co-Ni-Al Ferrromagnetic Shape Memory Alloy. T.M. Apple1, E.A. Lass1, G.J. Shiflet1 and W.A. Soffa1. Materials Science & Engineering, University of Virginia, Charlottesville, VA, USA.

DAA-06. Magnetic anisotropy and high coercivity of epitaxial Co-ferrite films prepared by pulsed laser deposition. J. Yin1,2, J. Ding1, B. Liu1, J. Yi1, X. Miao2 and J. Chen1,2. Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Data Storage Institute, Singapore, Singapore.

TUESDAY HARBORSIDE EVENING
7:30

Session YA
SYMPOSIUM ON MAGNETIC MEMORIES, PAST AND PRESENT
William Gallagher, Session Chair

7:30


8:50

YA-02. MRAM: From Concept to First Commercialization and Beyond. (Invited) B.N. Engel1. Freescale Semiconductor, Inc., Chandler, AZ, USA.

WEDNESDAY MORNING
9:00

Session EA
SYMPOSIUM ON INTERFACES IN MAGNETIC TUNNEL JUNCTIONS
Amanda Petford-Long, Session Chair

9:00

EA-01. Theory of Tunneling in Epitaxial Magnetic Tunnel Junctions. (Invited) W.H. Butler2, X. Zhang1, T.C. Schultess3, J.M. Maclaren4, M. Chshiev1 and S. Vutukuri1,2. MINT Center, University of Alabama, Tuscaloosa, AL, USA; 2. Department of Physics, University of Alabama, Tuscaloosa, AL, USA; 3. ORNL, Oak Ridge, TN, USA; 4. Tulane University, New Orleans, LA, USA.
EB-02. Magnetic-Recording Patterns of CoPtCr-SiO₂ Perpendicular Media at Linear Density of 1,500 kfc. M. Kitano¹, E. Miyashita¹, N. Hayashi¹ and S. Takenoiri¹. NHK Science & Technical Research Laboratories, Tokyo, Japan; 2. Fuji Electric Device Technology Co., Ltd, Nagano, Japan

9:48

EB-03. CORRELATION OF SIGNAL AND SNR THERMAL DECAY. B.F. Valcu¹, R. Brockie¹, N.H. Yeh¹ and H.J. Richter¹. Seagate technology, fremont, CA, USA

10:00

EB-04. Energy Barriers in Composite Media Grains. B.H. Lengsfield¹ and H. Bertram¹. Hitachi GST San Jose Research Center, San Jose, CA, USA

10:12

EB-05. SNR and Microstructure Improvement of CoCrPt-SiO₂ Based Capping layer Perpendicular Media by Stacked Ru Underlayer with NSL. R. Mukai² and T. Uzumaki². Advanced Magnetic Recording Lab., Fujitsu Laboratories Ltd., Atsugi, Japan

10:24

EB-06. The Effects of Post-deposition Annealing on the Microstructure and Magnetic Properties of Percolated Perpendicular Media. Y. Qin¹,², Y. Peng¹,², D.E. Laughlin¹,³ and J. Zhu¹,²,³. Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Advanced Magnetic Recording Lab., Fujitsu Laboratories Ltd., Atsugi, Japan; 3. Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA

10:36

EB-07. Continuous/Cluster-Pinned Recording Media. R. Skomski¹, M.L. Yan¹, Y.F. Xu¹ and D.J. Sellmyer¹. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA

10:48

EB-08. The effect of intrinsic magnetic properties of negative-Kₚ material for p-/n-Kₚ stacked ECC media. N. Higaaki¹, S. Saito¹, A. Hashimoto¹ and M. Takahashi¹,²,³. Department of Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan

11:00

EB-09. Recording simulations on gradient media for densities up to 1 Tbit/in². T. Schrefl¹, D. Suess², A. Goncharov¹, O. Ertl¹, G. Hrkac¹, S. Bance¹, F. Dorfbauer² and J. Fidler¹. Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. Solid State Physics, Vienna University of Technology, Vienna, Austria

11:12

EB-10. Optimization of exchange spring media with gradual changing anisotropy. G. Zimanyi¹, D. Suess¹, T. Schrefl¹ and J. Fidler¹. Institut of Solid State Physics, Technical University of Vienna, Vienna, Austria; 2. Materials Science and Engineering, University of California, Davis, CA, USA; 3. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom

11:24

EB-11. Effect of dual magnetic layer on performance in CoCrPt-SiO₂ perpendicular media. Y. Hirayama¹ and I. Tamai¹. Central Research Laboratory, Hitachi, Ltd., Odawara, Kanagawa, Japan

11:36

EB-12. A New Method of Producing Small Grain Ru Intermediate Layers for Perpendicular Magnetic Media. H. Yuan¹,², Y. Qin¹,³ and D.E. Laughlin¹,². Data Storage Systems Center, Pittsburgh, PA, USA; 2. Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 3. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA

11:48


11:59

Session EC

III-V MAGNETIC SEMICONDUCTORS

Ezekiel Johnston-Halperin, Session Chair

9:00

EC-01. Giant anisotropic magnetoresistance in ultrathin GaMnAs films. R. Gareev¹, M. Döpp¹, J. Sadowski¹, W. Wegscheider¹ and D. Weiss¹. Institute of Experimental and Applied Physics, Regensburg, Germany

9:00
EC-02. Coulomb blockade anisotropic magnetoresistance effect in a (Ga,Mn)As single-electron transistor. J. Wunderlich1, T. Jungwirth2, A.C. Irvine3, B. Kaestner3, A.B. Shick2, R.P. Campain1, B.L. Gallagher1 and D.A. Williams1. 1. Hitachi Cambridge Laboratory, Cambridge, United Kingdom; 2. Institute of Physics ASCR, Praha 6, Czech Republic; 3. School of Physics and Astronomy, University of Nottingham, Nottingham, United Kingdom; 4. Microelectronics Research Centre, University of Cambridge, Cambridge, United Kingdom; 5. National Physical Laboratory, Teddington, United Kingdom

EC-03. Atomic Spin Scattering and Giant Magnetoresistance in Magnetic Semiconductors. M.G. Foygel1 and A.G. Petukhov1. 1. Physics, South Dakota School of Mines and Technology, Rapid City, SD, USA

EC-04. Spin-dependent transport in metal-insulator-semiconductor Fe/ZnSe/Ga1-xMnxAs magnetic tunnel diodes. H. Saito1, Y. Hamada1, Y. Suzuki1, S. Yuasa1 and K. Ando1. 1. Nanoelectronics Research Institute, AIST, Tsukuba, Ibaraki, Japan; 2. Graduate School of Engineering Science, Osaka University, Osaka, Japan

EC-05. Control of magnetism in (Ga,Mn)As by electric-field. D. Chiba2, F. Matsukura2 and H. Ohno3. 1. ERATO Semiconductor Spintronics Project, Japan Science and Technology Agency, Sendai, Miyagi, Japan; 2. Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan

EC-06. Magnetic Anisotropy, Spin Pinning and Exchange Constants of (Ga,Mn)As films. Y. Zhou1, Y. Cho1, Z. Ge1, X. Liu1, M. Dobrowolska1 and J.K. Furdyna1. 1. Department of Physics, UNIVERSITY OF NOTRE DAME, Notre Dame, IN, USA

EC-07. Low frequency 1/f and random telegraph noise in (Ga,Mn)As epilayers. M. Zhu1, X. Li1, G. Xiang1 and N. Samarth1. 1. Physics, Penn State University, University Park, PA, USA

EC-08. Nucleation and collapse of domains with reverse magnetization in (Ga,Mn)As epilayers with perpendicular magnetic easy axis. A. Dourlat1, V. Jeady1, C. Goudou1, C. Testelin1, K. Khazen1, J. Cantin1, H. von Bardeleben1, L. Thevenard1 and A. Lemaître1. 1. Institut des Nanosciences de Paris, CNRS-University Paris 6, Paris, France; 2. Laboratoire de Photonique et Nanostructures, CNRS, Marcoussis, France

EC-09. Discerning intrinsic properties of diluted magnetic semiconductors by the anomalous Hall Effect. H.K. Choi1, Y.S. Kim2, S.S. Seo3, I.T. Jeong3, W.O. Lee1, S.W. Cho1, Y.S. Oh1, K.H. Kim1, J.C. Woo3, T.W. Noh1, Z.G. Kim1, S.H. Chun1 and Y. Park1. 1. C SCM R and Department of Physics & Astronomy, Seoul National University, Seoul, South Korea; 2. Department of Physics & Astronomy, Seoul National University, Seoul, South Korea; 3. RecoE and Department of Physics & Astronomy, Seoul National University, Seoul, South Korea; 4. Department of Physics and Institute of Fundamental Physics, Sejong University, Seoul, South Korea

EC-10. Properties of (Ga,Mn)As codoped with Si. T. Tanikawa1,2, F. Matsukura2,3 and H. Ohno3. 1. ERATO Semiconductor Spintronics Project, Japan Science and Technology Agency, Sendai, Miyagi, Japan; 2. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan

EC-11. Exchange Bias and Coercivity in (Ga,Mn)As/MnO Bilayer Structures. Z. Ge1, W. Lim1, Y. Cho1, X. Liu1, J.K. Furdyna1 and M. Dobrowolska1. 1. Physics, University of Notre Dame, Notre Dame, IN, USA

EC-12. Neutron Reflectivity Study of the Anomalous Magnetization Shift in MnO/GaMnAs Bilayers. B.J. Kirby1,2, J. Borchers1, M. Fitzsimmons2, Z. Ge1, X. Liu1 and J. Furdyna1. 1. Center for Neutron Research, NIST, Gaithersburg, MD, USA; 2. Lujan Neutron Scattering Center, Los Alamos National Laboratory, Los Alamos, NM, USA; 3. Physics, University of Notre Dame, Notre Dame, IN, USA

WEDNESDAY HARBORSIDE D MORNING 9:00

Session ED

SPIN TORQUE: DOMAIN WALLS

Shufeng Zhang, Session Chair

9:00

ED-01. Imaging nsec current-induced vortex-domain wall motion and deformation with magnetic soft x-ray microscopy. G. Meier¹, M. Bolte¹, R. Eiselt¹, U. Merkt¹, B. Krüger², D. Pfannkuche², D. Kim³ and P. Fischer¹. ¹. Institute of Applied Physics, University of Hamburg, Hamburg, Germany; 2. Institute of Theoretical Physics, University of Hamburg, Hamburg, Germany; 3. Center for X-Ray Optics, Lawrence Berkeley National Lab, Berkeley, CA, USA

9:12


9:24

ED-03. Temperature dependence of the spin torque effect in current-induced domain wall motion. M. Klaui¹, M. Laufenberg¹, W. Buhre¹, D. Bedau¹, P. Melchy¹, P. Dagrás¹, L. Viña¹, G. Faini², C.F. Vaz¹, J.C. Bland³ and U. Rudiger¹. ¹. Physics, University of Konstanz, Konstanz, Germany; 2. LPN-CNRS, Marcoussis, France; 3. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom

9:36

ED-04. Thermal effects on domain wall depinning from a single notch. E. Martinez¹, L. Lopez-Diaz¹, L. Torres¹, C. Tristan¹ and O. Alejos¹. ¹. Condensed Matter Theory Group, Department of Physics, Uppsala University, Uppsala, Sweden

9:48

ED-05. Relation Between Damping, Current-Induced Forces And Wall Resistance For Domain Walls In Magnetic Nanowires. L. Berger¹. Physics Dept., Carnegie Mellon University, Pittsburgh, PA, USA

10:00

ED-06. Dissipative dynamics of domain walls in submicron ferromagnetic strips. O.A. Tretiakov¹, Y.B. Bazaliy¹²¹ and O. Tchernyshyov¹. ¹. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA; 2. IBM Almaden Research Center, San Jose, MD, USA

10:12

ED-07. Magnetic domain wall formation in ferromagnetic wires with a nanoconstriction. G. Li¹, P. Wong¹, S. Lepadapu², Y. Zhai², Y. Xu¹ and J. Wu¹. Department of Electrical and Computer Engineering, University of York, York, United Kingdom; 2. Department of Physics, University of York, York, United Kingdom

10:24

ED-08. Current-induced domain wall motion in Pseudo Spin Valve notched bars. D. Morecroft¹²¹, I.A. Colin¹, F.J. Castano¹ and C.A. Ross¹. ¹. Condensed Matter Theory Group, Department of Physics, Uppsala University, Uppsala, Sweden; 2. Cavendish Laboratory, Cambridge University, Cambridge, United Kingdom

10:36

ED-09. Current-induced domain wall motion in SrRuO₃ microstructures. M. Feigenson¹, J.W. Reiner², M.R. Beasley² and L. Klein¹. Department of Physics, Bar-Ilan University, Ramat-Gan, Israel; 2. T.H. Geballe Laboratory for Advanced Materials, Stanford University, Stanford, CA, USA

10:48

ED-10. Current-induced magnetic domain wall motion in (Ga,Mn)As microstructures. K.F. Eid¹, A. Balk¹, B. Cooley¹, G. Xiang¹ and N. Samarth¹. Physics, The Pennsylvania State University, University Park, PA, USA
EE-01. Magnetic inversion symmetry breaking in multiferroic transition metal oxides. (Invited) M. Kenzelmann1,1. Laboratory for Solid State Physics, ETH Zürich, Zürich, Switzerland

9:36

EE-02. Original features of the model multiferroic BiFeO3: Effect of temperature, pressure and strain. H. Raphael1,2, K. Jens2 and B. Pierre1. LPCES-ICMMO, Orsay, France; 2. LMGP, Grenoble, France

9:48

EE-03. Novel multiferroic system: Rare earth chromiates. X. Wang1, Z. Cheng1 and H. Kimura1. Institute for Superconducting and Electronics Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Crystal Science and Technology Team, National Institute for Materials Science, Tsukuba, Ibaraki, Japan

10:00

EE-04. Magnetoelastic Effect driven by Interface Bonding. C. Duan1, S.S. Jaswal1 and E.Y. Tsymbal1. Department of Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE, USA

10:12

EE-05. Probing multiferroicity and spin-spin interactions via angular dependent dielectric measurements on doped HoMnO3 in high magnetic fields. R. Vasic1,2, J.S. Brooks3, C.R. Wiebe1,2 and H.D. Zhou1,2. Condensed Matter Group/Experimental, National High Magnetic Field Laboratory, Tallahassee, FL, USA; 2. Department of Physics, Florida State University, Tallahassee, FL, USA

10:24

EE-06. Crystal Field Excitations in Multiferroic HoMnO3. O. Vajk1, M. Kenzelmann2,3, J.W. Lynn1, S.B. Kim1 and S.W. Cheong1. Center for Neutron Research, NIST, Gaithersburg, MD, USA; 2. Laboratory for Solid State Physics, ETH Honggerberg, Zurich, Switzerland; 3. Laboratory for Neutron Scattering, ETHZ and Paul Scherrer Institute, Villigen, Switzerland; 4. Department of Physics and Astronomy, Rutgers University, Piscataway, NJ, USA

10:36

EE-07. Electric quadrupole interaction in HoMn0.99Fe0.01O3. S. Kim1, S. Cheong2 and C. Kim1. Physics, Kookmin University, Seoul, South Korea; 2. Physics and Astronomy, Rutgers University, Piscataway, NJ, USA
EF-04. Tip-induced Stark effect on quantum well states in Au/Fe(100).

9:36

EF-05. Magnetic Impurities in Magic-Number Clusters.
R. Skomski. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA

9:48

EF-06. Structure and Properties of A-site Ordered Manganite Films and Superlattices.
V. Moshyngya, S. Lakshmana, O.I. Lebedev, K. Gehlke, A. Belenchuk, O. Shapoval, S.A. Köster, B. Damaschke, G. van Tendeloo and K. Samwer. I. Physical Institute, University of Goettingen, Goettingen, Germany; 2. EMAT, University of Antwerp (RUA), Antwerpen, Belgium; 3. Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Moldova

10:00

O. Karis, O. Eriksson, C. Andersson, L. Nordström, B. Sanyal, D. Arvanitis, T. Konishi, E. Holub-Krappe and J. Hunter Dunn. Department of Physics, Uppsala University, Uppsala, Sweden; 2. Department of Chemistry, Faculty of Science, Chiba University, Chiba, Japan; 3. Hahn-Meitner Institute, Berlin, Germany; 4. MAX-lab, Lund University, Lund, Sweden

10:12

EF-08. Charge State and Local Structure of Room Temperature Ferromagnetic Mn Doped ZnO from X-ray Spectroscopy.
J. Guo, A. Gupta, P. Sharma, K. Rao, M. Marcus, P. Glans, K. Smith, R. Ahuja, C. Dong and C. Chang. Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 2. Materials Science, Royal Institute of Technology, Stockholm, Sweden; 3. Physics, Tamkang University, Tamsui, Taiwan; 4. Physics, Uppsala University, Uppsala, Sweden; 5. Physics, Boston University, Boston, MA, USA

10:24

EF-09. Enhanced spin-polarization at Fe(001)/MgO interfaces.
M. Müller, F. Matthes and C.M. Schneider. Institute of Solid State Research, Research Center Jülich, Jülich, Germany

10:36

EF-10. Atom-by-atom substitution of Mn in GaAs and visualization of their hole-mediated interactions. (Invited)
A. Yazdani. Department of Physics, Princeton University, Princeton, NJ, USA

10:48

EF-11. Influence of the antiferromagnetic spin density wave on the magnetoresistance of Cr.
Y. Soh and R. Kummamuru. Physics and Astronomy, Dartmouth College, Hanover, NH, USA

11:00

EF-12. Non-collinear magnetism, magnetocrystalline anisotropy and spin-spiral structures in Fe/W(110).
K. Nakamura, N. Mizuno, T. Akiyama, T. Ito and A.J. Freeman. Physics Engineering, Mie University, Tsu, Mie, Japan; 2. Physics and Astronomy, Northwestern University, Evanston, IL, USA

11:12

M. Eisenbach and G. Stocks. Materials Science and Technology Division, Oak Ridge National Lab, Oak Ridge, TN, USA

11:24
EG-03. Domain Wall Pinning and Corresponding Energy Barrier in Percolated Perpendicular Media. Y. Tang and J. Zhu. Data Storage Systems Center and Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA

EG-04. Relation between transition width and jitter in perpendicular magnetic recording. K. Miura, T. Kato, M. Hashimoto, H. Muraoka, H. Aoi and Y. Nakamura. RIEC, Tohoku University, Sendai, Miyagi, Japan

EG-05. High-accuracy measurement of erase band width using a new off-track profile derivative method. K. Miura, Y. Yamakawa, H. Muraoka, H. Aoi and Y. Nakamura. RIEC, Tohoku University, Sendai, Miyagi, Japan

EG-06. Analysis of Read/Write Characteristics on Head/Media Contact. S. Ohki, A. Yatagai and H. Ide. Hitachi Global Storage Technologies Japan Ltd., Odawara, Japan

EG-07. A Novel in Situ Monitoring Method for Head/Media Contact. Z. Lin, T. Lam, X. Che, A. Shteyn and W. Huang. AdTech of Head BU, Hitachi Global Storage Technologies, Inc, San Jose, CA, USA; 2. Samsung Electronics, San Jose, CA, USA

EG-08. Micromagnetic analysis of attempt frequencies for perpendicular and exchange coupled composite grains. M. Kapoor and R.H. Victora. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA


EG-10. Servo Control Design for a High TPI Servo Track Writer with Microactuators. C. Thum, C. Du, J. Zhang, K. Tan, B.M. Chen and E. Ong. Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 2. Mechatronics and Recording Channel Division, A*STAR, Data Storage Institute, Singapore, Singapore


EG-15. A write head integrated with a solid-immersion-lens system for heat-assisted magnetic recording. N. Kojima, N. Ide, Y. Urakawa and M. Kaneko. Core Technology Development Group, Core Component Business Unit, Sony Corporation, Tokyo, Japan; 2. Optical Media Labolatory, Materials Laboratories, Sony Corporation, Tokyo, Japan; 3. Storage System Development Division, TV&Video Business Group, Sony Corporation, Tokyo, Japan
Session EH
FERRITES, GARNETS, AND MICROWAVE MATERIALS I
Mohammed Asfar, Session Chair

9:00

EH-01. Magnetic Anisotropy and Crystalline Texture in BaO(Fe2O3)6
Thin Films Deposited on GaN/Al2O3
P. R. Ohodnicki1, Y. Hanlumyuang1, K. Ramos1, M. E. McHenry1, Z. Cai1,

9:12

EH-02. Substrate independent oriented growth of Fe3O4 thin by pulsed laser deposition.
S. Tiwari1, R. Prakash1, R. J. Choudhary1 and D. M. Phase1. 1. Thin Film Laboratory, UGC-DAE Consortium for Scientific Research, Indore, Madhya Pradesh, India

9:24

EH-03. Magneto-electric Composites for High Frequency Device and EM Shielding Applications.
X. Zhang1, J. Q. Xiao1, M. C. Golt*1, T. F. Eckert1, S. Yarlagadda2 and K. M. Unruh1. 1. Dept. Physics & Astronomy, University of Delaware, Newark, DE, USA; 2. Center for Composite Materials, University of Delaware, Newark, DE, USA

9:36

EH-04. Spin sprayed Ni-Co ferrite films with natural resonance frequency $f_r > 5$ GHz and static permeability $\mu'(0) = 9$.
K. Kondo1, S. Yoshida1, H. Ono1 and M. Abe2. 1. R & D Unit, NEC TOKIN Corporation, Sendai, Miyagi, Japan; 2. Department of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan

9:48

EH-05. Structural and magnetic studies on CoFe2O4-PbTiO3 multiferroic thin films.
K. Mohan Kant1,2, R. Adarsh1,3, K. Sethupathi2 and M. S. R. Rao1,2. 1. Materials Science Research Centre, Indian Institute of Technology Madras, Chennai, Tamilnadu, India; 2. Department of Physics, Indian Institute of Technology Madras, Chennai, Tamilnadu, India; 3. Department of Metallurgical and Materials Engineering, Indian Institute of Technology Madras, Chennai, Tamilnadu, India

10:00

EH-06. Magnetic and electromagnetic evaluation of the magnetic nanoparticle filled polyurethane nanocomposites.
Z. Guo1, S. Park2,3, A. Karki1, D. Young1 and H. Thomas1,4. 1. Multifunctional Composites Lab, Mechanical & Aerospace Engineering Department, University of California at Los Angeles, Los Angeles, CA, USA; 2. Advanced Materials & Processing Development, Northrop Grumman Corporation Integrated Systems, El Segundo, CA, USA; 3. Department of Physics and Astronomy, Louisiana State University, Baton Rouge, LA, USA; 4. Materials Science & Engineering Department, University of California at Los Angeles, Los Angeles, CA, USA

10:12

EH-07. Orientation Phase Transition in Fe3BO6
L. T. Tsymbal1, Y. B. Bazaliy1,2, L. N. Bezmaternykh3, A. Slawaska-Waniewska4, S. V. Vasiliev1, N. Nedelko1, A. I. Linnik1, A. N. Chernakov1, Y. I. Nepochatykh1, V. I. Dmitrenko4, G. N. Kazezi5 and P. E. Wigen6. 1. O. Galkin Donetsk Physics & Technology Institute, National Academy of Science of Ukraine, Donetsk, Ukraine; 2. IBM Almaden Research Center, San Jose, CA, USA; 3. Kirensky Institute of Physics, Krasnoyarsk, Russian Federation; 4. Institute of Physics, PAN, Warsaw, Poland; 5. Institute of Magnetism, National Academy of Science of Ukraine, Kyiv, Ukraine; 6. Department of Physics, Ohio State University, Columbus, OH, USA

10:24

EH-08. Structure, magnetism and microwave properties of PLD-grown Barium Ferrite/Barium Strontium Titanate bilayer thin films.
H. Srisanth1, R. Heinl4, S. Witanachchi1, P. Mukherjee1, T. Weller1, A. Tatarenko and G. Srinivasan1. 1. Department of Physics, University of South Florida, Tampa, FL, USA; 2. Department of Electrical Engineering, University of South Florida, Tampa, FL, USA; 3. Department of Physics, Oakland University, Oakland, MI, USA

10:36

EH-09. Solid State Reaction Synthesis of NiFe2O4 Nanoparticles.
A. Ceylan1,3, I. Shah1,2, S. Ozcan1 and C. Ni2. 1. Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Material Science and Engineering, University of Delaware, Newark, DE, USA; 3. Physics Engineering, Hacettepe University, Ankara, Turkey
EH-10. A NOVEL AND SIMPLE PROCESS FOR FERRITE FILM PREPARATION FROM ONE SOLUTION WITHOUT USING HAZARDOUS OXIDIZING AGENT.
A.K. Subramani\textsuperscript{1}, M. Nobuhiro\textsuperscript{1}, W. Tomoaki\textsuperscript{1}, T. Masaru\textsuperscript{2}, A. Masanori\textsuperscript{2} and Y. Masahiro\textsuperscript{1}
\textsuperscript{1}Materials and Structures Laboratory, Tokyo Institute of Technology, Yokohama, Japan; \textsuperscript{2}Department of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan

W. Roshen\textsuperscript{1}. Ohio State Univ., SSUPower Technology, Hilliard, OH, USA

L. Carignan\textsuperscript{1}, C. Lacroix\textsuperscript{1}, A. Ouimet\textsuperscript{1}, M. Ciureanu\textsuperscript{1}, A. Yelon\textsuperscript{1} and D. Menard\textsuperscript{1}.
1. Physics engineering, Ecole Polytechnique de Montréal, Montréal, QC, Canada

H. Greve\textsuperscript{1}, V. Zaporotjchenko\textsuperscript{1}, A. Gerber\textsuperscript{2}, E. Quandt\textsuperscript{2} and F. Faupel\textsuperscript{1}.
1. Chair for Multicomponent Materials, Faculty of Engineering of the Christian-Albrechts University of Kiel, Kiel, Germany; 2. Smart Materials Group, Center of Advanced European Studies and Research, Bonn, Germany

S.K. Peddini\textsuperscript{1}, K.A. Mauritz\textsuperscript{1}, D.E. Nikles\textsuperscript{2}, J. Weston\textsuperscript{2} and G. Miao\textsuperscript{2}.
1. School of Polymers and High Performance Materials, University of Southern Mississippi, Hattiesburg, MS, USA; 2. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL, USA

EH-15. Possible sign of negative refraction index of NiFe/SiO\textsubscript{2} multilayers in the microwave region.
R. Cao\textsuperscript{1}, X. Zhang\textsuperscript{1}, J.Q. Xiao\textsuperscript{1} and R. Wu\textsuperscript{1}.
1. Department of Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Department of Electronic Sciences and Engineering, Nanjing University, Nanjing, Jiangsu, China
EP-07. Structure and Transport properties in YBa2–x Eu x Cu3 O7–δ Superconductors. B. Qian1,2, J. Xing1,2, Z. Jiang1 and X. Wu1. Lab of Solid State Microstructures and Department of Physics, Nanjing University, Nanjing, Jiangsu, China; 2. Jiangsu Laboratory of Advanced Functional Materials and Department of Physics, Changshu Institute of Technology, Changshu, China

EP-08. Nonlinear magnetic response of the Ru0.9Sr2Cu2.1O7.9 magneto superconductor and its resultant phase separation. I. Zivkovic1, V.P. Awana2, H. Kishan3, E. Balamurugan4, E. Takayama-Muromachi5 and I. Felner6. Institute of Physics, Zagreb, Croatia; 2. Sup&Cryo, NPL, New Delhi, India; 3. ANML, NIMS, Tsukuba, Japan; 4. Racah Inst. of Physics, Hebrew University, Jerusalem, Israel

EP-13. Properties of vortex motion in a niobium film with graded-density of pinning sites. T. Wu1, R. Cao1, L. Horng1, J. Kolacek3, J. Wu1, C. Li1, T. Pan1, C. Wang1, C. Yang1, S. Wu2 and W. Li1. Department of Physics, National Central University, Chung-Li 32054, Taiwan; 2. Department of Physics, National Dong Hwa University, Hua-Lien 97401, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei 11529, Taiwan


EP-09. Possible manipulation of spin and charges in magnetic semiconductors using Josephson vortices. X. Wang1, S. Yu2, C. Lin2, B. Liang1, S. Ooi1, K. Hirata1, S. Dou1 and Z. Lin1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Superconducting materials Centers, NIMS, Tsukuba, Japan; 3. Crystal Growth Group, Max-Plank-Institute, Stuttgart, Germany; 4. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia

EP-10. Influence of trapped magnetic flux quantum on two-dimensional magnetic field dependence of a Josephson junction. N. Watanabe1, A. Nakayama2 and S. Abe1. Faculty of Engineering, Kanagawa University, Yokohama, Japan

EP-11. Low annealing temperatures are possible to fabricate MgB2 thin films by two-step in situ approach. X. Sun1, Y. Zhang1, H. Zhu1, Z. Gao1, S. Zhou1, Z. Lin2 and J. Zhu2. Department of Physics, Shanghai University, Shanghai, China; 2. Faculty of Engineering, University of Technology, Sydney, Broadway, NSW, Australia

EP-08. Nonlinear magnetic response of the Ru0.9Sr2Cu2.1O7.9 magneto superconductor and its resultant phase separation. I. Zivkovic1, V.P. Awana2, H. Kishan3, E. Balamurugan4, E. Takayama-Muromachi5 and I. Felner6. Institute of Physics, Zagreb, Croatia; 2. Sup&Cryo, NPL, New Delhi, India; 3. ANML, NIMS, Tsukuba, Japan; 4. Racah Inst. of Physics, Hebrew University, Jerusalem, Israel

EP-12. The Superconducting Properties of Indium Nanoparticles. F. Wu1, C. Li1, T. Pan1, C. Wang1, C. Yang1, S. Wu2 and W. Li1. Department of Physics, National Central University, Chung-Li 32054, Taiwan; 2. Department of Physics, National Dong Hwa University, Hua-Lien 97401, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei 11529, Taiwan


EP-16. Random Field Effects and Low-field Remanent Magnetization on High Anisotropy Antiferromagnet Fe1-xZnxF2.(x = 0; 0.28; 0.54 and 0.69). C.C. Becerra1, Z.V. Carvalho1 and F. Montenegro2. Instituto de Fisica, Universidade de Sao Paulo, Sao Paulo, SP, Brazil; 2. Departamento de Fisica, Universidade Federal de Pernambuco, Recife, Brazil

EP-17. GROWTH AND DECAY OF MICRODROPLETS ON THE MAGNETIC DISK SURFACE DURING DEWETTING. S. Ohno1, T. Kato1 and M. Kawaguchi2. Mechanical Engineering, Tokyo University, Tokyo, Japan; 2. Tokyo Metropolitan Industrial Technology Research Institute (TIRI), Tokyo, Japan


WEDNESDAY MORNING

GRAND BALLROOM

8:00

Session EQ

EXCHANGE BIAS IV

(POSTER SESSION)

Kai Liu, Session Co-chair
Jingsheng Chen, Session Co-chair

EQ-01. Perpendicular exchange bias mechanism in FePt/FeMn multilayers. N.N. Phuu1 and T. Suzuki1. Information Storage Materials Laboratory, Toyota Technological Institute, Nagoya, Aichi, Japan

EQ-02. Exchange bias in [Pt/Co]/IrMn multilayers with perpendicular magnetic anisotropy. J. Rhee1, J. Hwang1, H. Yim1, M. Kim1, S. Lee2, D. Hwang2, S. Yu1 and H. Lee1. Physics, Sookmyung Women’s University, Seoul, South Korea; 2. Computer and Electronic Physics, Sangji University, Wonju, South Korea; 3. Physics, Chungbuk National University, Cheongju, South Korea; 4. Physics Education, Kongju National University, Kongju, South Korea
EQ-03. Co-existence of vertical and horizontal shift in exchanged biased ZnCoO/NiO system. P. Huang, H. Huang and C. Lai. Materials Science and Engineering, National Tsing Hua University, HsinChu, Taiwan

EQ-04. Spin structure of exchange-biased NiFe/FeMn/NiFe trilayers. A.M. Alsmadi, S. te Velthuis, G.P. Felcher, H.G. Yoon and C.G. Kim. Argonne National Laboratory, Argonne, IL, USA; 2. Physics Department, Hashemite University, Zarya, 13115, Jordan; 3. Department of Material Science and Engineering, Chungnam National University, Daejon, 305-764, South Korea

EQ-05. Enhancement of exchange field in CoFe/IrMn by Os/Cu buffer layer. T. Peng, C. Lo, S. Chen and Y. Yao. The Department of Materials Science and Engineering, National Chiao Tung University, HsinChu, Taiwan; 2. Electronics and Optoelectronics Research Laboratories, Industrial Technology Research Institute, HsinChu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan

EQ-06. Distribution of magnetic anisotropy field in IrMn/CoFe exchange-coupled multilayers by permeability measurement. R. Jiang, C. Lai and M. Yamaguchi. Materials Science and Engineering, National Tsing Hua University, HsinChu, Taiwan; 2. Electrical and Communication Engineering, Tokohu University, Sendai, Japan

EQ-07. Estimation of the anisotropy of (111) textured IrMn films of low thickness. K. Steenbeck, R. Matthes and M. Diegel. Magnetoelectronics, IPHT, Jena, Germany

EQ-08. Partial magnetization reversal in perpendicular exchange biased [Co/Pd]/FeMn film by using laser annealing. S. Choi, H. Joo, J. Choi, K. Lee, S. Kim, S. Bae, S. Lee and D. Hwang. Life Science Institute, Sangji University, Wonju, South Korea; 2. Department of Physics, Inha University, Incheon, South Korea; 3. Department of Physics, Dankook University, Cheonan, South Korea; 4. Biomagnetics Lab., Department of Electrical and Computer Engineering, National University of Singapore, Singapore 117576, Singapore; 5. Department of Applied Physics and Electronics, Oriental Biomedical Engineering, Sangji University, Wonju, South Korea


EQ-10. Measuring exchange anisotropy in Fe/Mn/Pd using inductive magnetometry. K.J. Kennewell, X. Ji, J.G. Hu, K.M. Krishnan and R. Stamps. Physics, University of Western Australia, Crawley, WA, Australia; 2. Physics, Yangzhou University, Yangzhou, China; 3. Physics, University of Washington, Seattle, WA, USA


EQ-12. Effect of annealing temperature on exchange coupling in NiFe/FeMn and FeMn/NiFe systems. K. Chen, Y. Wu, K. Wu and L. Horng. 1. Department of Physics and Taiwan SPIN research center, National Chung Hua University of Education, Changhua, Taiwan


EQ-14. Influence of Co/NiO interface in perpendicular exchange-biased Co/Pt multilayer. M. Huang, W. Lin, D. Liu and H. Sang. 1. National Lab of Solid State Microstructures, and Department of Physics, Nanjing University, Nanjing, China


EQ-18. Temperature dependence of magnetotransport properties of NiFe/FeMn/NiFe trilayers. K. Chui, D. Tripathy and A.O. Adeyeye. 1. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore

EQ-19. Magnetic viscosity phenomena in exchange coupled CoFe/MnIr bilayers. D. Kim, C. Kim, C. Kim, M. Tsumoda and M. Takahashi. 1. Research Center for Advanced Magnetic Materials, Chungnam National University, Daejeon, South Korea; 2. Electronic Engineering, Tohoku University, Sendai, Japan; 3. New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan

EQ-20. Giant uncompensated magnetization in Fe$_{1-x}$Ni$_x$/Fe/Cu bilayers. M. Cheon, Z. Liu and D. Lederman. 1. Physics, West Virginia University, Morgantown, WV, USA
Session ER
MAGNETIC TUNNEL JUNCTIONS: IV
(PAPER SESSION)
Jeff Childress, Session Chair


ER-02. Band diagram of spin tunneling junctions based on perovskite oxides heterointerfaces, M. Minohara, D. Toyota, I. Ohkubo, H. Kumigashira, M. Oshima, M. Kawasaki and H. Koinuma.


ER-07. Magnetic properties and microstructures of FeN electrode for MTJ, K. Kim, J. Koo, S. Woo and J. Hong.

ER-08. Oscillation of low-bias tunnel conductance with applied magnetic field in manganite/alumina tunnel structures, Y. Luo and K. Samwer.


ER-12. Chemical and magnetic interface properties of tunnel junctions with Co2MnSi / Co2FeSi multilayer electrode showing large tunneling magnetoresistance, J.M. Schmalfhorst, D. Ebke, M.D. Sacher, N. Liu, A. Thomas, G. Reiss and A. Huetten.

ER-13. Fabrication and characterization of Cr/Fe/MgO/Fe(001) magnetic tunnel junctions with an ultra thin Fe electrode, T. Nizuki, N. Tezuka and K. Inomata.

ES-09. Saw-tooth typed domain wall jumps in epitaxial ferromagnetic MnAs film on GaAs(001). K. Ryu¹, H. Akinaga², T. Manago² and S. Shin¹. Department of Physics and Center for Nanoscience of Spintronics, Korea Advanced Institute of Science and Technology, Daejeon, South Korea; 2. Nanotechnology Research Institute, National Institute of Advanced Industrial Science and Technology, 1-1-1 Higashi, Tsukuba, Ibaraki 305-8562, Japan

ES-03. Spin injection and accumulation in epitaxially grown MnAs/GaAs spin-valves. D. Saha¹, M. Holub¹ and P. Bhattacharyya¹. Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, MI, USA

ES-04. Tunneling Characteristics through SDT Junction Nano-lines into Doped-Si. M. Zhang¹, J. Wang¹, P. Eames² and J.M. Daughton³. Physics Department, State University of New York Binghamton, Binghamton, NY, USA; 2. NVE Corporation, Eden Prairie, MN, USA

ES-05. Non-local spin injection and relaxation in ferromagnet/nonmagnet/ferromagnet trilayers. Y. Ando¹, S. Yakata¹, M. Oogane¹ and T. Miyazaki¹. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan

ES-06. Spin accumulation and magnetotransport in NiFe/Al/NiFe single-electron transistors. J. Shyu¹,², F. Tang², Y. Yao² and J. Chen¹. National Taiwan University, Physics, Taipei, Taiwan; 2. Academia Sinica, Physics, Taipei, Taiwan

ES-07. Theory of the resonance signal in a bimetallic film (normal/ferromagnetic). H.J. Hurdequint¹. Laboratoire de Physique des Solides, CNRS-Universite Paris-Sud, Orsay, France

ES-08. An investigation of spin current detection in single-walled carbon nanotubes. M. Shirashi¹, K. Matsuoka¹, M. Mizuguchi¹, H. Kataura¹, T. Shinjo¹ and Y. Suzuki¹. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan; 2. NRI, AIST, Tsukuba, Japan
ET-07. A Study on design to reduce cogging torque in flux reversal machines. T. Kim1. Electrical Engineering, Gyeongsang National University, Jinju, Gyeongnam, South Korea

ET-08. Design and Analysis of a High Speed Claw Pole Motor with Soft Magnetic Composite Core for Micro Turbine Application. Y. Huang1,2, Y. Guo2, J. Zhu2, Z. Lin2 and Q. Hu1. Dept. of Electrical Eng., Southeast University, Nanjing, Jiangsu, China; 2. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia

ET-09. Electromechanical Parameters Calculation of Permanent Magnet Synchronous Motor using the Transfer Relations Theorem. S. Jang1, K. Ko1, H. Cho1 and J. Choi1. Chungnam Nat’l Univ, Daejeon, South Korea

ET-10. A brushless permanent magnet motor with integrated torque limiter. K. Atallah1, S.D. Calverley1 and D. Howe1. Electronic & Electrical Engineering, The University of Sheffield, Sheffield, United Kingdom


ET-12. Design and control of a new double-stator cup-rotor permanent-magnet machine for wind power generation. S. Niu1, K. Chau1 and J. Jiang2. Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China; 2. Department of Automation, Shanghai University, Shanghai, China

ET-13. Design of a magnetic-gearred outer-rotor permanent-magnet brushless motor for electric vehicles. K. Chau1, D. Zhang2, J. Jiang2, C. Liu1 and Y. Zhang2. The Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China; 2. Department of Automation, Shanghai University, Shanghai, China


ET-15. Investigation of magnetic drag torque in PM brushless motors. Y.S. Chen1, Z. Zhu2 and D. Howe1. Zhejiang University, Hangzhou, China; 2. University of Sheffield, Sheffield, United Kingdom

EU-01. Magnetically controlled switches for optoelectronics networking: The problem, available technology, new implementations. J. Tioh1, M. Mina1 and R. Weber1. Electrical and Computer Engineering, Iowa State University, Ames, IA, USA; 2. Electrical and Computer Engineering, Iowa State University, Ames, IA, USA

EU-02. Improvement of Torque Ripple for Magnetic Gears. S. Huang1 and L. Wang1. Department of Mechanical Engineering, National United University, Miaoli, Taiwan

EU-03. The effect of bcc-Cu precipitation on magnetization process in thermally aged Fe-1wt%Cu model alloys. Y. Kamada1, D. Park2, S. Takahashi1, H. Kikuchi1, S. Kobayashi1, K. Arai2, J. Hong2 and I. Park1. NDE&Science Research Center, Iwate University, Morioka, Japan; 2. Korea Atomic Energy Research Institute, Daejeon, South Korea; 3. Sunmoon University, Chonan, South Korea

EU-04. Development of slim rectangular microspeaker used for mini-multimedia phones. S. Hwang1 and J. Kwon1. Mechanical Engineering, Pusan National University, Busan, Busan, South Korea

EU-05. A disturbance observer applied to a high speed voice coil motor auto-focusing system. T. Lee1 and S. Lin1. Department of Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan

EU-06. Design method of Micro-Actuator with Magnetic Alloy Iron-based Amorphous plates for loudspeaker. T. Lin1 and T. Meydan1. Electrical Engineering, Yung Ta Institute of Technology & Commerce, Pingtung County, Taiwan; 2. Wolfson Centre for Magnetics, Cardiff University, Cardiff, United Kingdom

EU-07. A Continuous Model for Magnetization Torque on Axially Symmetric Bodies. J.J. Abbott1, O. Ergeneman1, M.P. Kummer1, A.M. Hirt2 and B.J. Nelson1. Institute of Robotics and Intelligent Systems, ETH Zurich, Zurich, Switzerland; 2. Institute of Geophysics, ETH Zurich, Zurich, Switzerland

EU-08. Optimal design of a variable stiffness joint using permanent magnets. M. Hyun1, J. Yoo1, S. Hwang1, J. Choi2, S. Kang2 and S. Kim1. Mechanical Engineering, Yonsei University, Seoul, South Korea; 2. Intelligent Robotics Research Center, Korea Institute of Science and Technology, Seoul, South Korea; 3. Tribology Research Center, Korea Institute of Science and Technology, Seoul, South Korea
EV-09. Investigation of Microscale Magnetic Forces for Magnet Array Self-Assembly. S.B. Shetye1, J.S. Agashe1 and D.P. Arnold1. Electrical and Computer Engineering, University of Florida, Gainesville, FL, USA

EV-10. The Magnetic Structure Design Analysis of Single Phase Line-Start Synchronous Reluctance Motor for Air Conditioner Compressor. T. Jung1, C. Yun1, H. Cha1 and J. Hong1. Gwang-Ju Research Center, Korea Institute of Industrial Technology, Gwangju, South Korea; 2. Dep. of Electrical Engineering, Changwon Nat’l University, Changwon, South Korea


EV-01. Ordering kinetics of FePt thin films with different crystalline growth modes. C. Zha1, B. Ma1, Z. Zhang1 and Q. Lin1. Department of Optical Science and Engineering, Fudan University, Shanghai, China


EV-03. ROLE OF THE SOFT LAYER IN EXCHANGE-SPRING FILMS: TEMPERATURE DEPENDENT MAGNETIC VISCOSITY EFFECTS IN L10 FEPT THIN FILMS AND FE FEPT BILAYERS. C. Pernechele1, M. Solzi1, R. Pellicelli1, M. Ghidini1, G. Asti1, F. Casoli2, F. Albertini2 and L. Paret1. Physics, University of Parma, Parma, Italy-Pr-. Italy; 2. IMEM- CNR, Parma, Parma, Italy

EV-04. Magnetic properties and microstructure of (FePt)77Ag23 alloy thin films: Segregation effect of Ag in L10 phase. F. Yuan1, H.W. Chang1, Y.D. Yao1, S.N. Hsiao1, S.K. Chen2 and A.C. Sun1. Physics, Academia Sinica, taipei, Taiwan; 2. materials science and engineering, Fung Chia University, taichung, Taiwan; 3. physics, National Taiwan University, taipei, Taiwan

EV-05. Grain refining and decoupling in FePt/SiO2 nanogranular films for magnetic recording. S. Fong1,3, D. Wei1, F. Yuan1, K. You1, Y. Yao1, Y. Liu1, C. Yu1 and T. Chin2. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Applied Physics, National Kaohsiung University, Kaohsiung, Taiwan; 3. Department of Materials Science and Engineering, National Tsing Hua University, HsinChu, Taiwan

EV-06. Annealing effects on the magnetic properties of FePd films grown on Si antidots. C. Yu1 and Y. Yao1. Department of Applied Physics, National University of Kaohsiung, Kaohsiung, Taiwan; 2. Institute of Physics, Academia Sinica, Taipei, Taiwan

EV-07. Magnetic Properties of Co/Pt-Pd and Co-Ni/Pt Multilayer Perpendicular Magnetic Recording Media. N. Inaba1, S. Igarashi1, F. Kirino2, K. Koike2 and H. Moriya.2 Department of Electrical Engineering, Yamagata University, Yonezawa, Japan; 2. National University of Fine Arts and Music, Taitou-ku, Japan; 3. Faculty of Engineering, Yamagata University, Yonezawa, Japan

EV-08. Large uniaxial magnetic anisotropy of Co-Pt perpendicular films induced by lattice deformation. T. Shimatsu1, Y. Okazaki1, H. Sato1, O. Kitakami2, S. Okamoto2, H. Aoi1, H. Murakoa1 and Y. Nakamura1. RIEC, Tohoku University, Sendai, Japan; 2. IMRAM, Tohoku University, Sendai, Japan

EV-09. Fabrication of percolated perpendicular magnetic (PPM) recording media at room temperature. M. Rahman1, C. Lai1, Y. Huang1, V. David2 and N.N. Shams1. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan

EV-10. FePt patterned media fabricated by deep ultraviolet lithography and sputtering. L. Qiu1, J. Ding2, A.O. Adeyeye2, J. Yin1 and J. Chen1. Materials Science and Engineering, National University of Singapore, Singapore, Singapore; 2. Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore; 3. Data Storage Institute, Singapore, Singapore


EV-12. Influence of magnetic dots on a continuous layer: A new approach for patterned media. P. Zermatten1, B. Rodmacq1, L. Prejean1 and G. Gaudin1. SPINTEC (CNRS/CEA), Grenoble, France

EV-13. He+ Ion Irradiation study of Continuous and Patterned Co/Pd Multilayers. V.A. Parekh1, D. Smith2,1, C. E1,2, J. Rantschler2, S. Khizroev4 and D. Litvinov1,2. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA; 2. Electrical and Computer Engineering, University of Houston, Houston, TX, USA; 3. Chemical and Biomedical Engineering, University of Houston, Houston, TX, USA; 4. Electrical Engineering, University of California-Riverside, Riverside, CA, USA
EV-14. Thickness dependence of the switching field and thermal stability of CoPt/Ru dot arrays. K. Mitsuzuka1, N. Kikuchi1, T. Shimatsu1, O. Kitakami1, H. Aoi1, H. Muraoaka1 and J.C. Lodder1. 1. RIEC, Tohoku University, Sendai, Japan; 2. IMRAM, Tohoku University, Sendai, Japan; 3. SMI, MESA+, University of Twente, Enschede, Netherlands

EV-15. Simulation of Magnetization Reversal in Sub-micron Dots Formed by Lateral Gradient Magnetic Materials. Z. Zhong1, H. Zhang1, X. Tang1, K. Tang1 and S. Liu2. 1. State Key Laboratory of Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; 2. School of Optoelectronic Information, University of Electronic Science and Technology of China, Chengdu, Sichuan, China

WEDNESDAY MORNING
GRAND BALLROOM
8:00
Session EW
PERPENDICULAR AND LONGITUDINAL RECORDING
(PAPER SESSION)
Akira Kikitsu, Session Chair

EW-01. A comparative study of perpendicular recording media. S. Greaves1, Y. Kanai1 and H. Muraoaka1. 1. RIEC, Tohoku University, Sendai, Japan; 2. Information and Electronics Engineering, Niigata Institute of Technology, Kashiwaza, Japan

EW-02. Modeling of Nonlinear Transition Shift in Perpendicular Recording Process. Z. Liu1, J.T. Li1,2 and H.N. Phyu1. 1. Data Storage Institute, Singapore, Singapore; 2. National University of Singapore, Singapore, Singapore

EW-03. Micromagnetic Simulation of a Composite Media Using a Negative Ku Layer. A. Kikitsu1 and T. Maeda1. 1. Storage Materials & Devices Laboratory, Toshiba Corp.; 2. Corporate R&D Center, Kawasaki, Kanagawa, Japan

EW-04. Write field analysis of single pole writer encircled by split shields. Y. Im1, H. Oh1, Y. Kim1 and N. Park2. 1. Samsung Advanced Institute of Technology, Yongin, Gyeonggi Do, South Korea; 2. Samsung Electronics, Suwon, Gyeonggi Do, South Korea

EW-05. THE WRITING CURRENT OPTIMIZATION OF THE SHIELDED POLE TYPE HEAD – A SIMULATION STUDY. C.K. Lim1, H.S. Lee1, H.S. Oh1 and S.H. Choa1. 1. HDD Program Team, Samsung Advanced Institute of Technology, Suwon, South Korea

EW-06. Finite Element Analysis of Stress Induced Magnetic Anisotropy in Perpendicular Writers. S. Song1, W. Yu1, K. Stoev1, D. Bai1, P. Luo1 and F. Liu1. 1. R&D, Western Digital Corporation, Fremont, CA, USA


EW-08. Analytic 3-D Model of a Double Shielded GMR Perpendicular Head Using a Singular Function Expansion. P.M. Jermy1, H.A. Shute1 and D.T. Wilton1. 1. School of Mathematics and Statistics, University of Plymouth, Plymouth, United Kingdom

EW-09. Observation of stray fields from harddisk writer poles up to 2 GHz. M.R. Koblischka1, I. Wei1, T. Sulzbach1, A.B. Johnston2 and U. Hartmann1. 1. Institute of Experimental Physics, University of the Saarland, Saarbruecken, Germany; 2. Nanoworld Services GmbH, Erlangen, Germany; 3. Seagate Technology, Derry, United Kingdom

EW-10. Anisotropic Crystalline Orientation of Micro-grains in Magnetic Recording Media on Ion-Beam Textured Substrates. Y. Mackawa1, K. Sato2, T. Mizoguchi3 and E. Chason2. 1. Faculty of Science, Gakushuin University, Tokyo, Japan; 2. Yamagata Fujitsu Limited, Yamagata, Japan; 3. Division of Engineering, Brown University, Providence, RI, USA

EW-11. Duplex top recording layered structure for Longitudinal Magnetic Recording Media with double recording layer system - Compatibility of low media noise and high resolution -. T.Q. Li1, H. Ohyama1, D. Hasegawa1, S. Saito1, M. Imakawa1 and M. Takahashi2. 1. Disk Media Div., Fuji Electric Device Technology Co., Ltd., 4-18-1, Tukama, Matumoto, Nagano 390-0821, Japan; 2. Dept. of Electronic Engng., Grad. School of Engng., Tohoku University, Aoba 6-6-10, Aramaki, Aoba-ku, Sendai, 980-8579, Japan; 3. New Industry Creation Hatchery Center (NICHe), Tohoku University, Aoba 6-6-05, Aramaki, Aoba-ku, Sendai, 980-8579, Japan

EW-12. Duplex bottom recording layered structure for Longitudinal Magnetic Recording Media with double recording layer system (Exchange-decoupling and high controllability of media properties). H. Ohyama1, D. Hasegawa1, S. Saito1, M. Imakawa1 and M. Takahashi2. 1. Disk Media Div., Fuji Electric Device Technology Co., Ltd., 4-18-1, Tukama, Matumoto, Nagano 390-0821, Japan; 2. Dept. of Electronic Engng., Grad. School of Engng., Tohoku University, Aoba 6-6-10, Aramaki, Aoba-ku, Sendai, 980-8579, Japan; 3. New Industry Creation Hatchery Center (NICHe), Tohoku University, Aoba 6-6-10, Aramaki, Aoba-ku, Sendai, 980-8579, Japan

EW-13. Investigation of Higher Recording Density using an Improved Co-CoO Metal Evaporated Tape with a GMR Reproducing Head. K. Motohashi1, T. Sato1, T. Samoto1, N. Ikedada1, T. Sato1, H. Ono1 and S. Onodera1. 1. Institute of Experimental Physics, University of the Saarland, Saarbruecken, Germany; 2. Nanoworld Services GmbH, Erlangen, Germany; 3. Seagate Technology, Derry, United Kingdom

EW-14. Longitudinal magnetic recording tape media using CoCrPt-SiO2/Ru bilayers deposited by facing target sputtering. S. Nakagawa1, H. Fujiura1 and A. Mohamad2. 1. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Tokyo, Japan
EX-01. Mechanism of Step-like Change of Impedance for Thin-film GMI Element with Inclined Stripe Magnetic Domain. T. Nakai1, K. Ishiyama2 and J. Yamasaki1.1. Industrial Technology Institute, Miyagi Prefectural Government, Sendai, Miyagi-ken, Japan; 2. Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi-ken, Japan; 3. Kyushu Institute of Technology, Kitakyushu, Fukuoka-ken, Japan


EX-03. Manipulation of magnetization reversal of permalloy ring element. C. Chang1, Y. Chang1, C. Lee1, C. Chen1 and J. Wu1. Physics, National Changhua University of Education, Changhua, Taiwan; 2. Electrical Engineering, Chungchou Institute of Technology, Changhua, Taiwan

EX-04. Magnetization processes of cross-tie states in permalloy thin films. M. Lai1, Z. Wei1, C. Chang1 and J. Wu1. National Tsing Hua University, Hsinchu, Taiwan; 2. National Taiwan University, Taipei, Taiwan; 3. National Changhua University of Education, Changhua, Taiwan

EX-05. OBSERVATION OF MAGNETIC DOMAIN PATTERNS IN BULK BARIUM FERRITE SINGLE CRYSTALS. J. Jalil1, Y.K. Hong2, S.H. Gee1, C.C. Juan1, H. Han1, G. Abo2, I.T. Nam1,1, J. Jabal1 and K. Eissami1. Materials Science and Engineering, University of Idaho, Moscow, ID, USA; 2. Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL, USA; 3. Advanced Materials Engineering, Kangwon National University, Choongcheon, South Korea

EX-06. Vortex evolution in magnetic astroid patterns and chains. L.K. Verma1 and V. Ng1. Information Storage Materials Laboratory, Department of Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore

EX-07. The role of temperature, anisotropy dispersion and roughness in determining head field rise times calculated with micromagnetics. A. Kaya1 and J.A. Bain1. Data Storage Center Systems, Carnegie Mellon University, Pittsburgh, PA, USA

EX-08. Effect of Pre-annealing on Final Texture and Magnetic Induction in Thin-gauged 3% Si-Fe Strips Containing 0.1% Mn and 0.011% S. S. Cho1, S. Kim1, J. Soh1, N. Heo1 and S. Han1. Korea Electric Power Research Institute, Daejeon, South Korea; 2. Chongnam National University, Daejeon, South Korea

EX-09. Intermediate annealing temperature and the number of final [110] grains in 3% silicon steels. S. Kim1, S. Cho1, J. Soh1 and N. Heo1. Advanced Materials Research Group, Korea Electric Power Research Institute, Daejeon, South Korea

EX-10. Effect of small deformations (4-19% cold rolling) on the texture, residual stresses and magnetic properties of a 0.5% Si electrical steel. M.F. de Campos1, M.J. Sablik1, R. Machado1, T.K. Hirsch1, R. Magaboso1, F.G. Landgraf1, C. Gutierrez1 and A. Bandyopadhyay1. Dimat - Predio 3, Inmetro, Duque de Caxias RJ, RJ, Brazil; 2. Applied Physics Division, Southwest Research Institute, San Antonio, TX, USA; 3. IWT - Stiftung Institut für Werkstofftechnik - Bremen, Bremen, Germany; 4. FEI, Sao Bernardo do Campo SP, SP, Brazil; 5. Dept Metalurgia e Materiais - Escola Politecnica, Universidade de Sao Paulo, Sao Paulo SP, SP, Brazil; 6. Sandia National Laboratories, Albuquerque, NM, USA; 7. Texas State University, San Marcos, TX, USA

EX-11. Magnetic evaluation of the hardening and softening of thermally aged iron-copper alloys. L.P. Vandenberghe1, M. Konstantinovic1, L. Dupre1 and E. van Walle1. Electrical Energy, Systems and Automation, Ghent University, Gent, Belgium; 2. Belgian Nuclear Research Centre (SCK-CEN), Mol, Belgium

WEDNESDAY HARBORSIDE C
2:00
Session FA
SYMPOSIUM ON PROBING THE MAGNETIC STRUCTURE OF NANOSTRUCTURED EXCHANGE
Randall Victora, Session Chair
2:00
FA-02. Exchange-bias instability in a bilayer with ion-beam imprinted stripe pattern of F/AF interfaces. \textit{(Invited)} K. Theis-Broehl\textsuperscript{1}. Department of Physics, Ruhr-University Bochum, D-44780-Bochum, Germany

3:12

FA-03. Resonant s-ray scattering studies of magnetism in coupled nanoparticles and perpendicular anisotropy films. \textit{(Invited)} J.B. Kortright\textsuperscript{1}. Materials Sciences Division, Lawrence Berkeley National Lab, Berkeley, CA, USA

3:48

FA-04. Electric and Magnetic Field control of Exchange Bias. \textit{(Invited)} C. Binek\textsuperscript{1}, S. Polisetty\textsuperscript{1}, X. He\textsuperscript{1}, S. Sahoo\textsuperscript{2}, P. Borisov\textsuperscript{2}, A. Hochstrat\textsuperscript{2} and W. Kleemann\textsuperscript{2}. University of Nebraska, Lincoln, NE, USA; 2. Physics, University Duisburg-Essen, Duisburg, Germany

4:24

FA-05. SPIN TRANSFER IN ANTIFERROMAGNETS. \textit{(Invited)} M. Tsoi\textsuperscript{1}. Physics Department, The University of Texas at Austin, Austin, TX, USA

2:00

WEDNESDAY HARBORSIDE A AFTERNOON

Session FB MAGNETIC MEMORY AND ELEMENTS

William Gallagher, Session Chair

2:00

FB-01. Role of thickness imbalance, Neel coupling, and intrinsic anisotropy mismatch in Toggle MRAM. D. Worledge\textsuperscript{1}, P.L. Trouilloud\textsuperscript{2}, D.W. Abraham\textsuperscript{1} and W.J. Gallagher\textsuperscript{1}. TJ Watson Research Center, IBM, Yorktown Heights, NY, USA

2:12

FB-02. Adjacent Cell Interaction and MRAM Error Rate Prediction. L. Zhu\textsuperscript{1} and Y. Guo\textsuperscript{1}. Husko Inc., Milpitas, CA, USA; 2. MagIC Technologies, Inc., Milpitas, CA, USA

2:24

FB-03. Magnetoresistive random access memory with dumbbell shape. Y. Nakatani\textsuperscript{1}, S. Kasai\textsuperscript{2}, K. Kobayashi\textsuperscript{2}, H. Kohno\textsuperscript{2}, G. Tatar\textsuperscript{2} and T. Ono\textsuperscript{1}. Department of Computer Science, University of Electro-Communications, Chofu, Tokyo, Japan; 2. Kyoto University, Uji, Kyoto, Japan; 3. Osaka University, Toyonaka, Osaka, Japan; 4. Tokyo Metropolitan University, Hatioji, Tokyo, Japan

2:36

FB-04. Dynamic simulation of toggle mode MRAM operating field margin. S. Wang\textsuperscript{1}, H. Fujitawara\textsuperscript{2}, J. Dou\textsuperscript{2}, Z. Li\textsuperscript{1} and Y. Huai\textsuperscript{1}. Grandis Inc, Milpitas, CA, USA; 2. MINT Center and Department Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA

2:48

FB-05. Low Power Multi-bit Cells for Toggle Magnetic Random Access Memory. K. Ju\textsuperscript{1}. MagLabs Inc., Monte Sereno, CA, USA

3:00

FB-06. Thermal stability and writing margin of the multi-layer GSAF MRAM. Y. Zheng\textsuperscript{1}, J. Qiu\textsuperscript{1}, P. Luo\textsuperscript{1}, L. An\textsuperscript{2}, K. Li\textsuperscript{1}, G. Han\textsuperscript{1}, Z. Guo\textsuperscript{1}, S. Tan\textsuperscript{1}, Z. Liu\textsuperscript{1} and B. Liu\textsuperscript{1}. Spintronics, Media and Interface Division, Data Storage Institute, Singapore, Singapore

3:12

FB-07. Effect of structures of NiFe-based free layers in toggle magnetic random access memories. Y. Fukumoto\textsuperscript{1} and N. Kasai\textsuperscript{1}. System Devices Research Laboratories, NEC Corporation, Sagamihara, Japan

3:24

FB-08. Analysis of thermal relaxation rate for magnetization in toggle MRAM. M. Dimian\textsuperscript{1} and H. Kachkachi\textsuperscript{1}. Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany; 2. Groupe d’Etude de la Matière Condensée, Université de Versailles St. Quentin, Versailles, France

3:36

FB-09. Magnetization reversal technique of DyTbFeCo films at magnetic field as low as 1/6 of coercivity using a stress-induced magnetic anisotropy. M. Yamada\textsuperscript{1} and S. Nakagawa\textsuperscript{1}. Dept. of Physical Electronics, Tokyo Institute of Technology, Tokyo, Tokyo, Japan

3:48

FB-11. Scalability of domain wall pinning in permalloy nanostructures for ultra high density data storage applications. D. Read1, A. Jausovec1, D. Petit1, O. Petracic1 and R.P. Cowburn1.1. Department of Physics, Imperial College London, London, London, United Kingdom


FC-01. SEMPA studies of size dependent transition from shape to exchange dominated magnetic nanostructure. (Invited) W. Uhlig1.1. Electron Physics Group, NIST, Gaithersburg, MD, USA


FC-03. Influence of transverse magnetic fields and nanowire geometry on domain wall propagation. M.T. Bryan1, D. Atkinson2, T. Schrefl1 and D.A. Allwood1.1. Department of Engineering Materials, University of Sheffield, Sheffield, United Kingdom; 2. Department of Physics, Durham University, Durham, United Kingdom

FC-04. Systematic tuning of magnetization reversal properties in Permalloy nanowires using sloped ends. O. Petracic1, D. Read1 and R.P. Cowburn1.1. Department of Physics, Imperial College London, London, United Kingdom

FC-05. Vortices in ferromagnetic elements with perpendicular anisotropy. C. Moutafis2, S. Komineas1, C.A. Vaz2, T. Bland2 and P. Eames1.1. Max-Planck Institute for the Physics of Complex Systems, Dresden, Germany; 2. Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom; 3. NVE Corporation, Eden Prairie, MN, USA

FC-06. Probing the Potential Landscape in Asymmetric and Symmetric Inwards and Outwards Notches in Magnetic Nanowires. A. Jausovec1, D. Petit1, D. Read1 and R.P. Cowburn1.1. Physics, Imperial College London, London, United Kingdom

FC-07. Sub ns-magnetization dynamics of a single cross-tie wall. K. Kuepper1, M. Buesch1, J. Raabe1, C. Quitmann1, L. Bischoff1 and J. Fassbender1.1. Ion Beam Physics and Materials Research, FZ Rossendorf, Dresden, Germany; 2. Swiss Light Source, Paul Scherrer Institut, 5232 Villigen, - PSI, Switzerland

FC-09. Spin-wave spectrum of NiFe/Cu/NiFe nano-pillars with elliptical cross-section. G. Carlotti1, G. Gubbiotti2, M. Madami1, S. Tacchi1 and T. Ono3. 1. Dipartimento di Fisica, University of Perugia, 06123, Perugia, Italy; 2. Research center SOFT-INFM-CNR, Università di Roma “La Sapienza”, Italy; 3. Institute for Chemical Research, Kyoto University, Uji 611-0011, Kyoto, Japan

4:00

FC-10. Correlation of edge roughness to nucleation field and nucleation field distribution in patterned Permalloy elements. J.W. Lau1, R.D. McMichael1, M.A. Schofield1 and Y. Zhu1. 1. Metallurgy Division, National Institute of Standards and Technology, Gaithersburg, MD, USA; 2. Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY, USA

4:12

FC-11. Measurement of magnetic edge properties in stripe arrays. R.D. McMichael1, B.B. Maranville1 and D.W. Abraham1. 1. Metallurgy Division, NIST, Gaithersburg, MD, USA; 2. IBM T.J. Watson Research Center, Yorktown Heights, NY, USA

4:24

FC-12. A Study on Spin wave Resonance in Patterned Trilayer Films. Y. Zhai1,3, D. Zhang1, Y. Zhang1, J. Shi1, P. Wong1, D. Niu1, G. Li3, Y. Xu1 and H. Zhai1. 1. Department of Physics, Southeast University, Nanjing, China; 2. Department of Physics, University of California, Riverside, CA, USA; 3. Department of Electronics, University of York, York, United Kingdom; 4. Center for Materials Analysis, National Laboratory for Solid State Microstructures, Nanjing University, Nanjing, China

4:36

FC-13. Mechanical-FMR studies of individual Py disks. G. de Loubens1, O. Klein1, V. Naletov1, L. Hurdequint and J. Ben Youssef1. 1. Service de Physique de l’État Condensé, Commissariat à l’Energie Atomique, Gif-Sur-Yvette, France; 2. Laboratoire de Physique des Solides, Université Paris-Sud, Orsay, France; 3. Laboratoire de Magnétisme de Bretagne, Université de Bretagne Ouest, Brest, France

4:48

WEDNESDAY HARBORSIDE D AFTERNOON

2:00

FD-01. Dependence of spin-torque diode effect spectra on free layer thickness in magnetic tunnel junctions. H. Kubota1, A. Fukushima1, Y. Otani1, S. Yuasa1, K. Ando1, H. Maehara2, K. Tsunekawa2, D.D. Djayaprawira3, N. Watanabe3 and Y. Suzuki1,3. 1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 2. Electron Device Equipment Division, Canon ANELVA Corporation, Fuchu, Tokyo, Japan; 3. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan

2:12

FD-02. Systematic study of spin-transfer induced precession in MgO-based magnetic tunnel junctions. A.M. Deac1,2, A. Fukushima1, H. Kubota1, Y. Suzuki1,3, S. Yuasa1, H. Maehara2, K. Tsunekawa2, D.D. Djayaprawira3 and N. Watanabe1. 1. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; 2. Graduate School of Engineering Science, Osaka University, Osaka, Japan; 3. Electron Device Division, Canon ANELVA Corporation, Fuchu, Japan

2:24

FD-03. Effect of Bias on Spin-Transfer Torque in Magnetic Tunnel Junctions. I. Theodonis1,2, N. Kioussis1, A. Kalitsov1, M. Chshiev3 and W.H. Butler1. 1. Physics & Astronomy, California State University Northridge, Northridge, CA, USA; 2. Physics, National Technical University Athens, Zografou, Athens, Greece; 3. MINT Center, University of Alabama, Tuscaloosa, AL, USA

2:36

FD-04. Spin-Transfer Torque and Biquadratic Exchange Coupling in Double-Barrier Magnetic Tunnel Junctions. I. Theodonis1,2, N. Kioussis1 and A. Kalitsov1. 1. Physics & Astronomy, California State University Northridge, Northridge, CA, USA; 2. Physics, National Technical University Athens, Zografou, Athens, Greece

2:48

FD-05. RF noise and spin-transfer torque in tunneling magnetoresistive heads. M. Mizuguchi1, Y. Suzuki1, Y. Uchihara2, H. Akimoto2, H. Kanaï1 and K. Kobayashi1. 1. Division of Materials Physics, Department of Physical Science, Osaka University, Osaka, Japan; 2. Advance Head Technology Development Department, Fujitsu Limited, Nagano, Japan

2:48

3:12

FD-07. Spin and Energy Transfer in Magnetic Tunnel Junctions. Z. Yang and S. Zhang. 1. Department of Physics and Astronomy, University of Missouri-Columbia, Columbia, MO, USA

3:24


3:36

FD-09. Current-induced magnetization switching in MgO based magnetic tunnel junctions with synthetic ferromagnetic free layers. S. Ikeda, J. Hayakawa, Y. Lee, R. Sasaki, F. Matsukura, T. Mgetsu, H. Takahashi and H. Ohno. RIEC, Tohoku University, Sendai, Japan; 2. ARL, Hitachi Ltd., Tokyo, Japan

3:48


4:00

FD-11. Impurity-induced resonant spin torque and spin transport in a magnetic tunnel junction. A. Manchon, N. Ryzhanova, A. Vedyayev and B. Dieny. SPINTEC, Grenoble, France; 2. Physics, Lomonosov University, Moscow, Russian Federation

4:12

FD-01. Influence of exchange coupling and Dipolar interaction on magnetic configurations in perpendicular [Pt/Co]/n/TbFe and [Pt/Co]/n/Pt/TbFe. S. Mangin, E.E. Fullerton, T. Hauet, P. Fischer, D.H. Kim, J. Kortright, K. Chesnel and E. Arenholz. CenterHitachi Global Storage Technologies, San Jose, CA, USA; 2. Laboratoire de Physique des Matériaux, Nancy-University CNRS, Vandoeuvre, France; 3. LBNL, Berkeley, CA, USA

2:00

FE-02. Ultrafast magnetization dynamics in high perpendicular anisotropy [Co/Pt] multilayers. A. Barman, S. Wang, O. Hellwig, A. Berger, E. Fullerton and H. Schmidt. School of Engineering, University of California Santa Cruz, Santa Cruz, CA, USA; 2. Hitachi Global Storage Technologies, San Jose Research Center, San Jose, CA, USA; 3. NanoCenter and Physics and Astronomy, University of South Carolina, Columbia, SC, USA

2:24

FE-03. Coupled Precession Modes in Indirect Exchanged-Coupled [Pt/Co]-Co Thin Films. S.A. Michalski, I. Zhou, R. Skomski and R.D. Kirby. Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA

2:36


FE-06. Study of Néel orange peel coupling on surfaces with controlled artificial roughness. S. Chang and Y. Hao. 1. Materials Science and Engineering, University of Texas at Arlington, Arlington, TX, USA.


FE-08. Probing magnetization reversal in reciprocal space. C. Marrows, J.A. Gonzalez, L.A. Michez, C.J. Kinane, M.C. Hickey, A. Potenza, B.J. Hickey, S.M. Weekes, F.Y. Ogrin, M. Wolff, T.R. Charlton and S. Langridge. 1. Dept. of Physics and Astronomy, University of Leeds, Leeds, West Yorkshire, United Kingdom; 2. Departamento de Física, Universidad de Castilla-La Mancha, Ciudad Real, Spain; 3. CRM-CNRS UPR 7251, Université Aix-Marseille 2, Marseille, France; 4. School of Physics, University of Exeter, Exeter, United Kingdom; 5. Institut Laue Langevin, Grenoble, France; 6. ISIS, Rutherford Appleton Laboratory, Chilton, Oxford, United Kingdom.


FE-13. Exchange stiffness of hcp Co<sub>1-x</sub>M<sub>x</sub> (M=Pt, Ru, Cr) ferromagnets. E. Girt, O.N. Mryasov and A.Y. Dobin. 1. Seagate Technology, Freemont, CA, USA; 2. Seagate Research, Pittsburgh, PA, USA.


WEDNESDAY ESSEX
AFTERNOON
2:00

Session FF
DRUG DELIVERY AND SEPARATION
Sara Majetich, Session Chair

2:00

FF-01. Nanosized Magnetic Drug Carrier Systems. (Invited) P. de Morais1. Instituto de Fisica, Universidade de Brasilia, Brasilia, DF, Brazil

2:36

FF-02. Synthesis of Ibuprofen Loaded Magnetic Solid Lipid Nanoparticles. X. Pang1,2, J. Chen1, J. Zhou1, M. Yu1, F. Cui2 and W. Zhou1. AMRI/Chemistry, University of New Orleans, New Orleans, LA, USA; 2. Dept. of Pharmacy, Shenyang Pharmaceutical Univ., Shenyang, China

2:48

FF-03. Dramatic increase in stability and longevity of enzymes attached to monodisperse iron nanoparticles. A.M. Sharma1, P. Kornacki2, A. Paszczynski2, J. Anthony1, D. Meyer1 and Y. Qiang1. Physics, University of Idaho, Moscow, ID, USA; 2. Environmental Biotechnology Institute and Microbiology Molecular biology and biochemistry, University of Idaho, Moscow, ID, USA

3:00

FF-04. Design and Synthesis of Biodegradable Magnetic Nanocomposite Carriers for In Vivo Biomedical Applications. X. Liu1, M.D. Kaminski1, H. Chen1, M. Torno1 and J. Rosengart1. Neurology, The University of Chicago, Chicago, IL, USA

3:12

FF-05. Preparation of spherical monodisperse nanoparticles of γ'-Fe2O3 from an aqueous solution containing complex carbohydrate. R. Shimizu1, M. Tada1, T. Nakagawa1, A. Sandhu2, H. Handa1 and M. Abe1. Department of Physical Electronics, Tokyo Institute of Technology, Tokyo, Japan; 2. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Tokyo, Japan; 3. Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Japan

3:24

FF-06. Magnetite nanoparticles with almost bulk magnetic properties: the role of the surfactant. P. Guardia1, B. Batlle-Brugal1, A.G. Roca1, O. Iglesias1, M. Morales2, C.J. Serna1, A. Labarta1 and X. Batlle1. Departament de Fisica Fonamental and Institut de Nanociencia i Nanotecnologia, U. Barcelona, Barcelona, Spain; 2. Instituto de Ciencia de los Materiales de Madrid, CSIC, Madrid, Spain

3:36

FF-07. The Influence of Temperature on the Magnetic Behaviour of Colloidal Cobalt Nanoparticles. C. Dennis1, G. Cheng2, K. Bal1, B.B. Maranville1, A.R. Hight Walker2 and R.D. Shull1. Metallurgy Division/MSEL, NIST, Gaithersburg, MD, USA; 2. Optical Technology Division/PL, NIST, Gaithersburg, MD, USA

3:48


4:00

FF-09. Electroless CoNiWP magnetic films for the application in magnetically targeted therapy. H. Cheng1, S. Xu1, S. Zou2, Q. Zhang1, J. Zhang1, W. Zhao1, J. Guan1 and S. Sun1. State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan, Hubei province, China; 2. Department of General Surgery of Tongji Hospital, Tongji Medical College of Huazhong University of Science and Technology, Wuhan, Hubei province, China

4:12

FF-10. Ferromagnetic dipole-pair tweezers for biomedical applications. F. Ogrin1, P. Winlove1 and P.G. Petrov1. School of Physics, University of Exeter, Exeter, United Kingdom

4:24

FF-12. An ab initio investigation of electronic structure and magnetism of free and supported Iron Porphyrin molecules. P.M. Panchmatia, B. Sanyal, H. Wende, O. Eriksson and E.M. Oppeneer. Dept. of Physics, Uppsala University, Uppsala, Sweden; 2. Institute for Experimental Physics, Free University, Berlin, Germany


WEDNESDAY AFTERNOON

LAUREL

2:00

Session FG

MAGNETO-ELASTIC MATERIALS

Harry Radousky, Session Chair

2:00


2:12


2:24

FG-03. Study of Thermal Mechanical Processed FeGa/Terfenol-D Composites. M. Danil, S. Cheng, M. Marinescu, G.C. Hadjipanayis and T.A. Lograsso. Dept. of Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Iowa State University, Ames, IA, USA; 3. Naval Research Laboratory, Washington, DC, USA

2:36


2:48

FG-05. Evidence of Magnetoelastic Spin Ordering in Dilute Magnetic Oxides. G.F. Dionne and K. Balasubramaniam. Department of Physics, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India; 2. Department of Mechanical Engineering, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India

3:00

FG-06. Magnetic properties of Tb$_{6-x}$ Dy$_x$ Ho$_{0.15}$Fe$_2$ Mn$_x$ [x=0, 0.05, 0.1, 0.15, 0.2]. J. S. Narayana, G. Markandeyulu and K. Balasubramaniam. Department of Physics, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India; 2. Department of Materials Science and Engineering, MIT, Cambridge, MA, USA

3:12


3:24

FG-08. Modeling of Magnetostrictive Galfenol Sensor and Validation using Four Point Bending Test. S. Datta, J. Atulasimha and A.B. Flatau. Aerospace Engineering, University of Maryland, College Park, MD, USA

3:36

FG-09. Actuation Field in Martensitic Ni$_{50.4}$Mn$_{25.8}$Ga$_{23.8}$ P. Zhao, J. Cullen, J. Cui and M. Wuttig. Dept. of Mater. Sci. and Eng., University of Maryland, College Park, MD, USA

3:48

FG-10. Bulk ferromagnetism in BiFeO$_3$ of higher structural symmetry. R. Mazumder, P. Devi, D. Bhattacharyya, P. Choudhury, A. Sen and M. Raja. Electroceramics, Central Glass and Ceramic Research Institute, Kolkata, India; 2. Defense Metallurgical Research Laboratory, Hyderabad, India
FG-11. Does Twin Boundary Affect The Resistivity of single crystal Ni49Mn29Ga22 Heusler Alloy? VK. Srivastava1 and R. Chatterjee1. Physics, Indian Institute Of Technology Delhi, New Delhi, India.

4:12

FG-12. Effect of B on the Microstructure and Magnetostriction of Zoned Dy0.7Tb0.3Fe1.95. A. Chelvane1, M. Patil1, S. Pandian1, R. Balamuralikrishnan1, A.K. Singh1, V. Chandrasekaran1 and G. Markandeyulu1. Defence Metallurgical Research Laboratory, Hyderabad, Andhra Pradesh, India; 2. Department of Physics, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India.

4:24

FG-13. Stress dependence and effect of plastic deformation on magnetic hysteresis and anhysteretic magnetization of FeNi-32% films. P. Finkel1 and S. Lofland2. College of Engineering, Drexel University, Philadelphia, PA, USA; 2. Rowan University, Glassboro, NJ, USA.

4:36


4:48


2:00

Session FH

MAGNETIC MICROSCOPY AND IMAGING I

Yimei Zhu, Session Chair

2:00

FH-01. A Lorentz Microscopy study of thin magnetic FePt and FePd layers with perpendicular anisotropy. A. Masseboeuf1, A. Marty1, C. Gatel1 and P. Bayle-Guillemaud1. DRFMC/SP2M, CEA Grenoble, Grenoble, France.

FH-02. Understanding local response by manipulation of ferromagnetic nano-elements in TEM. L. Huang1,2, T. Beetz1, M.A. Schofield1, M. Beleggia1 and Y. Zhu1,2. Brookhaven National Laboratory, Upton, NY, USA; 2. Department of Physics and Astronomy, State University of New York at Stony Brook, Stony Brook, NY, USA.

2:24

FH-03. Magnetic Shape Anisotropy in Nanopatterned Co Ferromagnets using Off-axis Electron Holography and Lorentz Microscopy. N. Agarwal1, D.J. Smith1,2 and M.R. McCartney1. School of Materials, Arizona State University, Tempe, AZ, USA; 2. Department of Physics, Arizona State University, Tempe, AZ, USA.

2:36


2:48

FH-05. Spin-transport of hot electrons in metallic ferromagnets using transmission and scattering detection modes of BEEM. T. Banerjee1, E. Haq1, J.C. Lodder1 and R. Jansen1. SMI, Faculty of EWI, MESA+ Institute for Nanotechnology, University of Twente, Enschede, Netherlands.

3:00

FH-06. Comparative study of ferromagnetic domains for ultrathin Mn on Fe(001) and Ag/Fe(001). C. Kao1,2, K. Lin1, H. Kang1, Y. Chan1 and D. Wei1. Department of Physics, National Sun-Yat Sen University, Kaohsiung, Taiwan; 2. Center for Nanoscience and Nanotechnology, National Sun Yat Sen University, Kaohsiung, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan.
D.J. Keavney1, X. Han1, M. Grimsditch1, J. Meersschaut2,3, A. Hoffmann2, Y. Ji1, J. Sort1, J. Nogués3, R. Divan1, J. Pearson2, K.Y. Guslienko2 and S.D. Bader1. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA; 2. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 3. Instituut voor Kern-en Stralingsfysica and INPAC, Leuven, Belgium; 4. Institució Catalana de Recerca i Estudis Avançats (ICREA) and Departament de Física, Universitat Autònoma de Barcelona, Barcelona, Spain; 5. Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL, USA

3:12

FH-08. Imaging vortex dynamics in confined magnetic nanoelements with high resolution soft X-ray microscopy. P. Fischer1, D. Kim1, B.L. Mesler1 and E.H. Anderson1. CXRO, LBNL, Berkeley, CA, USA

3:24

FH-09. Time-resolved imaging of the out-of-plane vortex core.
H. Stoll1, K.W. Chou1, A. Pužič1, D. Dolgos1, G. Schütz1, B. Van Waeyenberge2, T. Tylliszczak2, I. Neudecker2, G. Woltersdorf3, D. Weiss3 and C.H. Back1. Max Planck Institute for Metals Research, Stuttgart, Germany; 2. Department Subatomic and Radiation Physics, Ghent University, Ghent, Belgium; 3. Advanced Light Source, LBNL, Berkeley, CA, USA; 4. Department of Physics, Regensburg University, Regensburg, Germany

3:36


3:48

FH-11. Direct Observation of the Propagation of Spin-Wave Packets in Ferromagnetic Thin Films. K. Perzlmaier1, G. Woltersdorf4 and C.H. Back1. Institut fuer Experimentelle und Angewandte Physik, University of Regensburg, Regensburg, Germany

4:00

FH-12. Microwave assisted switching of micron sized elements.
G. Woltersdorf4, C.H. Back1 and D. Weiss3. Physics, University of Regensburg, Regensburg, Germany

4:12


4:24

Z. Primadani1, H. Oosawa1 and A. Sandhu2,1. Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Meguro, Tokyo, Japan; 2. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Meguro, Tokyo, Japan

4:36
FP-03. FMR study of thickness-dependent magnetization precession in Ni_{80}Fe_{20} films. Y. Chen¹, D. Hung², Y. Yao², S. Lee³, H. Ji¹ and C. Yu¹. ¹Department of Physics, National Cheng Kung University, Tainan, Taiwan; ²Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan; ³Institute of Physics, Academia Sinica, Taipei, Taiwan

FP-04. Decoherence processes of a quantum two-level system coupled to a fermionic environment. N. Yamada¹, H. Tsuchiura¹ and A. Sakuma¹. ¹Department of Applied Physics, Tohoku University, Sendai, Japan

FP-05. Triggering the symmetry break including the Oersted Field in the Magnetization Dynamics of Spin-Transfer Oscillators. G. Consolo¹, B. Azzerboni¹, G. Finocchio¹, L. Lopez-Diaz² and L. Torres². ¹Fisica della Materia e Tecnologie Fisiche Avanzate, University of Messina, Italy, Messina, Italy; ²Fisica Aplicada, University of Salamanca, Salamanca, Spain

FP-06. FMR study of the out-of-plane angular dependence of spin-wave spectra in circular magnetic dots. G. Kakazei¹,², E. Tartakovskaya¹, T. Mewes¹, P. Wigen², V. Golub¹, S. Batra² and C. Hammel¹. ¹Institute of Magnetism NAS of Ukraine, Kiev, Ukraine; ²Department of Physics, Ohio State University, Columbus, OH, USA; ³MINT/Department of Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA; ⁴Seagate Research, Pittsburgh, PA, USA

FP-07. Thermally activated magnetization reversal behavior of uniaxial ferromagnetic thin films in the μs – s time regime. K. Ryu¹, K. Lee¹, S. Choe¹ and S. Shin¹. ¹Department of Physics and Center for Nanospinics of Spintronic Materials, Korea Advanced Institute of Science and Technology, Daejeon, South Korea; ²Department of Physics, Seoul National University, Seoul, South Korea

FP-08. NMR and Spin Relaxation in Systems with Magnetic Nanoparticles. N. Noginova¹, T. Weaver¹, M. King¹ and A.B. Bourlinos². ¹NSU, Norfolk, VA, USA; ²NCSR Demoktitos, Athens, Greece

FP-09. Nonlinear phenomenological model of magnetic dissipation for large precession angles. A. Slavin¹ and V. Tiberkevich¹. ¹Physics, Oakland University, Rochester, MI, USA

FP-10. Spin-wave dynamics and inelastic neutron scattering in ferromagnetic nanowires and nanoparticles. E.V. Tartakovskaya¹. ¹Institute for Magnetism, Kiev, Ukraine

FP-11. Theory of spin modes in the vortex state. R. Zivieri¹ and F. Nizzoli¹. ¹Department of Physics, University of Ferrara, Ferrara, Italy
FQ-08. Effect of Co addition upon microstructural evolution and magnetic properties of amorphous ferromagnetic CoFeSiB alloy films. B. Chun1, Y. Kim1, Y. Kim1, J. Hwang2, S. Kim2, J. Rhee2, J. Suk1 and T. Kim1. Materials Science and Engineering, Korea University, Seoul, South Korea; 2. Physics, Sookmyung Women’s University, Seoul, South Korea; 3. Nano Science and Technology, University of Seoul, Seoul, South Korea; 4. Samsung Advanced Institute of Technology, Suwon, South Korea

FQ-09. Superior magnetic properties of high resistive CoFeHfO films. D. Nguyen1, C. Kim2, C. Kim2, M. Takahashi3, M. Phan1 and H. Peng1. I. Department of Aerospace Engineering, University of Bristol, Bristol BS8 1TR, United Kingdom; 2. Research Center for Advanced Magnetic Materials, Chungnam National University, Daejeon 305-764, South Korea; 3. Department of Electrical Engineering, Tohoku University, Sendai 980-8579, Japan

WEDNESDAY AFTERNOON GRAND BALLROOM 1:00

Session FR MAGNETORESISTIVE OXIDES (POSTER SESSION) Jinke Tang, Session Co-chair Valentin Alek Dediu, Session Co-chair


FR-02. Study of Magneto-Refractive Measurements on La0.7Pb0.3MnO3 Epitaxial Thin Films. W. Gorman1, M.S. Kim1 and J. Wang1. Physics Department, State University of New York Binghamton, Binghamton, NY, USA

FR-03. Magnetotransport properties of Ba2MnRuO4 and LaBa2MnRuO6. S. Savitha Pillai1,2 and P.N. Santhosh1,2. X-ray Laboratory, Department of Physics, Indian Institute of Technology: Madras, Chennai, Tamilnadu, India; 2. Low Temperature Laboratory, Department of Physics, Indian Institute of Technology: Madras, Chennai, Tamilnadu, India

FR-04. Anisotropy of magnetoresistance in epitaxial Fe3O4(110) films grown on MgO (110) substrates. R.S. Sofin1, S.K. Arora1 and I.V. Shvets1. Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN), School of Physics, Trinity College Dublin, Dublin, Dublin, Ireland

FR-05. Magnetic properties and the transport tuning of Cr2O3/(La,Sr)MnO3 hetero interface. T. Yokota1, T. Kuribayashi1, K. Hattori1, T. Shundo1 and M. Gomi1. Environmental and Materials Engineering, Nagoya Institute of Technology, Nagoya, Aichi, Japan

FR-06. High room-temperature tunneling magnetoresistance of “bulrush-like” double perovskite. W. Zhong1, N. Tang1, C. Au2 and Y. Du1. National Laboratory of Solid State Microstructures, Nanjing University, Nanjing, Jiangsu, China; 2. Chemistry Department, Center for Surface Analysis and Research, Hong Kong Baptist University, Hong Kong, Hong Kong

FR-07. Voltage-current hysteretic characteristics in ME/Nd0.7Ca0.3MnO3 thin films with ME = Au, Pt, Ag, Cu. D. Hsu1,3, J. Lin1,2 and W. Wu1. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan; 2. Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan; 3. Department of Mechanical Engineering, National Taiwan University, Taipei, Taiwan

FR-08. Comparison of La0.7Ca0.3MnO3, manganite bulk and nanometer-sized crystals’ magnetic properties. E. Rozenberg1, M. Tzindilekt1, I. Felner1, E. Sominski1, A. Gedanken1 and Y.M. Mukovskii1. Dept. of Physics, BGU of the Negev, Beer-Sheva, Israel; 2. The Racah Institute of Physics, The Hebrew University, Jerusalem, Israel; 3. Chemistry, Bar-Ilan University, Ramat-Gan, Israel; 4. Moscow Steel and Alloys Institute, Moscow, Russian Federation

FR-09. Synchrotron radiation spectroscopy study of valence states and electronic structures of transition-metal ions in Fe1-xCuCrS2 spinel sulfides. J. Kang1,2, S.S. Lee1, G. Kim1, S.W. Han1, S.J. Kim1, C.S. Kim1, J.Y. Kim1, H.J. Shin1 and B.I. Min1,2. Physics, The Catholic University of Korea, Bucheon, South Korea; 2. CSCMR, Seoul National University, Seoul, South Korea; 3. Physics, Kookmin University, Seoul, South Korea; 4. Pohang Accelerator Laboratory, Pohang, South Korea; 5. Physics, POSTECH, Pohang, South Korea


FR-11. Phase separation study on La0.67Ca0.33CoO3 based granular system. B. Fan1, Q. Li1, C. Wu1, S. Wei2 and F. Xu1. Department of Physics, Southeast University, Nanjing, China; 2. National SR Laboratory, University of Sci & Tech of China, Hefei, Anhui, China

FR-12. Contactless measurement of temperature dependent colossal magnetoresistance using the magnetorefractive effect. P.R. Abernethy1, A.J. Vick1, S.M. Thompson1, J.A. Matthew1 and P.J. Wright1. Physics, University of York, York, United Kingdom; 2. Micro Nanotechnology Labs, QinetiQ, Malvern, United Kingdom

FR-13. Effects of oxygen deficiency on the magnetic orderings of Mn and Tb in Tb0.9Na0.1MnO2.9. C. Yang1, W. Li2, T. Chan3, R. Liu1 and M. Avdeev1. Institute of Physics, Academia Sinica, Taipei, Taiwan; 2. Department of Physics, National Central University, Chung-Li, Taiwan; 3. Department of Chemistry and Center for Nano Storage Research, National Taiwan University, Taipei, Taiwan; 4. The Bragg Institute, Australian Nuclear Science and Technology Organization, Lucas Heights, NSW, Australia
FR-14. Transport Properties of Epitaxial La_{0.9}Hf_{0.1}MnO_3 Thin Films.
L. Wang and J. Gao. Physics Department, The University of Hong Kong, Hong Kong, China

FR-15. Phase diagram and magnetic properties of the electron doped manganite La_{0.5-x}Sn_xMnO_3; T. Cheng, C. Hsieh, J. Lin, J. Lee, J. Chen, K. Wu, Z. Wen, Y. Guo and J. Juang. 1. Department of Electrophysics, National Chiao Tung University, Hsinchu, Taiwan; 2. Institute of Physics, National Chiao Tung University, Hsinchu, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 4. Department of Physics, National Taiwan Normal University, Taipei, Taiwan


FR-17. Epitaxial growth and magnetic response of La_{0.9}Ba_{0.1}MnO_3/Si heterojunctions. F. Hu and J. Gao. 1. Department of Physics, The University of Hong Kong, Hong Kong, Hong Kong, China

FR-18. The response of transport properties to static electric field in La_{0.65}Cr_{0.35}MnO_3 epitaxial thin films. J. Gao and F. Hu. 1. Department of Physics, The University of Hong Kong, Hong Kong, Hong Kong, China

FR-19. Inter comparison of the magneto transport of La_{2/3}Ca_{1/3}MnO_3:Ag/In polycrystalline composites. R. Tripaathi, V.P. Awana, S. Balamurugan, H. Kishan and E. Takayama-Muromachi. 1. Department of Physics, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom

WEDNESDAY GRAND BALLROOM AFTERNOON 1:00

Session FS
BIOMEDICAL APPLICATIONS OF MAGNETIC MATERIALS (POSTER SESSION)
Mike Miller, Session Chair

FS-01. Hybridisation of electrodeposited magnetic multilayer micropillars. J.J. Palfreyman, F. van Belle, T. Mitrelias, W. Lew, A. Bland, M. Lopalco and M. Bradley. 1. Department of Physics, Cambridge University, Cambridge, United Kingdom; 2. School of Chemistry, University of Edinburgh, Edinburgh, United Kingdom

FS-02. Detection of Magnetic Nanoparticles and Red Blood Cell by Using a Highly Sensitive Spin Valve Bio-sensor. S. Park, K. Soh, M. Ahn, D. Hwang and S. Lee. 1. School of Physics, Seoul National Univ., Seoul, South Korea; 2. Oriental and Western Medical Engineering, Sangji University, Wonju, South Korea

FS-03. Using ferromagnetic beads and magnetic devices for detection of antibodies. Z. Jiang, J. Palfreyman, J. Llandro, T. Mitrelias and J. Bland. 1. Department of Physics, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom

FS-04. Comparison of micrometer sized and nanosized magnetic particles for cell labeling. J. Hsiao, M. Tai, C. Yang, S. Chen, J. Wang and H. Liu. 1. Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan; 2. Department of Medical Imaging, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan; 3. Department of Science Education, Taipei Municipal University of Education, Taipei, Taiwan; 4. Musculoskeletal Disease Center, J.L. Pettis VA Medical Center; Department of Biochemistry Loma Linda University, Loma Linda, CA, USA


FS-06. Magnetic gas sensing using Sn_{0.95}Fe_{0.05}O_2: A novel application of magnetic semiconductor nanoparticles. K. Reddy, J. Hays, A. Thurber and A. Punnoose. 1. Physics Department, Boise State University, Boise, ID, USA

FS-07. High Spatial Resolutions Measurements of Biomagnetic Field. K. Iramina and S. Ueno. 1. Department of Intelligent Systems, Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan; 2. Graduate School of Engineering, Kyushu University, Fukuoka, Japan


FS-09. Synthesis of LDH-type clay substituted with Fe, Ni, and Co ion for arsenic removal and its application to magnetic separation. H. Murase and A. Nakahira. 1. Osaka Pref Univ, Osaka, Japan

T. Takara, T. Maruyama, F. Sato, H. Matsuki, S. Aiba and T. Sato. Dept. of Electrical and Communication Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan; 2. Medical Sciences, Graduate School of Tohoku University, Sendai, Miyagi, Japan; 3. NEC TOKIN Corp., Sendai, Miyagi, Japan

FS-12. Effect of intense magnetic fields on hydrogen-bonded networks in water molecules. M. Iwasaka. 1. Faculty of Engineering, Chiba University, Chiba, Japan


WEDNESDAY AFTERNOON GRAND BALLROOM 1:00

Session FT MAGNETIC SEMICONDUCTORS (POSTER SESSION) Brian Kirby, Session Chair


FT-02. Room-Temperature Ferromagnetic Ordering in (Mn, Fe)-doped ZnS Nanobelts. W. Shin, T. Kang, B. Kim and W. Lee. Department of Materials Science and Engineering, Yonsei University, Seoul, South Korea; 2. Department of Chemistry, KAIST, Daejeon, South Korea

FT-03. Precise investigation of domain pining energy in GaMnAs using planar Hall effect and magnetoresistance measurement. D. Shin, S. Chung, S. Lee, X. Liu and J.K. Furdyna. Physics, Korea University, Seoul, South Korea; 2. Physics, University of Notre Dame, Notre Dame, IN, USA

FT-04. FMR study of Ga0.95Mn0.05As thin films with variable hole concentrations. H.J. von Bardeleben, K. Khazeni, J.L. Cantin, L. Thevenard and A. Lemaître. INSP University Paris 6, Paris, France; 2. LPN, CNRS, Marcoussis, France

FT-05. Determination of Mn acceptor compensation in MBE-grown GaMnAs via magnetic circular dichroism (MCD). R. Chakarvorty, Y.Y. Zhou, Y.J. Cho, X. Liu, J.K. Furdyna and M. Dobrowolska. Department of Physics, University of Notre Dame, Notre Dame, IN, USA

FT-06. Effects of substrate orientation on the magnetic properties of (Ga,Mn)As. J. Huang, W. Lee, Y. Chen, B. Huang, T. Chin and C. Kuo. Materials Science Center, National Tsing Hua University, Hsinchu, Taiwan; 2. Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan; 3. Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan


FT-08. Growth and transport studies in M/I/p-SC magnetic tunnel diodes containing different tunnel barrier materials. K.C. Agarwal, H. Saito, S. Yuasa and K. Ando. Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan

FT-09. In-plane magnetotransport properties of MnAs epitaxially grown on GaAs(001). S. Cho, H. Choi and Y. Park. CSCMR and Department of Physics & Astronomy, Seoul National University, Seoul, South Korea

FT-10. Tunneling magnetoresistance and colossal electro-resistance in semiconductor heterostructure with ferromagnetic MnAs nanoclusters. N. Pham, M. Yokoyama, S. Ohya and M. Tanaka. Department of Electronic Engineering, The University of Tokyo, Bunkyo, Tokyo, Japan; 2. Japan Science and Technology Corporation, Kawaguchi, Saitama, Japan

FT-11. Magnetic properties of Ge/MnAs digital heterostructure. J. Lee, J. Kim, J. Song, Y. Cui and J.B. Ketterson. Division of Electrical and Computer Engineering, Ajou University, Suwon, Gwanggi-do, South Korea; 2. BK21 Physics Research Division, Seoul National University, Seoul, South Korea; 3. Department of Physics and Astronomy, Northwestern University, Evanston, IL, USA

FT-13. Feasibility of ion implantation in the realization of group-IV Mn$_{x}$Ge$_{1-x}$ diluted magnetic semiconductor. L. Ottaviano$^1$, M. Passacantando$^1$, A. Verna$^1$, F. D’Orazio$^1$, F. Lucari$^1$, P. Parisse$^1$, S. Piccozzi$^1$, R. Gunnella$^2$, G. Impellizzeri$^2$ and F. Priolo$^1$. Dipartimento di Fisica, Università dell’Aquila, L’Aquila, Italy; 2. Dipartimento di Fisica, Università di Camerino, Camerino, Italy; 3. Dipartimento di Fisica e Astronomia, Università di Catania, Catania, Italy

FT-14. Epitaxial growth and properties of ferromagnetic Ge$_{1-x}$Fe$_x$ thin films on Si (001). Y. Shuto$^1$, M. Tanaka$^{1,2}$ and S. Sugahara$^1$. Department of Electronic Engineering, The University of Tokyo, Tokyo, Japan; 2. SORST, Japan Science and Technology Agency, Kawaguchi, Saitama, Japan; 3. Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan

FT-15. Effects of the Ce Concentration and the Carrier Concentration on the Magnetic Properties of Low Temperature grown Si:Ce Thin Films. T. Terao$^1$, Y. Nishimura$^1$, D. Shindo$^1$ and N. Fujimura$^1$. Graduate School of Engineering, Osaka Prefecture University, Sakai, Japan


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WEDNESDAY GRAND BALLROOM AFTERNOON 1:00

Session FU

MOTORS I (POSTER SESSION)

David Arnold, Session Chair


FU-02. Development of a New HDD Spindle Motor with High Stiffness and Damping Coefficients by Utilizing the Stationary Permanent Magnet. G. Jung$^1$ and C. Lee$^1$. Dept. of Mechanical Engineering, PREM Lab., Hanyang University, Seoul, South Korea

FU-03. Magneto-electro-dynamical modeling and design of a microphone used for mobile phones with considerations of diaphragm corrugation and air closures. P. Chao$^1$, J. Huang$^2$ and H. Yuan$^1$. Department of Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Department of Mechanical Engineering, Chung-Yuan Christian University, Chung-Li, Taiwan

FU-04. Fabrication and Evaluation of a Linear Hybrid Micro Step Motor. M. Hahn$^1$, M. Bedenbecker$^2$ and H. Gatzien$^1$. Institute for Microtechnology, Garbsen, Germany


FU-08. Lumped Modeling of Magnetic Actuator Using the Inverse Magnetostrictive Effect. D. Sul$^1$, Y. Park$^1$ and H. Park$^1$. Mechatronics Engineering, Chungnam National University, Daejeon, South Korea

FU-09. Study on magnetic circuit for stress-based magnetic force control using Iron-Gallium alloy. T. Ueno$^1$ and T. Higuchi$^1$. University of Tokyo, Tokyo, Japan

FU-10. Magnetic Field and Torque Analysis of the Four-Quadrant Transducer Used for Hybrid Electric Vehicle. P. Zheng$^1$, R. Liu$^1$, J. Zhao$^1$ and Q. Wu$^1$. Dept. of Electrical Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China


FU-13. Fault Analysis of a DSPM Motor Drive by Using Transient Co-simulation of Magnetic and Electrical Circuits. W. Zhao\textsuperscript{1,2}, M. Cheng\textsuperscript{1}, W. Hua\textsuperscript{1}, X. Zhu\textsuperscript{1,2} and J. Zhang\textsuperscript{1}. Deaprt. of Electrical Engineering, Southeast University, Nanjing, China; 2. School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China

FU-14. Optimization of Electromagnetic vibrational generator with voltage conversion. C.R. Saha\textsuperscript{1}, T. O'Donnell\textsuperscript{1}, J. Godsell\textsuperscript{1}, L. Carlioz\textsuperscript{1}, S. Beeby\textsuperscript{2} and J. Tudor\textsuperscript{2}. PEI, Tyndall National Institute, Cork, Ireland; 2. Electronic and Computer Science, University of Southampton, Southampton, United Kingdom

FU-15. Comparing dynamic hysteresis models for further Finite Element Analysis. V.G. Mazauric\textsuperscript{1,4}, D. Ladas\textsuperscript{1,3}, P.F. Wendling\textsuperscript{2} and G.J. Meunier\textsuperscript{3}. 1. Corporate Research and Development, Schneider Electric, Grenoble, France; 2. Magsoft Corporation, Ballston Spa, NY, USA; 3. Laboratoire d’Electrotechnique de Grenoble, CNRS, Saint Martin d’Hères, France; 4. Centre de Mathématiques Appliquées, Ecole des Mines de Paris, Sophia Antipolis, France

WEDNESDAY GRAND BALLROOM
AFTERNOON
1:00

Session FV
ITINERANT MAGNETISM
(PARTER SESSION)
Johan Van Lierop, Session Chair

FV-01. Effect of pressure on the itinerant ferromagnet CoS\textsubscript{2}: a first principle study. X. Liu\textsuperscript{1} and Z. Altounian\textsuperscript{1}. Physics department, McGill University, Montreal, QC, Canada

FV-02. Effect of pressure on the magnetic and magnetocaloric properties of Er(\textit{Co, Si})\textsubscript{2} compounds. N.K. Singh\textsuperscript{1}, P. Kumar\textsuperscript{1}, K.G. Suressh\textsuperscript{1}, A.K. Nigam\textsuperscript{2}, A.A. Coelho\textsuperscript{1} and S. Gama\textsuperscript{3}. 1. Physics, I.I.T. Bombay, Mumbai, Maharashtra, India; 2. Tata Institute of Fundamental Research, Mumbai, Maharashtra, India; 3. Instituto de Física “Gleb Wataghin,” Universidade Estadual de Campinas-UNICAMP, C.P. 6165, Campinas 13 083 970, Sao Paulo, Brazil

FV-03. Strongly Enhanced Thermal Expansion of Low Dimensional Itinerant Weak Antiferromagnets near the Quantum Critical Points. R. Komoto\textsuperscript{1}, Y. Takahashi\textsuperscript{2} and H. Nakano\textsuperscript{1}. 1. General Education, Kinki University Technical College, Kumano-shi, Mie 519-4395, Japan; 2. Graduate School of Science, University of Hyogo, Ako, Hyogo 678-1297, Japan

FV-04. Magnetic properties of alloys in the series (Fe\textsubscript{1-x}, Co\textsubscript{x})\textsubscript{2}P. S. Kumar\textsuperscript{1}, A. Krishnamurthy\textsuperscript{2} and B.K. Srivastava\textsuperscript{1}. Department of Physics, Ml Sukhadia University, Udaipur, Raj., India; 2. Department of Physics, University of Rajasthan, Jaipur, Raj., India

FV-05. ISOTOPE EFFECT ON THE METAMAGNETIC TRANSITIONS IN RFe2(H,D)4.2 COMPOUNDS (R=Y, Tb). T. Leblond\textsuperscript{1}, V. Paul-Boncour\textsuperscript{1} and M. Guillot\textsuperscript{2}. LCMTR, CNRS, THAIS, 94320 Cedex, France; 2. CNRS/MP, GRENOBLE Cedex 9, France

FV-06. “Powder neutron diffraction evidence for enhanced inter plane magnetic coupling in La1.25Sr1.8Mn2-xRuxO7 layered manganites” S.S. Manoharan\textsuperscript{1,2}, B. Singh\textsuperscript{1} and R.K. Sahu\textsuperscript{1}. Chemistry, Indian Institute of Technology Kanpur, Kanpur, India; 2. Center for Superconductivity, University of Maryland, Maryland, MD, USA; 3. National Metallurgical Laboratory, Jamshedpur, Jharkhand, India

FV-07. Ferromagnetism above the Gd Curie Temperature in Gd\textsubscript{100-x}Fe\textsubscript{x} (x = 0 to 10) Nanostructures. D. Schmitter\textsuperscript{1}, J. Goertzen\textsuperscript{2}, G. Shelburne\textsuperscript{1}, T.M. Pekarek\textsuperscript{1}, J.E. Shield\textsuperscript{1}, P.M. Shand\textsuperscript{1}, D. Haskel\textsuperscript{1} and D.L. Leslie-Pelecky\textsuperscript{1}. 1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska Lincoln, Lincoln, NE, USA; 2. Department of Mechanical Engineering and Nebraska Center for Materials and Nanoscience, University of Nebraska Lincoln, Lincoln, NE, USA; 3. Department of Chemistry and Physics, University of North Florida, Jacksonville, FL, USA; 4. Department of Physics, University of Northern Iowa, Cedar Falls, IA, USA; 5. Advanced Photon Source, Argonne National Lab, Argonne, IL, USA

FV-08. Role of orbital degeneracy in Itinerant Ferromagnetism. P. Dua\textsuperscript{1} and I. Singh\textsuperscript{1}. AMITY Centre for Vacuum & Advanced Technologies, Amity University (U.P.), Noida-201301, Uttar Pradesh, India; 2. Physics Department, Indian Institute of Technology, Roorkee, Roorkee-247667, Uttarakhand, India

FV-09. First-principles studies of spin disorder resistivity of Fe and Ni. A.L. Wysocki\textsuperscript{1}, J. Goertzen\textsuperscript{1}. Department of Physics and Astronomy, University of Nebraska Lincoln, Lincoln, NE, USA; 2. Department of Chemical and Materials Engineering, Arizona State University, Tempe, AZ, USA

FV-10. Dynamical spin-susceptibility of itinerant heavy electrons with nested Fermi surface. P.U. Schlottmann\textsuperscript{1}. Department of Physics, Florida State University, Tallahassee, FL, USA

FV-11. Enhanced magnetocapacitance in a metal-oxide-metal junction system. K. Kim\textsuperscript{1}, B. Kim\textsuperscript{1} and B. Min\textsuperscript{1}. Physics, POSTECH, Pohang, Kyungbuk, South Korea
Session FW
PERMANENT MAGNET MOTORS II (POSTER SESSION)
David Howe, Session Chair

FW-01. Performance of a High-Speed Permanent Magnet Synchronous Generator considering the Min-Max Operating Speed.
H. Cho, K. Ko, S. Jang and W. Oh. Electrical Engineering, Chungnam National University, Daejeon, South Korea;
Kyongju Aerospace Electrical Systems Co., Ltd., Kyongju, South Korea

M. Hsieh and Y. Hsu. Systems and Naval Mechatronic Eng., National Cheng Kang University, Tainan, Taiwan

FW-03. Investigation on End Winding Inductance in Stators of Permanent-Magnet Motors.
M. Hsieh, Y. Hsu and K. Hu. Systems and Naval Mechatronic Eng., National Cheng Kang University, Tainan, Taiwan

P. Shin, C. Koh and G. Chung. Electrical Engineering, Hongik University, Jochiwon, Chungnam, South Korea;
Electrical Engineering, Chugbuk University, Cheongju, Chugbuk, South Korea

FW-05. The study on the characteristics of pole arc and salient pole ratio to improve torque performance of IPMSM.
K. Kim and J. Lee. Dept. of electrical engineering, hanyang university, seoul, South Korea

FW-06. Design and Analysis of a High-Speed BLDC Motor for Centrifugal Compressor.
S. Jang, H. Cho and S. Choi. Electrical Engineering, Chungnam National University, Daejeon, South Korea;
KIMM, Daejeon, South Korea

FW-07. Analysis on the Rotor Losses in High-Speed Permanent Magnet Synchronous Motor according to the Cooling Condition.

FW-08. Characteristic Analysis of Permanent Magnet Type Step Motor with claw poles by using 3 dimensional Finite Element Method.
D. Jung and J. Lee. Hanyang university, Seoul, South Korea

FW-09. Application of Polar Anisotropic Sintered NdFeB Ring-type Permanent Magnet to Brushless DC Motor.
D. Kim, D. Kim and C. Koh. R&D, Jahwa Electronics, Cheongju, Chungbuk, South Korea;
School of ECE, Chungbuk National University, Cheongju, Chungbuk, South Korea

J. Li, Z. Liu and L. Nay. ECE, National University of Singapore, Singapore, Singapore;
Data Storage Institute, Singapore, Singapore

Siemens, Columbia, SC, USA;
Inc., LA, CA, USA

FW-12. A study on the magnetic shield between permanent magnet motor and sensor for hybrid electric vehicle.
K. Kim and J. Lee. Dept. of electrical engineering, hanyang university, seoul, South Korea

S. Won and J. Lee. Electrical Eng., Hanyang University, Seoul, South Korea

S. Lim, S. Ham and J. Lee. Electrical engineering, Hanyang University, Seoul, South Korea

FW-15. Magnetic bearing design for a 100kWh flywheel energy storage system.
M.D. Noh, S. Mo, S. Yoo, S. Choi, J. Lee and Y. Han. Mechatronics Engineering, Chungnam National University, Daejeon, South Korea;
Korea Institute of Machinery and Materials, Daejeon, South Korea;
Korea Electric Power Research Institute, Daejeon, South Korea

Session FX
RECORDING MEDIA AND SYSTEM INTEGRATION (POSTER SESSION)
Bill Higgins, Session Chair

FX-01. Pt content dependence of the switching field distributions of CoPtCr-SiO2 perpendicular media characterized by subtracting the effect of thermal agitation.
T. Shimatsu, T. Kondo, K. Mitsuzuka, S. Watanabe, H. Aoi, H. Muraoka and Y. Nakamura. RIEC, Tohoku University, Sendai, Japan;
Matsumoto, Japan
FX-02. Interfacial exchange coupling and magnetization reversal for Co-SiO$_2$/(Co-Pt)-SiO$_2$ hard/soft-stacked perpendicular media. T. Shimatsu$^1$, Y. Inaba$^1$, S. Watanabe$^2$, O. Kitakami$^1$, S. Okamoto$^1$, H. Aoi$^1$, H. Muraoka$^1$ and Y. Nakamura$^1$. RIEC, Tohoku University, Sendai, Japan; 2. Fujii Electric AT Co., Ltd., Matsumoto, Japan; 3. IMRAM, Tohoku University, Sendai, Japan

FX-03. Magnetic anisotropy of Co-M-Pt (M=Cr, Mo, Ru, W, Re) perpendicular films epitaxially deposited on various seed layers materials. H. Sato$^1$, T. Shimatsu$^1$, Y. Okazaki$^1$, O. Kitakami$^2$, S. Okamoto$^2$, H. Aoi$^1$, H. Muraoka$^1$ and Y. Nakamura$^1$. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. IMRAM, Tohoku University, Sendai, Miyagi, Japan

FX-04. Exchange coupled composite media with the soft layer below the hard layer for CoCrPt/SiO$_2$ perpendicular recording media. J. Shi$^1$, L. Qiu$^2$, S. Piramanayagam$^2$, J. Zhao$^1$, C. Mah$^1$, C. Ong$^1$, J. Chen$^1$ and J. Ding$^1$. Spintronics, Media and Interface, Data Storage Institute, Singapore, Singapore; 2. Materials Science and Engineering, National University of Singapore, Singapore, Singapore

FX-05. Microstructure analysis of (001) oriented L1$_0$ FePt on NiTa. T. Osaka$^1$, J. Hsu$^1$, P. Kuo$^2$, O. Kitakami$^1$, S. Okamoto$^2$, H. Aoi$^1$, H. Muraoka$^1$ and Y. Nakamura$^1$. RIEC, Tohoku University, Sendai, Miyagi, Japan; 2. IMRAM, Tohoku University, Sendai, Miyagi, Japan

FX-06. Magnetic behaviors of (FePt-MgO)/Pt(001)/Cr(002) trilayers as the percolated perpendicular recording medium. A. Sun$^1$, J. Hsu$^1$, P. Kuo$^2$, Y. Tsai$^2$ and H. Huang$^1$. Department of Physics and Center for Nanostorage Research, National Taiwan University, Taipei, Taiwan; 2. Institute of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan

FX-07. Noise reduction of the electroless plated soft magnetic under layers by annealing in a magnetic field. M. Ito$^1$, Y. Hamaguchi$^1$, Y. Takai$^1$ and K. Ohashi$^1$. Magnetic Materials Research Center, Shin-Etsu Chemical Co., Ltd., Echizen, Fukui, Japan

FX-08. A new stacked structure for high density perpendicular recording media. J. Ariake$^1$, S. Watanabe$^1$ and N. Honda$^1$. Akita Prefectural R&D Center, Akita, Japan

FX-09. Fabrication of SmCo$_5$ double-layered perpendicular magnetic recording media. J. Sayama$^1$, Y. Yamashita$^1$, T. Ashii$^1$ and T. Osaka$^1$. Graduate School of Science and Engineering, Waseda University, Shinjuku, Tokyo, Japan; 2. Consolidated Research Institute for Advanced Science and Medical Care (ASMeW), Waseda University, Shinjuku, Tokyo, Japan

FX-10. High anisotropy Y-Co films on thin Cu underlayer. Y. Kubota$^1$, Y. Fu$^2$, X. Wu$^1$ and T. Ambrose$^1$. Seagate Research, Seagate Technology, LLC, Pittsburgh, PA, USA; 2. Department of materials science and engineering, Vanderbilt University, Nashville, TN, USA

FX-11. Guideline for selecting materials of nonmagnetic intermediate layer for granular-type perpendicular recording media. S. Saito$^1$, A. Hashimoto$^1$, N. Itagaki$^1$ and M. Takahashi$^1$. Electronic engineering, Tohoku university, Sendai, Miyagi, Japan


FX-13. Control of M-H Loop Shape in Perpendicular Recording Media by Ion Implantation. C. Choi$^{1,2}$, D. Hong$^1$, A.I. Gapin$^{1,2}$ and S. Jin$^{1,2}$. Center for Magnetic Recording Research, University of California at San Diego, La Jolla, CA, USA; 2. Material Science & Engineering, University of California at San Diego, La Jolla, CA, USA

FX-14. Written Transition Curvature Analysis at Ultra-High Linear Density. S. Li$^1$, C. Rea$^1$, K. Gao$^1$, N. Tebat$^1$ and M. Montemorra$^1$. RSO, Seagate Technology Inc, Bloomington, MN, USA

FX-15. PES Generation and Evaluation for High Density Perpendicular Recording with Microtrack Simulation. S. Zhang$^1$ and W. Wong$^1$. Mechatronics and Recording Channel Division, Data Storage Institute, Singapore, Singapore

WEDNESDAY 1:00

Session FY
RECORDING MODELING AND NOISE (POSTER SESSION)
Shaoping Li, Session Chair

FY-01. Recording Simulation of Patterned Media toward 2 Tbit/in$^2$. N. Honda$^1$, K. Yamakawa$^1$ and K. Ouchi$^{1,2}$. AIT, Akita Prefectural R & D Center, Akita, Akita, Japan; 2. Faculty of Systems Science and Technology, Akita Prefectural University, Yurihonjo, Akita, Japan

FY-02. An Analytical Solution of Read Sensor Response for Perpendicular Recording. Z. Liu$^1$, J.T. Li$^{1,2}$ and K.S. Chai$^1$. Data Storage Institute, Singapore, Singapore; 2. National University of Singapore, Singapore, Singapore

FY-03. Multi-level Magnetic Recording System. N. Amo$^{2,3}$, R. Ikkawi$^2$, A. Lavrenov$^2$, R. Chomko$^{1,2}$, D. Litvinov$^3$ and S. Khizroev$^{1,2}$. Electrical Engineering, University of California, Riverside, Riverside, CA, USA; 2. Center for Nanoscale Magnetic Devices, Florida International University, Miami, FL, USA; 3. Electrical and Computer Engineering, University of Houston, Houston, TX, USA
PROGRAM 199

FY-04. Two-dimensional data detection for probe recording on patterned media. H. Groenland1 and L. Abelmann1. Institute for Microsystems and Nanotechnology, SMI, University of Twente, EWI, P.O. Box 217, NL-7500 AE Enschede, Netherlands

FY-05. Micro-track calculation of CPP-type read head with an arbitrary magnetic shield shape. M. Hatatani1, N. Miyamoto1 and Y. Suzuki1,2,3. Head Advanced Technology, Hitachi Global Storage Technologies Japan, Odawara-shi, Kanagawa-ken, Japan; 2. RIEC, Tohoku University, Sendai-shi, Miyagi-ken, Japan; 3. Central Research Laboratory, Hitachi Ltd, Kokubunji, Tokyo, Japan


FY-07. Simulation and Stability Analysis of Current and Transverse Field Effects on Spin Transfer Noise. L. Wang1, G.C. Han1, Y.K. Zheng1 and B. Liu1. Data Storage Institute, Singapore, Singapore

FY-08. Glitch Measurements to Determine Instability Issues in Magnetoresistive Devices. H. Xi1, B. Xu1, J. Ohno1 and J.I. Guzman1, S. Franzen1 and S. Mao1. Advanced Transducer Development, Seagate Technology, Bloomington, MN, USA

FY-09. High-frequency magnetic noise in tunneling magnetoresistive heads. G. Han1, B. Zong1, S. Tan1, L. Wang1, L. Gonzaga1 and B. Liu1. Data Storage Institute, Singapore, Singapore

FY-10. Distributions of magnetic resonant frequencies and phases in TMR heads. J. Masuko1, H. Akimoto1, M. Matsumoto1, H. Kanai1 and Y. Uehara1. Advanced Head Technology, Fujitsu Limited, Nagano, Japan

THURSDAY MORNING
9:00

Session GB
CPP-TMR & GMR READ HEADS
Satoru Araki, Session Chair

9:00

GB-01. Comparison of Edge Damage in CIP, TMR, and CPP-GMR Sensors. J. Katine1, J.R. Childress1, M.J. Carey1, S. Maat1 and D. Mauri1. SJ Research, Hitachi GST, San Jose, CA, USA; 2. Ad Tech, Hitachi GST, San Jose, CA, USA

9:12

GB-02. Study of very narrow track TMR read heads. K. Mackay1, C. Tsang1, M. Cyrille1, K. Carey1, A. Marley2, S. Kiselev2, D. Mauri2, J. Moore1, H. Nguyen1, J. Piggott2 and D. Werner2. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. H/M Business Unit, Hitachi Global Storage Technologies, San Jose, CA, USA

GA-01. Current induced motion of magnetic domain walls along permalloy nanowires: application to Magnetic Racetrack storage-memory. (Invited) S. Parkin1. IBM Almaden Research Center, San Jose, CA, USA

9:00

Session GA
SYMPOSIUM ON DRIVEN DOMAIN WALL DYNAMICS IN NANOSTRUCTURES
Jordan Katine, Session Chair

9:00
GB-03. Mag-Noise and Design Concerns of Tunneling Magnetoresistive Heads. J. Zhu¹, N. Kim² and V.J. Yusz¹. Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Samsung Electronics, San Jose, CA, USA

9:36

GB-04. Thermally excited low frequency magnetization switching in TMR and CPP GMR heads. (Invited) Y. Zhou¹. R&D, Headway Technology, Milpitas, CA, USA

10:12

GB-05. Highly sensitive long-height reader with toggle mode. Y. Zheng¹, G. Han¹, K. Li¹, I. Qiu¹, Z. Guo¹, P. Luo¹, L. An¹, S. Tan¹, Z. Liu¹, L. Wang¹, B. Zong¹ and B. Liu¹. Spintronics, Media and Interface Division, Data Storage Institute, Singapore, Singapore

10:24

GB-06. IS ELECTRICAL 1/F NOISE IN TMR HEADS EQUILIBRIUM NOISE? K.B. Klaassen¹ and A.M. Taratorin¹. Recording Physics, Hitachi San Jose Research, San Jose CA, USA

10:36

GB-07. Spin torque induced noise effect in TMR Head. E. Kim¹, S.C. Lee¹ and K. Sunwoo¹. Semiconductor Material and Device Lab., Samsung Advanced Institute of Technology, Yongin, Kyongki-do, South Korea

10:48

GB-08. Study on the relationship between Cu-AlOx NOL morphology and CCP effect upon CPP-GMR. K. Miyake¹, S. Nou¹, S. Kawasaki¹, M. Doi¹ and M. Sahashi¹. Dept. of Electronic Engineering, Graduate School of Engineering, TOHOKU University, Sendai, Japan

11:00

GB-09. Annealing effect on crystalline structure of current screen layer for CPP-GMR. K. Hoshino¹, H. Hoshiya¹ and Y. Okada¹. Central Research Laboratory, Hitachi Ltd., Odawara-shi, Japan

11:12

GB-10. Control of Cu confined current paths in CCP-CPP-GMR spin valves by rapid thermal annealing. S. Gupta¹, Z.R. Tadisina¹, C. Papusoi¹, H. Fujiwara¹, J. Zhong¹ and R.K. Pandey¹. Metallurgical and Materials Engineering, The University of Alabama, Tuscaloosa, AL, USA; 2. MINT, The University of Alabama, Tuscaloosa, AL, USA; 3. Physics and Astronomy, The University of Alabama, Tuscaloosa, AL, USA; 4. Electrical and Computer Engineering, The University of Alabama, Tuscaloosa, AL, USA
10:12

GC-05. Ferromagnetic Nanotubes by ALD Coatings of Al2O3 Membranes. K. Nielsch1, M. Daub1, M. Knez1, J. Bachmann1 and U. Gösele1. Max Planck Institute of Microstructure Physics, Halle, Germany

10:24

GC-06. Synthesis and magnetic properties of self-organized FeRh nanoparticles. Y.Y.K. Hnin1 and T. Suzuki1. Toyota Technological Institute, Nagoya, Japan

10:36

GC-07. Microstructures and magnetic alignment of L10 FePt nanoparticles. S. Kang1, S. Shi1, Z. Jia1, G.B. Thompson1, D.E. Nikles1, J.W. Harrell1, D. Li2, N. Poudyal2 and J.P. Liu2. MINT Center, The University of Alabama, Tuscaloosa, AL, USA; 2. Center for Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA; 2. Center for Materials for Information Technology, The University of Alabama, Tuscaloosa, AL, USA; 3. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, MD, USA

10:48

GC-08. Angular Dependence of the Magnetostatic Interaction in Arrays of Magnetic Nanostructures. M.A. Bolte1, H. Ziehlke1, R. Eiselt1, G. Meier1, D. Kim2 and P.J. Fischer2. 1. Institute of Applied Physics and Center for Microstructure Research, University of Hamburg, Hamburg, Germany; 2. Center for X-ray Optics, LBL, Berkeley, CA, USA

11:00

GC-09. Study of demagnetization protocols for frustrated interacting nanomagnet arrays. R.F. Wang1, J. Li2, W. McComville1, C. Nisoli1, P. Lammert1, V.H. Crespi1 and P. Schiffer1. 1. Institute of Physics and Center for Microstructure Research, University of Hamburg, Hamburg, Germany; 2. Center for X-ray Optics, LBL, Berkeley, CA, USA

11:12

GD-02. Oscillatory Interlayer Coupling in Epitaxial Co$_2$MnSi/Cr/Co$_2$MnSi Trilayers. H. Wang$^1$, A. Sato$^1$, K. Yakushiji$^2$, K. Saito$^1$, S. Mitani$^1$ and K. Takanashi$^1$. Institute for Materials Research, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai 980-8577, Japan; 2. Nanoelectronics Research Institute(NeRI), National Institute of Advanced Industrial Sciences and Technology (AIST), 1-1-1 Umezono, Tsukuba 305-8568, Japan

GD-03. Theoretical Modeling of Half-metallic CPP Spin Valves. S. Tan$^1$, M. Jalil$^2$, S. Kumar$^{1,2}$, K. Li$^1$, Y. Zheng$^1$ and G. Han$^1$. Data Storage Institute, Singapore, Singapore; 2. ISML, ECE, National University of Singapore, Singapore, Singapore

GD-04. Properties of quaternary half metal-type Heusler compounds Co$_2$Mn$_{1-x}$Fe$_x$Si: Tuning the Fermi energy. (Invited) C. Felser$^1$, B. Balke$^1$ and K. Kobayashi$^1$. Institute of Inorganic Chemistry, University of Mainz, Mainz, Germany; 2. Japan Synchrotron Radiation Research Institute (SPring-8/JASRI), Hyogo, Japan

GD-05. Structural and magneto-transport characterization of Co$_2$Cr$_{1-x}$Fe$_x$Al Heusler alloy films. D. Rata$^1$, H. Braak$^1$, D.E. Bürgler$^1$, S. Cramm$^1$ and C.M. Schneider$^1$. Institut für Festkörperforschung, Forschungszentrum Jülich GmbH, D-52425 Jülich, Germany

GD-06. Spinpolarization of Ni$_2$MnIn and Ni$_2$Fe$_{28}$ determined by point-contact Andreev spectroscopy. L. Bocklage$^1$, J.M. Scholtysek$^1$, U. Merkt$^1$ and G. Meier$^1$. University of Hamburg, Hamburg, Hamburg, Germany

GD-07. High spin polarization in a two phase quaternary Heusler alloy Co$_2$MnAl$_{1-x}$Sn$_x$. A. Rajanikanth$^{1,2}$, Y.K. Takahashi$^2$ and K. Hono$^{1,2}$. 1. Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba 305-0047, Ibaraki, Japan; 2. Magnetic Materials Center, National Institute for Materials Science (NIMS), Tsukuba 305-0047, Ibaraki, Japan

GD-08. Electronic and magnetic structure of CrO$_2$-RuO$_2$ interfaces. K.B. Chetry$^{1,4}$, H. Sims$^2$, W.H. Butler$^{1,4}$ and A. Gupta$^{1,4}$. 1. Physics and Astronomy, University of Alabama, Tuscaloosa, AL, USA; 2. Physics, Tulane University, New Orleans, LA, USA; 3. Chemistry and Chemical Engineering, University of Alabama, Tuscaloosa, AL, USA; 4. Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL, USA

GD-09. Magneto-transport in single crystal Fe$_3$O$_4$/MgO/Co magnetic tunnel junctions. F. Greullet$^1$, E. Snoeck$^2$, C.V. Tsusan$^1$, F. Montaigne$^1$, G. Lengaigne$^1$, L. Calmels$^2$, B. Warot$^2$ and M. Hehn$^1$. Nancy University, CNRS, Institut de Physique des Matériaux, Vandoeuvre les Nancy, Lorraine, France; 2. CEMES, Toulouse, France

GD-10. Dependence of magnetoresistance characteristics of magnetic tunnel junctions with a Heusler alloy thin film of either Co$_2$MnGe or Co$_2$MnSi on film composition. S. Hakamata$^1$, T. Ishikawa$^1$, T. Marukame$^1$, K. Matsuda$^1$, T. Uemura$^1$, M. Arita$^1$ and M. Yamamoto$^1$. Division of Electronics for Informatics, Hokkaido University, Sapporo, Japan


GD-12. Element Specific Investigation of Ultra-Thin Co$_2$MnGa/GaAs Heterostructures. J.S. Claydon$^1$, S. Hassan$^1$, C.D. Damsgaard$^2$, J. Bindslev Hansen$^1$, Y.B. Xu$^1$ and G. van der Laan$^1$. 1. Electronics Department, University of York, York, United Kingdom; 2. Department of Micro and Nanotechnology, Technical University of Denmark, Lyngby, Denmark; 3. Department of Physics, Technical University of Denmark, Lyngby, Denmark; 4. Daresbury Laboratory, Warrington, United Kingdom
GD-13. Influence of hot pressure on the low field magnetoresistance of CrO$_2$. X. Wang$^1$, Y. Sui$^1$, X. Song$^1$, R. Zhu$^1$, Z. Qin$^1$ and W. Su$^1$. Physics, Harbin Institute of Technology, Harbin, Heilongjiang, China

THURSDAY MORNING

9:00

Session GE

MICROMAGNETICS: APPLICATIONS II

Kaizhong Gao, Session Chair

GE-01. Reducing spin-wave reflections in computational micromagnetics. S. Bance$^1$, T. Schrefl$^1$, D.A. Allwood$^1$, G. Hrkac$^1$ and A. Goncharov$^1$. Engineering Materials, University of Sheffield, Sheffield, United Kingdom

GE-02. Resonant switching using spin valves. K. Rivkin$^{1,2}$ and J. Ketterson$^1$. Northwestern University, Evanston, IL, USA; 2. Texas A&M, College Station, TX, USA

GE-03. Spin waves in ultra-thin films under far-from-equilibrium conditions. G. Bertotti$^1$, C. Serpico$^2$, I.D. Mayergoyz$^3$ and M. d’Aquino$^2$. 1. INRIM, Torino, Italy; 2. Dept. of Electrical Engineering, University of Napoli Federico II, Napoli, Italy; 3. Dept. of Electrical and Computer Engineering, University of Maryland, College Park, MD, USA

GE-04. Reflection and refraction of dipole-exchange spin waves. S. Choi$^1$, K. Lee$^1$ and S. Kim$^1$. Research Center for Spin Dynamics & Spin-Wave Devices (ReC-SDSW) and Nanospintronics Laboratory, Seoul National University, Seoul 151-744, South Korea

GE-05. Micromagnetics on curved geometries using rectangular cells: error correction and analysis. M.J. Donahue$^2$ and R.D. McMichael$^1$. Metallurgy Division, NIST, Gaithersburg, MD, USA; 2. Mathematical and Computational Sciences Division, NIST, Gaithersburg, MD, USA

GE-06. Analysis of Coercivity and Magnetoresistance in Arrays of Connected Nano-Rings. G. Bordignon$^{1,2}$, T. Fischbacher$^2$, M. Franchin$^{1,2}$, J.P. Zimmermann$^*$, A.A. Zhukov$^1$, P.J. de Groot$^1$ and H. Fangohr$^1$. School of Physics and Astronomy, University of Southampton, Southampton, United Kingdom; 2. School of Engineering Sciences, University of Southampton, Southampton, United Kingdom

GE-07. Magnetic Configurations and Phase Diagrams of sub-100 nm NiFe Nanorings. N. Benatmane$^1$, W. Scholz$^2$ and T.W. Clinton$^1$. Research, Seagate, Pittsburgh, PA, USA

GE-08. Hysteretic properties of symmetrical spin-valves with elliptical cross-section and exchange-biasing at a skewed angle. J.E. Miltat$^1$ and I. Kvirorovtov$^1$. Lab. Physique des Solides, Univ. Paris-Sud & CNRS, Orsay, France; 2. Dept. of Physics and Astronomy, University of California, Irvine, CA, USA

GE-09. Micromagnetic modelling of the dynamics of exchange springs in multilayer systems. M. Franchin$^{1,2}$, J.P. Zimmermann$^*$, T. Fischbacher$^2$, G. Bordignon$^{1,2}$, A.A. Zhukov$^1$, P.J. de Groot$^1$ and H. Fangohr$^1$. School of Physics and Astronomy, University of Southampton, Southampton, Hampshire, United Kingdom; 2. School of Engineering Sciences, University of Southampton, Southampton, Hampshire, United Kingdom

GE-10. Magnetism at nanoscopic scale: numerical simulation and application to domain wall pinning. T. Jourdan$^1$, A. Marty$^1$ and F. Lançon$^1$. DRFMC/S2P2M, CEA Grenoble, Grenoble, France

GE-11. Single spin model of a small magnetic grain with inhomogeneities at the atomic length scale. E.D. Boerner$^3$. Seagate Technology, Pittsburgh, PA, USA

GE-12. Magnetization Reversal in Cubic Nanoparticles with Uniaxial Surface Anisotropy. R. Skomski$^1$, X.H. Wei$^1$ and D.J. Sellmyer$^1$. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA

THURSDAY MORNING
9:00

Session GF
MAGNETIC BIOSENSORS
Paulo Cesar de Morais, Session Chair

GF-01. On Controllability of Parallel Magnetic Manipulation of Multiple Micro-Particles in Fluids. S. Bhat1, J. Guez1, T. Kurzweg1, A. Guez1 and G. Friedman1. Electrical and Computer Engineering, Drexel University, Philadelphia, PA, USA; 2. Surgery, Drexel College of Medicine, Philadelphia, PA, USA


GF-03. Noise characteristic of Diode+MTJ matrix elements for biochip applications. F.A. Cardoso1,2, R. Ferreira1,2, S. Cardoso1,2, J. Conde1,2, V. Chu1, P.P. Freitas1,2, J. Germano1,2, T. Almeida1,2, M.S. Piedade1,2, L. Sousa1,2, I. INESC-MN, Lisbon, Portugal; 2. Instituto Superior Tecnico, Lisbon, Portugal; 3. INESC-ID, Lisbon, Portugal

GF-04. Magnetic Multilayer Ring-based Digital Biosensors. (Invited) J. Llandro1, T.J. Hayward1, Z. Jiang1, D. Morecroft1,2, T. Mitrelas1, J.C. Bland1, F.J. Castaño1 and C.A. Ross1. Thin Film Magnetism Group, University of Cambridge, Cambridge, United Kingdom; 2. Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA

GF-05. Detection of bio-magnetic labels by sensing their induced ferromagnetic resonance with magneto-resistive sensor. Y. Zhou1. R&D, Headway Technology, Milpitas, CA, USA

GF-06. Hall Bio-Sensor Microfluidic Platform for Magnetic Labels. M. Ino1, Y. Yamamoto1, M. Abe1, S. Sakamoto1, H. Handa1 and A. Sandhu1.1. Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Meguro, Tokyo, Japan; 2. Department of Physical Electronics, Tokyo Institute of Technology, Meguro, Tokyo, Japan; 3. Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Meguro, Tokyo, Japan; 4. Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Kanagawa, Japan

GF-07. Assembly of superparamagnetic nanobeads via biological binding and their magnetic detection with an InAs Hall sensor. P. Manandhar1, G. Mihajlovic1, S. von Molnar1, P. Xiong1, K. Ohtani1, H. Ohno1, M. Field1 and G.J. Sullivan1. MARTECH and Department of Physics, Florida State University, Tallahassee, FL, USA; 2. Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 3. Rockwell Scientific Company LLC, Thousand Oaks, CA, USA

GF-08. Metallic Hall Effect Sensors for Biosensor Applications. M.M. Miller1, J.A. Christodoulides1, D.T. Smith2, M.P. Raphael1, D.J. Peña1,2, L.K. Kurihara1 and J.M. Byers1. Code 6363, Naval Research Lab, Washington, DC, USA; 2. Center for Nanomagnetic Systems, University of Houston, Houston, TX, USA

GF-09. Nanoparticle (γ-Fe₂O₃) Magnetization and Fluctuation Detection by Micro-Hall Sensors. S. Nakamae1, D. L’Hôte1, F. Ladieu1, V. Dupuis2, E. Dubois2, R. Perzynski2, M. Konczykowski1 and V. Mosser1. SPEC, CEA-Saclay, Gif sur Yvette, France; 2. Laboratoire des Liquides Ioniques et Interfaces Chargées, Université Pierre et Marie Curie, Paris, France; 3. Centre d’Etudes et de Recherches sur les Matériaux, Ecole Polytechniques, Palaiseau, France; 4. ITRON France, Malakoff, France

GF-10. Ultra-Sensitive magnetic bio-sensor. W. Wang1 and Z. Jiang1. Electrical Engineering, University of Wisconsin-Milwaukee, Milwaukee, WI, USA
GF-11. InAs quantum well mesoscopic Hall sensors for biomolecular applications. G. Mihajlovic¹, P. Xiong¹, v. Stephan², K. Ohtani², H. Ohno², M. Field³ and G.J. Sullivan¹. MARTECH and Department of Physics, Florida State University, Tallahassee, FL, USA; 2. Laboratory for Electronics Intelligent Systems, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; 3. Rockwell Scientific Company LLC, Thousand Oaks, CA, USA

GF-12. Multilayer magnetic nanorods for biosensing and cell mechanics. P. Punnakitikashem¹, S. Chang¹ and Y. Hao¹. Materials Science and Engineering, University of Texas at Arlington, Arlington, TX, USA

GF-13. Novel Biomagnetic Sensing Technique for in vivo Characterization of Inflammatory Tissues. I. Tan¹ and A. Brazdeikis¹. Department of Physics and Texas Center for Superconductivity, University of Houston, Houston, TX, USA

THURSDAY MORNING

9:00

Session GG
GIANT MAGNETOEImpedance
Peter Eames, Session Chair

GG-01. Oscillating voltage dependence of the magneto impedance in Magneto Tunneling Junctions. W. Chien¹, L. Hsieh², T. Peng¹, C. Lo², Y. Yao¹, P. Lin¹ and X. Han¹. Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Electronics and Optoelectronics Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan; 3. Institute of Physics, Academia Sinica, Taipei, Taiwan; 4. Institute of Physics, Chinese Academy of Sciences, Beijing, China

GG-02. Optimized GMI response of Co-based amorphous glass-coated microwires by direct control over the surface magnetoelastic anisotropy. H. Chiriac¹, S. Corodeanu¹, M. Tibu¹ and T.A. Ovari¹. National Institute of R&D for Technical Physics, Iasi, Romania

GG-03. Influences of annealing and sample geometry on the giant magnetoimpedance effect in a glass-coated microwire LC-resonator. A. Le¹, C. Kim¹, Y. Kim², S. Yu², M. Phan² and H. Lee¹. Department of Materials Engineering, Chungnam National University, Daejeon, South Korea; 2. Department of Physics, Chungbuk National University, Cheongju, South Korea; 3. Department of Aerospace Engineering, University of Bristol, Bristol, United Kingdom; 4. Department of Physics Education, Kongju National University, Kongju, South Korea

GG-04. Effect of sputtered seed layer on electrodeposited Ni80Fe20/Cu of composite wires. X. Li¹, J. Yi¹, C. Koh¹, H. Seet¹, J. Yim², S. Thongmee² and J. Ding². Mechanical Engineering, National University of Singapore, Singapore, Singapore; 2. Materials Science and Engineering, National University of Singapore, Singapore, Singapore

GG-05. Measurement and model of the tensile stress dependence of the second harmonic of non-linear GMI in amorphous wires. D. Seddaoui¹, D. Ménard¹ and A. Yelon¹. Engineering Physics, École Polytechnique, Montréal, QC, Canada

GG-06. Study of the Interactive Effect in Amorphous Microwire Array by GMI Spectrum. J. Fan¹, X. Li¹, Z. Zhao² and X. Qian¹. Mechanical Engineering, National University of Singapore, Singapore, Singapore; 2. Physics, East China Normal University, Shanghai, China

GG-07. GMI in FM/SiO₂/Cu/SiO₂/FM Films at GHz Frequencies. M.A. Corrêa¹, A.D. C. Viegas², F. Bohn¹, R.B. da Silva¹, M.A. Carara¹, L.F. Schelp¹ and R.L. Sommer¹. Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil; 2. Universidade Federal de Santa Catarina, Florianópolis, SC, Brazil; 3. Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, RJ, Brazil

GG-08. Nanocrystallization, giant magneto-impedance and quantum interference effect in Fe₇₃.₅Cu₁Nb₃Si₁₃.₅B₉ (FINEMET) metallic glasses. T.K. Nath¹ and M.K. Singh¹. Physics & Meteorology, Indian Institute of Technology Kharagpur, Kharagpur, West Bengal, India
GG-09. Electromagnetic noise suppressors integrated with a magnetic thin film on a Si substrate. J. Sohn1, S. Han1, M. Yamaguchi2 and S. Lim1. Nano Device Research Center, Korea Institute of Science and Technology, Seoul, South Korea; 2. Department of Electrical and Communication Engineering, Tohoku University, Sendai, Japan; 3. Materials Science and Engineering, Korea University, Seoul, South Korea

10:48

GG-10. Comparative Study on Magnetoimpedance Effect in Laminating FeAlN Films with Non-ferromagnetic and Ferromagnetic layer. Z. Zhong1, H. Zhang1, Y. Jing1, X. Tang1 and S. Liu1. State Key Laboratory of Thin Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; 2. School of Optoelectronic Information, University of Electronic Science and Technology of China, Chengdu, Sichuan, China

11:00

GG-11. Anomalous magnetoimpedance in Co-Fe-Al-O thin films. A. Le1, D. Nguyen1, M. Phan2, C. Kim1, C. Kim1 and M. Vázquez1. Research Center for Advanced Magnetic Materials, Chungnam National University, Daejeon 305-764, South Korea; 2. Department of Aerospace Engineering, University of Bristol, Bristol BS8 1TR, United Kingdom; 3. Instituto de Ciencia de Materiales, CSIC, 28049 Cantoblanco, Madrid, Spain

11:12

GG-12. Generalized formalism for the calculation and optimization of the magnetic noise in GMI based devices. L. Melo1, D. Menard1, A. Yelon1, L. Ding2, S. Saez2 and C. Dolabdjian1. Genie Physique, Ecole Polytechnique de Montreal, Montreal, QC, Canada; 2. GREYC – CNRS UMR, ENSICAEN and University of Caen, Caen, France

11:24

GG-13. Permeability Variation Measurements of Bi-Layered Magnetostrictive/Piezoelectric Composite Materials for Tunable Microwave Applications. S. De Blassi2, S. Dubourg2, P. Queffelec3, O. Bodin2 and M. Ledieu2. LEST UMR-CNRS 6165, Brest Cedex, France; 2. CEA Le Ripault, Monts, France

11:36

GG-14. Observation of inverse Doppler effect in in-plane magnetized magnetic film. G. Melkov1, Y. Koblyanskiy1, V. Malyshiev1, B. Hillebrands2 and A. Slavin1. Radiophysics Faculty, Taras Shevchenko Kiev University, Kiev, Ukraine; 2. Fachbereich Physik, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 3. Physics, Oakland University, Rochester, MI, USA

11:48
GH-06. Effect of B to Si concentration ratio on glass-forming ability and soft-magnetic properties in (Co0.705Fe0.045B0.25-xSix)96Nb4 bulk glassy alloys. B. Shen1, Y. Zhou1, C. Chang1 and A. Inoue1. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan

10:12

GH-07. Structure and magnetic properties of nanocrystalline soft magnetic alloys with improved mechanical properties. T.M. Heil1, J.J. Flores2 and M.A. Willard1. Code 6355, Naval Research Laboratory, Washington, DC, USA; 2. Department of Physics, University of Puerto Rico, Rio Piedras Campus, San Juan, Puerto Rico

10:24

GH-08. Improvement of soft magnetic properties by simultaneous addition of P and Cu for nanocrystalline FeNbB alloys. A. Makino1, T. Bitoh1, M. Bingo1, T. Yamamoto1 and A. Inoue1. Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan; 2. Department of Machine Intelligence and Systems Science, Akita Prefectural University, Yurihonjo, Akita, Japan

10:36

GH-09. Cryogenic hysteretic loss analysis for (Fe,Co,Ni)-Zr-B-Cu nanocrystalline soft magnetic alloys. M.A. Willard1 and T.M. Heil1. Code 6355, U.S. Naval Research Laboratory, Washington, DC, USA

10:48

GH-10. CORE LOSSES OF NANOCRystALLINE SOFT MAGNETIC MATERIALS UNDER SQUARE VOLTAGE WAVEFORMS. V. Valchev1, A.P. Van den Bossche2 and P. Sergeant1. Electronics, TU-Varna, Bulgaria; Varna, Bulgaria; 2. EESA, Ghent University, Gent, Belgium

11:00

GP-05. Ps pulsed excitation of spin packets and spin currents.  
M. Djordjevic1, J. Walowski1, G. Müller1, G. Eilers1 and M.G. Muenzenberg2. I. IV. Phys. Institute, Göttingen University, Göttingen, Germany

GP-06. Simulation of spin dynamics excited by sub-picosecond heat pulses. N. Kazantseva1, R.W. Chantrell1 and U. Nowak1. Physics, University of York, York, United Kingdom

GP-07. Lowest intrinsic and total ferromagnetic damping in ferromagnetic metals: epitaxial MgO/Fe1-xVx. C. Scheck1, L. Cheng1, I. Barsukov2, Z. Frai2 and W.E. Bailey1. APAM, Columbia University, New York, NY, USA. 2. Institut of physics, Academy of sciences of the Czech Republic, Prague, Czech Republic

GP-08. Bose-Einstein condensation of magnons under parametric pumping: direct observation at room temperature. S.O. Demokritov1, V.E. Demidov1, O. Dzyapko1, G.A. Melkov2 and A.N. Slavin1. University of Muenster, Muenster, Germany. 2. National Taras Shevchenko University of Kiev, Kiev, Ukraine. 3. Oakland University, Rochester, MI, USA

GP-09. Non-local dynamics due to Spin Pumping. G. Woltersdorf1, O. Mosendz2, F. Hoffmann1, B. Heinrich2 and C.H. Back1. Physics, University of Regensburg, Regensburg, Germany. 2. Physics, Simon Fraser University, Burnaby, BC, Canada

GP-10. Pulsed inductive measurement of ultra-fast magnetization dynamics in interlayer exchange coupled NiFe/Ru/NiFe films. T. Martin1, M. Belmeguenai1, M. Maier1, K. Perzlmaier1 and G. Bayreuther1. Institut der Regensburg, Regensburg, Germany

GP-11. Nonlinear resonant and chaotic magnetization dynamics in microwave assisted magnetization switching. C. Serpico1, G. Bertotti2, M. d’Aguio3, I.D. Mayergozy2 and R. Bonin3. Dept. of Electrical Engineering, University of Napoli, Napoli, Italy. 2. Istituto Nazionale di Ricerca Metorologica (INRIM), Torino, Italy. 3. ECE Department and UMIACS, University of Maryland, College Park, MD, USA

GP-12. Femtosecond time-resolved magneto-optical Kerr study of coherent spin waves in La0.67Ca0.33MnO3. Y. Ren1, D. Wang2, R. Merlin2, A. Venimadhav1 and Q. Li1. Physics, CUNY, Hunter College, New York, NY, USA. 2. Physics, The University of Michigan, Ann Arbor, MI, USA. 3. Physics, Pennsylvania State University, University park, PA, USA

GP-13. Precession damping in itinerant ferromagnets. K. Gilmore1,2, M.D. Stiles2 and Y.U. Idzerda1. Physics, Montana State University, Bozeman, MT, USA. 2. Electron Physics, National Institute of Standards and Technology, Gaithersburg, MD, USA

GP-14. Study of Individual Ferromagnetic Dots with Femtosecond Optical Pulses. A. Larauoi1, J. Vénat1, V. Halté1, M. Albrecth1, M. Vomir1, E. Beaurrepaire and J. Bigot1. Institute of Physics and Chemistry of Materials at Strasbourg (IPCMS), UMR7504, CNRS, University Louis Pasteur, Strasbourg, France

GP-15. Optical modification of magnetic anisotropy and stimulation of precession in a Co2MnAl thin film. L.R. Shelford1, Y. Liu1, V.V. Kruglyak1, R.J. Hicken1, Y. Sakuraba2, M. Oogane2, Y. Ando2 and T. Miyazaki2. Physics, University of Exeter, Exeter, United Kingdom. 2. Department of Applied Physics, Tohoku University, Sendai, Japan

Thursday Morning
8:00

Session GQ

OXIDE MAGNETIC SEMICONDUCTORS II

POSTER SESSION

George Kieseoglou, Session Co-chair
Aubrey Hanbicki, Session Co-chair

GQ-01. First-principles investigation of Co- and Fe-doped SnO2. W. Xianlong1, Z. Zhi1 and L. Huiqing2. 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, Shatin, Hong Kong, China

GQ-02. Absence of ferromagnetism in V-implanted ZnO crystals. S. Zhou1, K. Potzger1, G. Zhang1, N. Schell1, W. Skorupa1, M. Helm1 and J. Fassbender1. Institute of Ion Beam Physics and Materials Research, Forschungszentrum Rossendorf, Dresden, Germany

GQ-03. ESR and Raman scattering spectra of Mn-doped ZnO ceramics. T. Phan1, M. Phan2, R. Vincent1, X. Nguyen3 and S. Thi4. Microstructures Group, Department of Physics, University of Bristol, Bristol BS8 1 TR, United Kingdom. 2. Department of Aerospace Engineering, University of Bristol, Bristol BS8 1 TR, United Kingdom. 3. Institute of Materials Science, Academy of Science and Technology, Hanoi, Viet Nam. 4. Department of Physics, Chungbuk National University, Cheongju 361-763, South Korea

GQ-04. Electronic structure and magnetic properties of copper diffused ZnO(0001): ab initio approach. Y. Kim1, S. Lee2, J. Im3 and Y. Chung1. Materials Science and Engineering, Hanyang University, Seoul, South Korea. 2. Central R&D Institute, Samsung Electro-Mechanics Co. Ltd., Suwon, South Korea. 3. Korea Institute of Ceramic Engineering and Technology, Seoul, South Korea

GQ-05. Fe valence states and ferromagnetism occurring in reduced anatase TiFe4O9. H. Lee1 and C. Kim1. Physics, Kookmin University, Seoul, South Korea
GQ-06. Structural and magnetic properties of Mn-doped CuO thin films. H. Zhu¹, F. Zhao², L. Pan³, Y. Zhang², C. Fan¹, Y. Zhang² and J.Q. Xiao¹. I. Physics and Astronomy, University of Delaware, Newark, DE, USA; 2. Department of Physics, University of Science and Technology Beijing, Beijing, China

GQ-07. Tuning the Electrical and Magnetic Properties of Cr Doped In₂O₃ by Vacuum Annealing. P. Khare³, S. Chandran¹, S. Moodakare B¹, G. Lawes³, R. Suryanarayanan², R. Naik¹ and V.M. Naik¹. Department of Physics and Astronomy, Wayne State University, Detroit, MI, USA; 2. LPCES, Université Paris-Sud, Orsay, France; 3. Department of Natural Sciences, University of Michigan-Dearborn, Dearborn, MI, USA

GQ-08. Mapping ferromagnetism in Ti₁₋ₓCoxO₂ – Role of preparation temperature (200 – 900 °C) and doping concentration (0.00015 < x < 0.1). K.M. Reddy¹ and A. Punnoose¹. I. Physics Department, Boise State University, Boise, ID, USA

GQ-09. Ferromagnetism in sputtered manganese-doped indium tin oxide films with high conductivity and transparency. T. Nakamura¹, K. Tanabe¹ and K. Tachibana¹. I. Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan

GQ-10. Hydrogenated annealing on structural, electronic and magnetic properties of V-doped ZnO. S. Liu¹, H. Hsu¹, C. Lin² and J. Huang³. I. Physics, National Cheng-Kung University, Tainan, Taiwan; 2. Mechanical Engineering, Southern Taiwan University of Technology, Tainan, Taiwan; 3. Applied Physics, National Kaohsiung University, Kaohsiung, Taiwan

GQ-11. An Fe³⁺ Electron Paramagnetic Resonance Study of Sn₁₋ₓFeₓO₃. S.K. Misra¹, S.I. Andronenko¹, K.M. Reddy¹, J. Hayes², A. Thubur² and A. Punnoose¹. I. Physics, Concordia University, Montreal, QC, Canada; 2. Physics, Boise State University, Boise, ID, USA

GQ-12. Room temperature fabricated ZnCoO films with high carrier concentration. H. Huang¹, C. Lai¹, P. Huang¹, C. Yang¹, H. Huang² and H. Bör². I. Materials Science and Engineering, National Tsing Hua University, HsinChu, Taiwan; 2. Materials & Electro-Optics Research Division Metallurgy Division, Chung-Shan Institute of Science & Technology, Taoyuan, Taiwan

GQ-13. Phase diagram of ferromagnetism in Co: (La, Sr)TiO₃. S. Zhang¹, D.C. Kundaliya¹, S.B. Ogale¹, L. Fu¹, S. Young³, S. Dhar¹, N.D. Browning², L.G. Salamanca-Riba³ and T. Venkatesan¹. I. Physics Department, University of Maryland, College Park, MD, USA; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, USA; 3. Department of Materials Science and Engineering, University of Maryland, College Park, MD, USA

GQ-14. Influence of defects on the magnetism of Mn-doped ZnO. D.M. Iusan¹, B. Sanyal¹ and O. Eriksson¹. I. Department of Physics, Theoretical Magnetism Group, Uppsala University, Uppsala, Sweden

GQ-15. Thickness dependence of the magneto-optical properties of ZnO:Ti. J.R. Neal¹, A. Mohktari¹, A.J. Behan¹, H.J. Blythe¹, A.M. Fox¹ and G.A. Gehring¹. I. Department of Physics and Astronomy, The University of Sheffield, Sheffield, United Kingdom

GQ-16. Structure and magnetic properties of V-doped SnO₂ thin films. J. Zhang¹, S. K. Misra¹, Y. Lu², S. Y. Wen², S.K. Misra¹, Y. Lu², S. Y. Wen², S. Y. Kwon² and D.J. Sellmyer¹. I. Department of Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, NE, USA; 2. Department of Electrical Engineering, University of Nebraska-Lincoln, Lincoln, NE, USA; 3. Nebraska Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, NE, USA

GQ-17. WITHDRAWN

GQ-18. Interpretation of ferromagnetic Fe doped ZnO by the Mössbauer spectroscopy. S. Park¹, G. Ahn² and C. Kim¹. I. Department of Physics, Konkuk University, Seoul, South Korea; 2. Neutron Physics, HANARO, Korea Atomic Energy Research Institute, Daejeon, South Korea

GQ-19. Relationship between carrier mobility and oxygen vacancy in ferromagnetic Mn-doped ZnO. S. Park¹, H. Lee¹, P. Kim³, Y. Lee¹, T. Kim², J. Rhee¹ and J. Kang¹. I. Physics & q-Psi, Hanyang University, Seoul, South Korea; 2. Physics, Ehwa womans University, Seoul, South Korea; 3. BK21 & Dept. of Physics, Sungkyunkwan University, Suwon, South Korea; 4. Physics, Konkuk University, Seoul, South Korea

GQ-20. Ferromagnetism in Cu-doped ZnO nanocrystals. X. Wang¹, J. Xu¹, W. Cheung¹, N. Ke¹ and S. Wong¹. I. Department of Electronic Engineering, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong

GQ-21. Influence of Mn substitution on microstructure and magnetic properties of Cu₁₋ₓMnₓO nanoparticles. N.R. Gadu¹, Y.D. Yao² and J.W. Chen¹. I. Physics, National Taiwan University, Taipei, Taiwan; 2. Physics, Academia Sinica, Taipei, Nankang, Taiwan

GQ-22. Doped ZnO Nanoclusters: Synthesis, Characterization, and Ferromagnetism at Room Temperature. Y. Qiang¹, J. Antony¹, A. Sharma¹, D. Meyer¹ and M. Faheem¹. I. Physics Department, University of Idaho, Moscow, ID, USA

GQ-23. Giant magnetoresistance in Co-doped ZnO nanocluster films. M. Faheem¹, Y. Qiang¹, J. Antony¹, S. Yan² and L. Mei². I. Physics Department, University of Idaho, Moscow, ID, USA; 2. School of Physics and Microelectronics, Shandong University, Jinan, Shandong, China

GQ-24. Large positive magnetoresistance effect and valences of Mn in In₁₋₀.₉₀Mn₀.₁Sn₅O₅₃. X. Wang¹, G. Peleckis¹, S. Dou¹ and R. Liu¹. I. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Department of Chemistry, National Taiwan University, Taipei, Taiwan
GR-01. Magnetic Properties of Epitaxial Films of BiCrO$_3$. J. Barbosa$^1$, B. Almeida$^1$, J.A. Mendes$^1$, A. Rolo$^1$, J.P. Araújo$^1$, 1. Physics, Minho University, Braga, Portugal; 2. Materials Science and Engineering Department, National Taiwan University, Taipei, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 4. Department of Applied Physics, The Hong Kong Polytechnic University, Kowloon, Hong Kong

GR-02. Magnetic Characterization of Nanogranular BaTiO$_3$-CoFe$_2$O$_4$ Thin Films Deposited by Pulsed Laser Ablation. J. Lee$^1$, J. Chen$^2$, J. Juang$^1$,4, J. Lin$^2$, K. Wu$^1$, T. Uen$^1$ and J. Barbosa$^1$, 1. Physics, Kookmin University, Seoul, South Korea; 2. Physics & Astronomy, Rutgers University, Piscataway, NJ, USA

GR-03. Observation of high dielectric constant of RMn$_2$O$_5$ with R = Tb, Dy, and Er. K. Kuo$^1$, G. Chern$^1$, T.C. Han$^2$ and J.G. Lin$^1$. 1. Physics, National Taiwan Normal University, Taipei, Taiwan; 2. Institute of Physics, National Tsing Hua University, Hsinchu, Taiwan; 3. Dept. of Industrial Chemistry, University of Genoa, Genoa, Italy; 4. Dept. of Chemical & Process Eng., Polytechnics University, Bucharest, Romania

GR-04. Magnetic properties and electronic structure of doped multiferroic Y$_{1-x}$A$_x$MnO$_3$(A=Ca, Sr). C. Hsieh$^1$, T. Cheng$^1$, J. Lee$^1$, J. Chen$^1$, J. Juang$^{1,4}$, J. Lin$^1$, K. Wu$^1$, T. Uen$^1$ and Y. Gou$^1$. 1. Physics, Minho University, Braga, Portugal; 2. Institute of Physics, National Chiao-Tung University, Hsinchu, Taiwan; 3. National Synchrotron Radiation Research Center, Hsinchu, Taiwan; 4. Department of Physics, National Taiwan Normal University, Taipei, Taiwan

GR-05. Dynamically Coupled Magneto-Elasto-Electric Effect in Multiferroic Laminated Composites of 1–3 Magnetostriuctive Composite and 1-3 Piezoelectric Composite. S. Or$^1$ and N. Cai$^1$. 1. Department of Applied Physics, The Hong Kong Polytechnic University, Kowloon, Hong Kong

GR-06. Modulation of Forward Bias Threshold Voltage in all Oxide Schottky and p-n Junction Microdevices. S.B. Ogale$^1$, L.F. Fu$^2$, G. Langham$^1$, N.D. Browning$^2$ and T. Venkatesan$^1$. 1. Department of Physics, University of Maryland, College park, MD, USA; 2. Lawrence Berkeley National Laboratory, Berkeley, CA, USA

GR-07. Structural, magnetic and ferroelectric properties of multiferroic BiFeO$_3$ film fabricated by chemical solution deposition. H. Naganuma$^1$ and S. Okamura$^1$. 1. Department of Applied Physics, Faculty of Science, Tokyo University of Science, Tokyo, Japan

GR-08. Magneto-electric coupling in Pb(Zr$_{0.5}$Ti$_{0.5}$)O$_3$/La$_{0.9}$Sr$_{0.1}$MnO$_3$ bilayer. L. Jeng-Hwa$^1$, W. Tai-Bor$^1$, C. Yuan-Tsung$^1$ and W. Jenn-Ming$^1$. 1. Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan

GR-09. Study on multiferroic properties in Co/BaTiO$_3$ nanocomposite thin films. J. Park$^1$, M. Kim$^1$, Y. Jeong$^2$ and H. Jang$^1$. 1. Department of Materials Science and Engineering, POSTECH, Pohang, South Korea; 2. Department of Physics, POSTECH, Pohang, South Korea; 3. Pohang Accelerator Laboratory, Pohang, South Korea

GR-10. Magneto-electric Effect of Ferroelectric LuFe$_2$O$_4$ at Room Temperature. J. Park$^1$, J. Park$^1$, S. Ryu$^1$, Y. Jung$^1$ and H. Jang$^1$. 1. Department of Materials Science and Engineering, POSTECH, Pohang, South Korea

GR-11. Mössbauer studies of multiferroic spinel CoCr$_{1.98}$Fe$_{0.02}$O$_4$. K. Choi$^1$, S. Kim$^1$ and C. Kim$^1$. 1. Physics, Kookmin Univ., Seoul, South Korea

GR-12. Mössbauer studies of mixed valence LuFe$_2$O$_4$. B. Bang$^1$, S. Kim$^1$, S. Cheong$^2$ and C. Kim$^1$. 1. Physics, Kookmin University; 2. Physics & Astronomy, Rutgers University, Piscataway, NJ, USA

GR-13. Epitaxial growth and properties of multiferroic BiFeO$_3$ and BiCrO$_3$ thin films. S. Gepraegs$^1$, S.T. Goennenwein$^1$, S. Park$^5$, S. Cheong$^2$ and C. Kim$^1$. 1. Institute of Physics, National Tsing Hua University, Hsinchu, Taiwan; 2. Department of Physics, POSTECH, Pohang, South Korea; 3. Pohang Accelerator Laboratory, Pohang, South Korea; 4. San Diego State University, San Diego, CA, USA; 5. Department of Physics and Astronomy, Rutgers University, Piscataway, NJ, USA

GR-14. Neutron diffraction and dielectric anomalies in YMn$_{2-x}$FexO$_5$. D. Kim$^1$, S. Kim$^1$ and C. Kim$^1$. 1. Physics, Kookmin University, Seoul, South Korea


GR-16. Magnetically frustrated behavior in multiferroics RMn$_2$O$_5$ (R=Bi, Eu, and Dy): A Raman scattering study. A. García-Flores$^1$, E. Granado$^1$, H. Martinho$^1$, R.R. Urbano$^1$, C. Rettori$^1$, E.I. Golovenchits$^1$, V.A. Sanina$^3$, S.B. Oseroff$^4$, S. Park$^3$ and S.W. Cheong$^1$. 1. Instituto de Física Gleb Wataghin, Universidade Estadual de Campinas, Campinas-SP, São Paulo, Brazil; 2. Instituto de Pesquisa e Desenvolvimento, UNIVAP, São José dos Campos, SP, Brazil; 3. Ioffe Physical-Technical Institute of RAS, St. Petersburg, Russian Federation; 4. San Diego State University, San Diego, CA, USA; 5. Department of Physics and Astronomy, Rutgers University, Piscataway, NJ, USA
GS-01. Modeling of Cross-Coupling Magnetic Saturation in Signal Injection based Sensorless Control of Permanent Magnet Brushless AC Motor. Y. Li1, Z. Zhu1, C. Bingham1 and D. Howe1. University of Sheffield, Sheffield, United Kingdom

GS-02. Different Angle Sensorless Drive for a DC Brushless Motor. C. Wang1, S. Wang2, S. Lin1 and H. Lin1. Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. SonicEdge Industries Corporation, Hsinchu Hsien, Taiwan

GS-03. Optimal Design of a Magnetic Zooming Mechanism Used in Cameras of Mobiles Phones via Genetic Algorithm. Y. Chao3 and S. Wu1. Department of Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Department of Mechanical Engineering, Chung Yuan Christian University, Chung-Li, Taiwan

GS-04. Optimal Design of Magnetic Actuated Optical Image Stabilization Mechanism for Camera Phone via Genetic Algorithm. P. Chao1 and D. Wu1. Department of Electrical and Control Engineering, National Chiao Tung University, Hsinchu, Taiwan; 2. Department of Mechanical Engineering, Chung Yuan Christian University, Chung-Li, Taiwan

GS-05. A New Co-simulation Approach to Performance Analysis of a Hybrid Excited Doubly Salient Motor Considering Indirect Field-Circuit Coupling. X. Zhu1, M. Cheng1, W. Zhao1, J. Zhang1 and W. Hua1. Dept. of Electrical Engineering, Southeast University, Nanjing, China

GS-06. Effect of Armature Reaction of a PM Claw Pole SMC Motor. Y. Dou1,2, Y. Guo1, J. Zhu1 and H. Lu1. Faculty of Electric Engineering and Automation, Nanjing Normal University, Nanjing, Jiangsu, China; 2. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia; 3. Faculty of Information Technology, University of Technology, Sydney, Sydney, NSW, Australia

GS-07. Design and Servo Control of a Single-Deck Planar Maglev Stage. Y. Lai1, Y. Lee1 and J. Yen1. National Taiwan University, Taipei, Taiwan

GS-08. 3D FEM Analysis of a Novel Structure of Axial Flux Homopolar Generator Using Grain-Oriented Silicon Steel for Stator Core. S. Javadi1, M. Mursalin1, M. Mirzaei1 and H. Gholizad1. Electrical Engineering Department, Amirkabir University of Technology, Tehran, Iran

GS-09. WITHDRAWN


GS-13. Analysis of Linear Switched Reluctance Motor for MAGLEV system. S. Jang1, J. Park1 and J. Choi1. Dept. of Electrical Engineering, Chungnam National University, Daejeon, South Korea

GS-14. Accurate Calculation of Core Loss in a Switched Reluctance Motor. N.K. Sheth1,2 and K.R. Rajagopal1. Electrical Engineering Department, Indian Institute of Technology Delhi, New Delhi-110016, Delhi, India; 2. Electrical Engineering Department, Institute of Technology, Nirma University of Science and Technology, Ahmedabad-382481, Gujarat, India

GS-15. Optimization of Homogeneous Superconducting Magnet with Nonlinear Constraints. Y. Kwon1, H. Jung1 and M. Jang1. School of Electrical Engineering, Pusan National University, Busan, South Korea

GS-16. Development of a PM linear motor for Driving an HTS Maglev Transportation Prototype. Y. Guo1, J. Chen1, J. Zhu1, J. Jin1 and H. Lu1. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia; 2. College of Electromechanical Engineering, Donghua University, Shanghai, China; 3. School of Automation Engineering, University of Electronic Science and Technology of China, Chengdu, Sichuan, China; 4. Faculty of Information Technology, University of Technology, Sydney, Sydney, NSW, Australia

GT-02. Dynamic Range Verification of Linear PM Machine Using Design Parameters Estimation and Infinite Motion of Disk-type PMLSM. D. You and S. Jang. 1. Electrical Engineering, Chungnam National Univ., Daejeon, South Korea

GT-03. A new approach using wavelets to analyze an EDS Maglev dynamics. W. Ko and C. Ham. 1. University of Central Florida, Orlando, FL, USA

GT-04. Variation of Phase Difference between the Peak Value of Applied Current and the Maximum Position of Mover in Linear Actuator. B. Woo, D. Hong, D. Kang, J. Jang, and D. Jung. 1. #6-305, Korea Electrotechnology Research Institute, Changwon, Kyungnam, South Korea

GT-05. Analysis and Improvement of the Miniature Matrix Array Transducer System for Loudspeakers. R. Rashedin and T. Meydan. 1. Wolsfon Centre for Magnetics, Cardiff University, Cardiff, United Kingdom

GT-06. Cogging Force Verification by Deforming the Shape of the Outlet Edge at the Armature of a Stationary Discontinuous Armature PM-LSM. Y. Kim, M. Watada, and H. Dohmeke. 1. Department of Electrical and Electronic Engineering, Musashi Institute of Technology, Tokyo, Japan

GT-07. Design of a cantilevered actuator driven by magnetostriction. C. Yokota, K. Ishiyama, A. Yamazaki, and K. Arai. 1. Research Institute of Electrical Communication, Tohoku University, Sendai, Japan

GT-08. Fast Auto-focusing of a Linear Actuator in Digital Video Cameras Using Output Feedback Sliding Mode Control. H. Yu and T. Liu. 1. Electronics and Opto-electronics Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan; 2. Department of Mechanical Engineering, National Chiao Tung University, Hsinchu, Taiwan


GT-11. Optimization Design of Induction Motor Based on Sizing Equation and Genetic Algorithm. Y. Chun, P. Han and D. Koo. 1. Korea Electrotechnology Research Institute, Changwon, South Korea

GT-12. A study on the optimal design of synchronous reluctance motor for the maximum torque and power factor. K. Kim and J. Lee. 1. Dept. of electrical engineering, hanyang university, seoul, South Korea

GT-13. Analysis of axial magnetic force distribution due to the axial clearance for electrical rotating machine. K. Kim and J. Lee. 1. Dept. of electrical engineering, hanyang university, seoul, South Korea

GT-14. Performance improvement of an external-rotor split-phase induction motor for low-cost drive applications using external rotor can. P.J. Holik, D.G. Dorrell, and M. Popescu. 1. Dept of Electronics and Electrical Engineering, University of Glasgow, Glasgow, United Kingdom

GT-15. Design of Premium High Efficiency Induction Motor with Copper Rotor Cage. P. Han, Y. Chun, and D. Koo. 1. Mechatronics Research Group, Korea Electrotechnology Research Institute, Changwon, Gyeongsangnam-do, South Korea


THURSDAY MORNING 8:00

Session GU

MAGNETIC MICROSCOPY AND IMAGING II (POSTER SESSION)

Amit Kohn, Session Chair

GU-01. Inverse Scheme to Determine the Shapes in Magnetic Inductance Tomography System. G. Park, K. Seo and D. Kim. 1. Electrical Engineering, Pusan National University, Busan, South Korea

GU-03. Focused Ion Beam created magnetic logic nano-structures studied by using scanning ion microscopy with polarization analysis (SIMPA). J. Li and C. Rau. 1. Department of Physics and Astronomy, Rice Quantum Institute and Smalley Institute for Nanoscience and Technology, Rice University, Houston, TX, USA


GU-06. The three-dimensional micromagnetic domain structure of MnAs thin films. R. Engel-Herbert, D.M. Schadt and T. Hesjedal. E&CE Dept., University of Waterloo, Waterloo, ON, Canada; 2. Paul Drude Institute, Berlin, Germany

THURSDAY GRAND BALLROOM
MORNING
8:00

Session GV
HEAD-DISK INTERFACE AND TRIBOLOGY II
(POSTER SESSION)
Peter Baumgart, Session Chair


GV-02. High selectivity etching for texture fabrication on air bearing surface. M. Zhang, B. Liu and Y. Man. SMI, Data Storage Institute, Singapore, Singapore


GV-05. Effect of Electrostatic force on Slider-Lubricant Interaction. B. Tan, B. Liu, Y. Ma, M. Zhang and S. Ling. SMI, Data Storage Institute, Singapore, Singapore; 2. MAE, Nanyang Technological University, Singapore, Singapore


THURSDAY GRAND BALLROOM
MORNING
8:00

Session GW
FERRITES, GARNETS, AND MICROWAVE MATERIALS II
(POSTER SESSION)
Jiro Yamasaki, Session Chair

GW-01. Microwave permeability of amorphous ferromagnetic layers obliquely deposited. S. Dubourg, E. Estrade, Y. Compère, O. Bodin, A. Moreau and J. Longuet. LMMH, CEA, Monts, France; 2. LMC, CEA, Monts, France
GW-02. Evolution of magnetic structure in magnetite thin films by vanadium doping. K. Kim1, J. Park1, S. Choi2, H. Lee3 and Y. Park3.1. Depart. of MSE, Univ. of Incheon, Incheon, South Korea; 2. Dept. of Physics, Konkuk University, Seoul, South Korea

GW-03. Development of Low Loss Mn-Zn Ferrites working at Frequency Higher than 500kHz. Y. Liu1,2 and S. He1. Physic., China Jiliang University, Hangzhou, Zhejiang, China; 2. Workstation for Post-Doctor Scientific Research, DMEGC, Hangzhou, Zhejiang, China

GW-04. First-principle Calculation of the Magnetic Anisotropy in the Artificial Manganese Ferrite Films. X. Zuo1, A. Yang2, W. Duan3, J. Wu1, C. Vittoria3 and V.G. Harris1. College of Information Technological Science, Nankai University, Tianjin, China; 2. Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA; 3. Physics Department, Tsinghua University, Beijing, China

GW-05. The Magnetic Properties of Stained and Relaxed Fe3-MgO4 Ferrite Films on MgO(001) and SrTiO3(001) by Molecular Beam Epitaxy. D.S. Lee1,2, J.S. Wang1, D.K. Modak1, C.L. Chang1 and G. Chern1. Physics, National Chung Cheng University, Chia-Yi, Taiwan; 2. Electrical Engineering, Da-Yeh University, Chunghua, Taiwan; 3. Physics, Tamkang University, Tamsui, Taiwan

GW-06. NON-RESONANT MICROWAVE ABSORPTION AND ANISOTROPY FIELD IN Ni0.35Zn0.65Fe2O4 FERRITE. R. Valenzuela1, G. Alvarez1, H. Montiel2, M. Gutierrez3 and R. Zamorano1. Materials Science, National University of Mexico, Mexico City, D.F., Mexico; 2. Applied Sciences and Technology, National University of Mexico, Mexico City, DF, Mexico; 3. Materials Science ESFM, National Polytechnic Institute, Mexico City, DF, Mexico

GW-07. MISORIENTATIONS IN [0 0 1] MAGNETITE THIN FILMS STUDIED BY ELECTRON BACKSCATTER DIFFRACTION AND MAGNETIC FORCE MICROSCOPY. A.D. Koblishka-Veneva1, M.R. Koblishka2, J. Wei1, Y. Zhou3, S. Murphy4, F. Muecklich5, H. Uwe6 and J.V. Shvets7.1. Institute for Functional Materials, University of the Saarland, Saarbruecken, Saarland, Germany; 2. Institute of Experimental Physics, University of the Saarland, Saarbruecken, Germany; 3. SFI Nanoscience Laboratory, Trinity College, Dublin, Ireland

GW-08. Effect of growth temperature on the magnetic, microwave, and cation inversion properties on NiFe2O4 thin films deposited by pulsed laser ablation deposition. C. Chinnasamy3, S.D. Yoon1, A. Yang1, A.K. Baraskar1, C. Vittoria1 and V.G. Harris1. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA

GW-09. Low-loss barium ferrite quasi-single-crystals for microwave application. Y. Chen1, T. Sakai1, T. Chen1, C. Vittoria1 and V.G. Harris1. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA

GW-10. The ionic states of nano crystalline NiFe2O4 synthesized by levitational gas condensation (LGC) method using micron powder feeding system. Y. Uhm1, B. Han1, M. Lee1 and C. Rhee1. Nuclear Nano Materials Development Lab, Atomic energy research institute (KAERI), Daejeon, South Korea

GW-11. Magneto-optical study of Co2++Fe2+ electronic transition in CoxFe1-xFe2O4. K.L. Stokes1, B.L. Scott1 and D.A. Smith1. Dept. of Physics, University of New Orleans, New Orleans, LA, USA

GW-12. Growth and characterization of chromium substituted barium ferrite single crystals for high frequency microwave applications. J. Jalli1, Y.K. Hong2, S.H. Gee3, C.C. Juan1 and I.T. Nam1,2. Materials Science and Engineering, University of Idaho, Moscow, ID, USA; 2. Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL, USA; 3. Advanced Materials Engineering, Kangwon National University, Chooncheon, South Korea

GW-13. Epitaxial growth of PbFe12O19 thin film by alternate deposition of FeZO3 and PbO layers. Y. He1, A. Geiler1, F. Yang1, V.G. Harris1 and C. Vittoria1. Electrical and Computer Engineering, Northeastern University, Boston, MA, USA

GW-14. Distribution of transition-metal ions and the related magnetic structure in Mn-doped cobalt ferrite thin films. K. Kim1, Y. Park2, S. Choi2, H. Lee2 and J. Park1. Depart. of MSE, Univ. of Incheon, Incheon, South Korea; 2. Dept. of Physics, Konkuk University, Seoul, South Korea

GW-15. The Low Temperature Co-fired Ceramics materials for RF and microwave applications components. R.M. Sarabu1. Department of Physics, Osmania University, Hyderabad, Andhra Pradesh, India

GX-03. High pressure high temperature (HPHT) synthesis and magnetic properties of ordered perovskite Sr2Cu(Re0.79-Ce1-xNixO4)chalcospinels. M.L. Rao1,2, M. Isobe1 and E. Takayama-Muromachi1. Advanced Nano Materials Laboratory, National Institute for Materials Science (NIMS), Tsukuba, Ibaraki, Japan

GX-04. Structure and Magnetic Properties of EuMnxGa3-x. Y. Guo1,2, Y. Grin1 and W. Schnelle1. Max Planck Institute for the Chemical Physics of Solids, Dresden, Germany; 2. Division of Functional Materials, Central Iron & Steel Research Institute, Beijing, China

GX-05. High-temperature field-induced activation of ferromagnetism in Ce1-xNi2O4. A. Thurban1 and A. Punnoose1. Physics, Boise State University, Boise, ID, USA

GX-06. Band structure calculations, structures, magnetic and transport properties of doped two dimensional Sr2CoO4Q. Yao1, X. Wang1, S. Dou1 and Z. Lin1. ISEM, University of Wollongong, Wollongong, NSW, Australia; 2. Faculty of Engineering, University of Technology, Sydney, Sydney, NSW, Australia

GX-07. Magnetic anisotropy in single crystalline LiFePO4. D. Chen1, X. Wang1, Y. Hu1, C. Lin1, S. Dou1 and Q. Yao1. Institute for Superconducting and Electronic Materials, Wollongong, NSW, Australia; 2. Max Plank Institute for Solid State Research, Heisenbergstr. 1, Stuttgart, Germany

GX-08. Exceptional magnetic properties of Fe substituted nickel chromite. S. Park1 and C. Kim1. Department of Physics, Kookmin University, Seoul, South Korea

GX-09. Effect of application of high magnetic field on the microstructure of Fe, Ni substituted LDH clay for a magnetic application. H. Murase1, H. Yasuda2 and A. Nakahira1. Osaka Pref Univ, Osaka, Japan; 2. Osaka Univ, Osaka, Japan

GX-10. Converse Magnetoelectric Effect in Three-Phase Composites of Piezoceramic, Metal-Cap, and Magnet. W. Wong1, Y. Jia1,2, S. Or1, H. Chan1 and H. Luo1. Department of Applied Physics, The Hong Kong Polytechnic University, Kowloon, Hong Kong; 2. Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 201800, China

GX-11. Magnetic domain structures in discontinuous layers observed by magnetic force microscopy. Y.G. Pogorelov1, D. Kozodaev2, J.A. Santos1, G.N. Kakazei3 and J.B. Sousa1. Department of Physics, University of Porto, Porto, Portugal; 2. NTI-Europe, Appeldoorn, Netherlands; 3. Institute of Magnetism, Kiev, Ukraine

GX-12. Structure and magnetic properties of Co2NiGa alloys. X. Dai1,2, G. Liu1, Y. Li1, J. Qu1, J. Li1, J. Chen1 and G. Wu1. School of material sciences and engineering, Hebei university of technology, Tianjin, China; 2. State Key Laboratory for Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China


GX-14. OBSERVATION OF EXCHANGE BIAS EFFECT IN NANOGRAINULATED RuSr2GdCu2O8/La0.67Sr0.33MnO3 COMPOSITES. J. Roa-Rojas1, M.A. Flórez Torrez2 and D.A. Landinez Téllez1. Grupo de Física de Nuevos Materiales, Departamento de Física, Universidad Nacional de Colombia, Bogotá, DC, Colombia

GX-15. Characterization of Mn-doped 3C-SiC prepared by ion implantation. F. Takano1, W. Wang1, S. Hishiki2, T. Oshihama2, H. Ofuchi2 and H. Akinaga1. Nanotechnology Research Institute (NRI), National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan; 2. Quantum Beam Directorate, Japan Atomic Energy Agency (JAEA), Takasaki, Gunma, Japan; 3. Japan Synchrotron Radiation Research Institute (JASRI), Sayo-gun, Hyogo, Japan

GX-16. Magnetotermopower in Nd1-xEuNiO3 compounds. V.R. Barbeta1, R.F. Jardim2, M.T. Escote3 and N.R. Dilley4. Departamento de Física, Centro Universitário da FEI, São Bernardo do Campo, São Paulo, Brazil; 2. Departamento de Física dos Materiais e Mecânica, Universidade de São Paulo, São Paulo, São Paulo, Brazil; 3. Centro de Ciências Naturais e Humanas, Universidade Federal do ABC, Santo André, São Paulo, Brazil; 4. Quantum Design, Inc., San Diego, CA, USA

THURSDAY

2:00

E. Ryan¹, A.G. F. Garcia¹, P.M. Braganca¹, N.C. Emley¹, J.C. Read¹, E. Tan¹, J.A. Katine¹, D.C. Ralph² and R.A. Buhrman¹. Applied Physics, Cornell University, Ithaca, NY, USA; 2. Physics, Cornell University, Ithaca, NY, USA; 3. Hitachi Global Storage Technologies, San Jose, CA, USA

HA-03. Self-amplification of eigen modes in single layer pillars.
A. Parge¹, M. Scherff¹, M. Seibt¹, D. Berkov², J.S. Moodera³ and M.G. Muenzernberg¹. 1. IV. Phys. Institute, Göttingen University, Göttingen, Germany; 2. Innovoent, Jena, Germany; 3. Francis Bitter Magnet Laboratory, MIT, Cambridge, MA, USA

HA-04. Spin current induced excitations for the ‘perpendicular polarizer-planar free layer’ configuration. D. Houssameddine¹, B. Delaët², U. Ebels¹, B. Rodmacq¹, F. Ponthenier², C. Thirion¹, M. Brunet¹, M. Cyrille², O. Redon² and B. Dieny¹. SPINTEC Laboratory URA 2512 CEA/CNRS, Grenoble, France; 2. CEA Grenoble, LETI/DIHS/LIMN, Grenoble, France; 3. LAAS CNRS, Toulouse, France

HA-05. Influence of field orientation on current-induced magnetization reversal in nanopillars with perpendicular anisotropy. Y. Henry⁴, S. Mangin¹, D. Ravelosona¹, J. Katine¹ and E. Fullerton¹. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA; 2. Laboratoire de Physique de Matériaux, UMR CNRS 7556, U.H.P-Nancy I, Vandoeuvre, France; 3. Institut d’Electronique Fondamentale, UMR CNRS 8622, U. Paris Sud, Orsay, France; 4. Institut de Physique et Chimie des Matériaux de Strasbourg-GEMM, Strasbourg, France

HA-06. Size Dependence of Spin Torque Transfer in Magnetic Nano Structure with Perpendicular Anisotropy. H. Meng² and J. Wang¹. Electrical Engineering, University of Minnesota, Minneapolis, MN, USA

HA-07. Observation of Current Induced Switching in a Dual CPP-GMR Spin Valve. D. Shin¹ and S.X. Wang¹. Materials Science and Engineering, Stanford University, Stanford, CA, USA

HA-08. Spin Transfer Torque Switching with Precessional Motion from a Hard Axis Magnetic Field. K. Ito¹, T. Devolder², C. Chappert³, M.J. Carey¹ and J.A. Katine¹. Hitachi Cambridge Laboratory, Hitachi Europe, Ltd., Cambridge, United Kingdom; 2. Institute d’Electronique Fondamentale, Université Paris Sud, Orsay, France; 3. San Jose Research Center, Hitachi GST, San Jose, CA, USA

HA-09. Switching speed distribution of spin-torque-induced magnetic reversal. J. He¹, J.Z. Sun¹ and S. Zhang¹. 1. Department of Physics and Astronomy, University of Missouri Columbia, Columbia, MO, USA; 2. IBM T. J. Watson Research Center, P. O. Box 218, Yorktown Heights, NY, USA

HA-10. Reduction of extrinsic damping and switching field instability in Py/Cu/Py nanopillar spin valves. O. Ozatay¹, K.W. Tan¹, P.M. Braganca¹, E.M. Ryan¹, J.C. Read¹, A.K. Mkhoyan¹, M.G. Thomas¹, K.V. Thadani¹, J.C. Sankey¹, J. Silcox¹, D.C. Ralph¹ and R.A. Buhrman¹. Applied Physics, Cornell University, Ithaca, NY, USA

HA-11. Thermal effects on the critical current of spin torque switching in nanopillars. M.L. Schneider¹, M.R. Pufall¹, W.H. Rippard¹, S.E. Russek¹ and J.A. Katine¹. National Institute of Standards and Technology, Boulder, CO, USA; 2. Hitachi San Jose Research Center, San Jose, CA, USA

HA-12. Large Magnetoresistance Induced by Spin Transfer Torques with a Magnetic Field. T. Chen¹, S. Huang¹, C.L. Chien¹ and M.D. Stiles². Physics and Astronomy, the Johns Hopkins University, Baltimore, MD, USA; 2. Electron Physics Group, National Institute of Standards and Technology, Gaithersburg, MD, USA
Session HB
MULTIFERROICS: THIN FILMS AND COMPOSITES
Michel Kenzelmann, Session Chair

2:00

HB-01. Spintronics with multiferroics. *(Invited)* A. Barthélémy¹,
H. Béa¹, M. Gajek ², M. Bibes ², S. Fusil ¹, K. Bouzehouane ¹,
B. Warrot-Fonrose ³, S. Cherifi ³, G. Herranz ¹, E. Jacquet ¹,
C. Deranlot ¹, J. Fontcuberta ² and A. Fert ¹
Unité Mixte de Physique CNRS/Thales, Palaiseau, France

2:36

HB-02. Electric Field-Induced Magnetization Reduction in
Multiferroic Pb(Zr, Ti)O₃-LaMnO₃ Composites. M. Gomi ¹,
N. Nishimura ¹ and T. Yokota ¹
Materials Science and Engineering, Nagoya Institute of Technology, Nagoya, Japan

2:48

HB-03. Magnetism and magnetoelectric properties of multiferroic
HoMnO₃ thin films. J. Kim ¹, K. Dörr ², K. Nenkov ¹ and
L. Schultz ² I. Institute for Metallic Materials, IFW-Dresden,
Dresden, Germany

3:00

HB-04. Magnetic Frustration Behavior of Ferroelectric Ferromagnet,
YbMnO₃ Epitaxial Films. N. Fujimoto ², T. Yoshimura ¹ and
T. Takahashi ¹ I. Graduate School of Eng., Osaka Prefecture
University, Sakai, Osaka, Japan

3:12

HB-05. Epitaxial Fe₃O₄ on SrTiO₃ characterized by transmission
electron microscopy. J. Zheng ²,³, G.E. Sterbinsky ² and
B.W. Wessels ² I. NUANCE, Northwestern University, Evanston,
IL, USA

3:24

HB-06. Nanoscale Observation of Order Parameter Coupling in
Multiferroic BiFeO₃ Films. K. Lee ²,³, M. Barry ¹, Y. Chu ¹,
A. Scholl ¹, T. Zhao ¹, M. Cruz ¹, P. Yang ¹, S. Yang ¹, L. Martin ²,
P. Yu ¹, A. Doran ², S. Baik ³ and R. Ramesh ¹ I. Department
of Physics and Department of Materials Science and Engineering,
UC Berkeley, Berkeley, CA, USA

3:36

HB-07. Electric-field control of exchange bias in multiferroic epitaxial
heterostructures. J. Fontcuberta ², V. Lavkhin ²,³, V. Skumryev ²,³,
X. Martí, D. Hrabovský ¹, P. Sánchez ¹, M.V. Garcia-Cuenca ²,
C. Ferrater ², M. Varela ³, U. Lüders ¹ and J.F. Bobo ¹
Institut de Ciencia de Materials de Barcelona, Bellaterra, Spain

3:48

HB-08. Exchange bias between ferromagnetic metals and multiferroic
BiFeO₃, LuMnO₃, and TbMnO₃. M. Murakami ¹, S. Fujino ¹,
J. Hattrick-Simpers ¹, S.H. Lim ³, L.G. Salamanca-Riba ³,
S.E. Lofland ², S.W. Cheong ³, D. Kundaliya ³, S.B. Ogale ³,
T. Venkatesan ², J. Higgins ³, M. Wuttig ³ and I. Takeuchi ³,⁴ I.
Materials Science and Engineering, University of Maryland,
College Park, MD, USA

4:00

HB-09. TUNNEL MAGNETORESISTANCE AND EXCHANGE
BIAS WITH MULTIFERROIC BiFeO₃ EPITAXIAL THIN
FILMS. H. Béa ¹, S. Fusil ¹, M. Bibes ², S. Cherifi ³, A. Locatelli ³,
B. Warrot-Fonrose ³, G. Herranz ¹, C. Deranlot ¹, E. Jacquet ¹,
K. Bouzehouane ¹ and A. Barthélémy ¹ Unité Mixte de Physique
CNRS/Thales (UMR 137), Palaiseau, France

4:12

HB-10. Tunnel magnetoresistance and exchange bias with multiferroic
BiFeO₃ films. K. Lee ²,³, M. Barry ¹, Y. Chu ¹, A. Scholl ¹,
T. Zhao ¹, M. Cruz ¹, P. Yang ¹, S. Yang ¹, L. Martin ²,
P. Yu ¹, A. Doran ², S. Baik ³ and R. Ramesh ¹ I. Department
of Physics and Department of Materials Science and Engineering,
UC Berkeley, Berkeley, CA, USA

4:24
HB-10. FERROMAGNETIC RESONANCE IN MULTI-FERROIC NICKEL FERRITE NANO-PILLAR - BISMUTH IRON OXIDE MATRIX FILMS. K. Kim1, Physics, Colorado State University, Fort Collins, CO, USA; 2. Slovak University of Technology, Bratislava, Slovakia; 3. Science and Engineering, University of California at Berkeley, Berkeley, CA, USA

4:12

HB-11. Tailoring properties of oxide superlattices for their multiferroism. W. Prellier1, M.P. Singh1, M.K. Singh1, L. Méchin2, C. Simon1 and B. Raveau1. ENSICAEN, CNRS, Caen, France; 2. GREYC, ENSICAEN/université de Caen, Caen, France

4:24


4:36

HC-02. Novel chemical synthesis of Co nanoelements with different shapes. Y. Sui1, Y. Zhao1, J. Zhang1, S.S. Jaswal1, X. Li1 and D.J. Sellmyer1. Department of Physics and Astronomy and NCMN, University of Nebraska-Lincoln, Lincoln, NE, USA

2:24

HC-03. Investigating the Role of Protein Cage Architecture on the Magnetic Properties of Encapsulated Materials. M.T. Klem1,2, K. Gilmore1,2, K. Flanagan1,2, M. Young1,2, Y.U. Idzerda1,2 and T. Douglas1. Chemistry & Biochemistry, Montana State University, Bozeman, MT, USA; 2. Center for Bioinspired Nanomaterials, Montana State University, Bozeman, MT, USA; 3. Physics, Montana State University, Bozeman, MT, USA; 4. Plant Sciences, Montana State University, Bozeman, MT, USA

2:36

HC-04. Novel Synthesis of Carbon Encapsulated L10 FePt Nanoparticles. N. Cailuo1, C. Yu1, K.K. Yu1, W. Oduro1, B. Thiebaut2, P. Bishop3, C. Lo3 and S. Tsang1. School of Chemistry, University of Reading, Whiteknights, Reading, United Kingdom; 2. Johnson Matthey Technology Centre, Sonning Common, Reading, United Kingdom; 3. Center for NDE, Iowa State University, Ames, IA, USA

2:48

HC-05. The effect of electrochemical Li+ insertion on the magnetic properties of Fe3O4 nanoparticles. V. Sivakumar1, C. Ross1, S. Kumar3 and S-H. Yang1. Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA; 2. Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA

3:00

HC-06. Cubic and spherical FeCo nanoparticles with narrow size distribution. J. Bai1, Y. Xu1 and J. Wang1. Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA

3:12

HC-07. Structural and magnetic properties of chemical synthesized FePt Nanoparticles. M. Delalande1, P. Marcoux2, P. Reiss1 and Y. Samson1. Nanomaterials and Magnetism, CEA Grenoble, Grenoble, France; 2. SPrAM, CEA Grenoble, Grenoble, France
HC-08. Synthesis and Characterization of Magnetic Chains of Nanospheres. R.V. Ramanujan¹ and A.K. Srivastava¹. School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore

3:24

HC-09. Synthesis and Characterization of Magnetic II-VI Nanoparticles. N.A. Tracy¹, Y. Xu¹, K. Mechan¹, G. Wang² and G.T. Yee². Electrical and Computer Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA; 2. Chemistry, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA

3:36

HC-10. Synthesis and Characterization of Fe/Au Nanoparticles. S.N. Ahmad¹, M. Donny², S.G. Rao¹, S. Geoff² and S.A. Shaheen¹. Physics, Center for Materials Research and Technology, Florida State University, Tallahassee, FL, USA; 2. Chemistry, Florida State University, Tallahassee, FL, USA

3:48

HC-11. Nuclei Concentration and Size in the A1 to L1ₐ Phase Transformation of FePt Nanoparticles. Y. Ding¹ and S.A. Majetich¹. Department of Physics, Carnegie Mellon University, Pittsburgh, PA, USA

4:00

HC-12. Exchange Bias in Co-CoO Core Shell Nanoparticles. M. Aronson¹, S. Inderhees¹, G. Strycker¹, J. Borchers² and Y. Qiú¹. Physics, University of Michigan, Ann Arbor, MI, USA; 2. Department of Physics, Carnegie Mellon University, Pittsburgh, PA, USA

4:12

HC-13. Electronic and magnetic structure of L1₀-FePt nanoparticle embedded in FePt random alloy. Y. Wang¹, G. Stocks², A. Rusuāti¹, D.M. Nicholson¹, M. Eisenbach¹, Q. Zhang¹ and P. Liu¹. Pittsburgh Supercomputing Center, Carnegie Mellon University, Pittsburgh, PA, USA; 2. Oak Ridge National Laboratory, Oak Ridge, TN, USA; 3. Department of Physics, University of Texas in Arlington, Arlington, TX, USA

4:24


4:36

THURSDAY HARBORSIDE D
AFTERNOON
2:00

Session HD

HEAD MATERIALS, SOFT MAGNETIC FILMS, AND DOMAINS

Thomas Clinton, Session Chair

2:00

HD-01. Ab-initio studies of magnetic properties of CoFePd alloys and multilayers. M. Chshiev¹ and W. Butler¹. MINT Center, University of Alabama, Tuscaloosa, AL, USA

2:12

HD-02. High Moment FeCo Films with High Anisotropy for Perpendicular Magnetic Recording. B. Ocker¹, K. Schuller¹, J. Langer¹ and W. Maass¹. Semiconductor Equipment / TMR-MRAM, Singulus Technologies AG, Kahl, Germany

2:24

HD-03. MAGNETIZATION PROCESSES IN MAGNETIC MICROWIRES. R. Varga¹ and Y. Kostykl¹. Institute of Physics, Faculty of Sciences, UPJS, Kosice, Slovakia

2:36

HD-04. Spin reorientation transitions in perpendicularly exchange-coupled, ferromagnetic, ultra-thin films studied using element specific imaging. Y. CHUN⁵, H. Ohldag⁵ and K.M. Krishnan¹. Materials Science and Engineering, University of Washington, Seattle, WA, USA; 2. Advanced Light Source, Berkeley National Laboratory, Berkeley, CA, USA

4:36
HD-05. MICROWAVE ASSISTED SWITCHING IN Ni₈₁Fe₁₉ ELEMENTS. B. Leven¹, P. Martin Pimentel¹, H.T. Nembach¹, S.J. Hermesdörfer¹, S.O. Demokritov² and B. Hillebrands¹. Fachbereich Physik and Forschungsschwerpunkt MINAS, Technische Universität Kaiserslautern, Kaiserslautern, Germany; 2. Institut für Angewandte Physik, Westfälische Wilhelms-Universität Münster, Münster, Germany

HD-06. Magnetic Switching Properties of Mesoscopic Permalloy Discs Prepared by Nanosphere Lithography. J. Shang¹, F. Zhu¹ and C. Chien¹. Physics and Astronomy, Johns Hopkins University, Baltimore, MD, USA

HD-07. WITHDRAWN

HD-08. Domain wall mobility and Gilbert damping in magnetic nanostructures. A. Mougin¹, M. Cormier¹, J. Adam¹, P. Metaxas¹², J. Ferré¹ and R. Stamps²¹. UMR CNRS 8502, Laboratoire de Physique des Solides, Orsay, France; 2. School of Physics, University of Western Australia, Crawley 6009, WA, Australia

HD-09. Magnetic domains and magnetization reversal of a single Ni nanowire. W. Guan¹, J. Zhang¹, T. Shen¹, P. Fischer², S. Morton² and L. Qin¹. Institute for Materials Research, University of Salford, Salford, United Kingdom; 2. Advanced Light Source, Lawrence Berkeley National Lab, Berkeley, CA, USA

HD-10. The short range order (SRO) of amorphous Co₄₀Fe₄₀B₂₀ and its relation to induced magnetic anisotropy. D. Kirk¹, C. Lang¹, D. Cockayne¹, J. Schmalhors², G. Reiss³ and A. Kohn¹. Institute of Materials Research, University of Salford, Salford, United Kingdom; 2. Department of Physics, Thin Films and Nanostructures, Bielefeld University, P.O. Box 100131, 33501 Bielefeld, Germany

HD-11. Microstructure evolution of NiFe/Cu composite wires deposited by electroplating with an applied field. J. Yi¹, X. Li¹, J. Yin², S. Thongmee², J. Ding² and H. Seet¹. Mechanical Engineering, National University of Singapore, Singapore; 2. Materials Science and Engineering, National University of Singapore, Singapore, Singapore

HD-12. Low-noise crystalline soft underlayer for CoCrPtSiO₂ perpendicular recording media. J. Shi¹, S. Piramanayagam³, J. Zhao¹, M. Mah¹ and C. Ong¹. Spintronics, Media, and Interface, Data Storage Institute, Singapore, Singapore

HD-13. Magnetic Nanocrystalline Films Softened by Obliquely Accelerating Fe Nanoparticles. D. Meyer¹, M. Faheem¹, M. Campanell¹, J. Antony¹, A. Sharma¹ and Y. Qiang¹. Physics, University of Idaho, Moscow, ID, USA


HD-15. FUNDAMENTAL MAGNETIC PROPERTIES OF SOFT IRON-TITANIUM-NITROGEN THIN FILMS. J. Das¹, S.S. Kalarickal¹, K.S. Kim¹ and C.E. Patton¹. Physics, Colorado State University, Fort Collins, CO, USA

THURSDAY HARBORSIDE E AFTERNOON

2:00 Session HE

LOW DIMENSIONAL SYSTEMS/SPIN GLASSES AND FRUSTRATION

Collin Broholm, Session Chair

2:00

HE-01. Disordered Spin Ground State in a S=1 Triangular Lattice. (Invited) C. Stock¹, S. Jonas¹, C. Broholm¹, S. Nakatsuji², Y. Nambu² and H. Tonomura¹. Johns Hopkins University, Baltimore, MD, USA; 2. Kyoto University, Kyoto, Japan

3:36

HE-02. Topological and energetic aspects of the random-field Ising model. G. Bertotti¹, V. Basso¹, P. Bortolotti¹² and A. Magni²¹. INRIM, Torino, Italy; 2. Physics Dept., Politecnico di Torino, Torino, Italy
HE-03. Magnetic Properties of a Metal-organic Cu Dimer System, [Cu(IPA)(bpy)](H2O)3
T. Yuen1, C. Lin1, L. Pan2 and J. Li2
1. Physics, Temple University, Philadelphia, PA, USA; 2. Chemistry & Chemical Biology, Rutgers University, Piscataway, NJ, USA

HE-04. Spin-glass ordering in the layered III-VI Diluted Magnetic Semiconductor Ga1-xMnxS
1. Chemistry and Physics, Univ. of N. Florida, Jacksonville, FL, USA; 2. Physics, Univ. of N. Iowa, Cedar Falls, IA, USA; 3. Physics, Purdue Univ., W. Lafayette, IN, USA

C. Hirjibehedin1, C.P. Lutz1 and A.J. Heinrich1
1. IBM Research Division, Almaden Research Center, San Jose, CA, USA

D. Stewart1. Cornell Nanoscale Facility, Cornell University, Ithaca, NY, USA

W. Shim1, J. Ham1, K. Lee1, J. Chang2, S. Han2, W. Jeung2, M. Johnson2 and W. Lee3. Department of Materials Science and Engineering, Yonsei University, Seoul, South Korea; 2. Korea Institute of Science and Technology (KIST), Seoul, South Korea; 3. Naval Research Laboratory, Washington, DC, USA

HE-08. Low-spin phase in bi-atomic chains grown on vicinal Pt(997) surfaces.
J. Honolka1, K. Kuhnke1, D. Repetto1, V. Sessi1, P. Gambardella2, S. Gardonio2, A. Enders1 and K. Kern1. Max-Planck Institute FKF, Stuttgart, Germany; 2. Catalan Institute for Research and Advanced Studies (ICREA), Barcelona, Spain; 3. Istituto di Struttura della Materia, Consiglio Nazionale delle Ricerche, Trieste, Italy

HE-09. Structures, magnetism, and giant magnetoresistance in two dimensional Sr2CoO4 and three dimensional SrCoO3 doped with rare earth elements.
X. Wang1, Q. Yao1, M. James2, E. Takayama-Muromachi3 and R. Liu4
1. Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, NSW, Australia; 2. Brag Institute, ANSTO, Sydney, NSW, Australia; 3. Superconducting Materials Center, Institute for Materials Science, Tsukuba, Japan; 4. Chemistry Department, National Taiwan University, Taibei, Taiwan
HF-05. Size-dependent heating rates of iron oxide nanoparticles for magnetic fluid hyperthermia. M.G. Gonzales¹, M. Zeisberger² and K.M. Krishnan¹. 1. University of Washington, Seattle, WA, USA; 2. Institute for Physical High Technology, Jena, Germany

HF-06. Size and Concentration Effects on High Frequency Hysteresis of Iron Oxide Nanoparticles. A. Eggeman¹, S. Majetich¹, Q. Pankhurst² and D. Farrell¹. 1. Physics, Carnegie Mellon University, Pittsburgh, PA, USA; 2. London Centre for Nanotechnology, University College, London, United Kingdom

HF-07. Evaluation of FeCo Nanoparticles for Heat Sources for Thermoablative Cancer Therapy. A.H. Habib², M.E. McHenry¹, M. Bockstaller¹ and P.M. Chaudhary¹. 1. Materials Sc. and Engg., Carnegie Mellon University, Pittsburgh, PA, USA; 2. Physics, Carnegie Mellon University, Pittsburgh, PA, USA; 3. Hillman Cancer Center, University of Pittsburgh Cancer Institute, Pittsburgh, PA, USA

HF-08. Size Dependent In-vitro Heating With Polyethylene Glycol Coated Magnetic Nanoparticles. M.J. Bonder¹, D. Gallo¹, B. Srinivasan¹ and G.C. Hadjipanayis¹. 1. Physics and Astronomy, University of Delaware, Newark, DE, USA

HF-09. Effect of DNA coating on magnetic relaxation in γFe₂O₃ nanoparticles. P. Dutta¹ and M.S. Seehra¹. 1. Physics, West Virginia University, Morgantown, WV, USA

HF-10. A Magneto-Optic Approach towards Biomagnetic Sensing via Brownian Relaxation. S. Chung¹, M. Grimsditch¹, A. Hoffmann¹, S.D. Bader¹, J. Xie², S. Peng² and S. Sun². 1. Material Science Division, Argonne National Laboratory, Argonne, IL, USA; 2. Department of Chemistry, Brown University, Providence, RI, USA

HF-11. WITHDRAWN
HG-04. Influence of a transversal magnetic field on the movement and pinning of domain walls in narrow GMR wires.
R. Mattheis, S. Glathe, H. Baierl and M. Diegel. Magnetoelectronics, IPHT, Jena, Germany

1. Corporate Research & Development Center, Toshiba Corporation, Kawasaki, Japan; 2. Department of Electronic Engineering, Graduate School of Engineering, Tohoku University, Sendai, Japan

HG-06. Specific Resistance, Scattering Asymmetry, and Some Thermal Instability of Co/Al, Co(9%Fe)/Al, and Fe/Al Interfaces, N. Theodoropoulou, A. Sharma, T. Haillard, R. Loloee, W.P. Pratt Jr, J. Bass, J. Zhang and M.A. Crimp. Physics, Michigan State University, East Lansing, MI, USA; 2. Chemical Engineering and Materials Science, Michigan State University, East Lansing, MI, USA

HG-07. Effect of Interfacial Spin Scattering and Interfacial Resistance on Magnetoresistance, S. Kumar, S. Tan and M. Jalil. ECE, ISML (NUS), Singapore, Singapore; 2. SMI, Data Storage Institute, Singapore, Singapore

HG-08. Role of interface domain wall on magnetoresistance in bilayers and spin valve structures, T. Hein, S. Mangin, M. Hohn, F. Montaigne, Y. Henry and E.E. Fullerton. Laboratoire de Physique de Matériaux, Nancy-University CNRS, Vandoeuvre, France; 2. Institut de Physique et Chimie des Matériaux de Strasbourg-EMM, Strasbourg, France; 3. San Jose Research Center, Hitachi Global Storage Technologies, San Jose, CA, USA

HG-09. Hot electron transport in fully epitaxial Fe\textsubscript{34}Co\textsubscript{66}/Au/Fe\textsubscript{34}Co\textsubscript{66} spin valves using (Scattering) Ballistic Electron Microscopy, E. Heindl, J. Vancea and C. Back. Department of Physics, NWF II, Regensburg, Bavaria, Germany


HG-12. Negative spin valve effects and strong voltage asymmetry in organic spintronic devices, V. Dediu, I. Bergenti, F. Casoli, L.E. Hueso, A. Riminucci, M. Muriga and C. Taliani. Spintronic Devices, Institute for Nanostructured Materials, Bologna, Italy; 2. IMEM-CNR, Parma, Italy


HG-14. Spin dependent transport via C\textsubscript{60} molecules up to room temperature, M. Shiraih, S. Miwa, M. Mizuguchi, T. Shino and Y. Suzuki. Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan

HG-15. Magnetoresistance in hybrid ultra-thin organic-ferromagnet devices, W. Xu, P. LeClair, H. Guo, J. Tang, A. Gupta and G. Szulczewski. Chemistry, University of Alabama, Tuscaloosa, AL, USA; 2. Physics, University of Alabama, Tuscaloosa, AL, USA; 3. MINT Center, University of Alabama, Tuscaloosa, AL, USA
HH-01. Magnetic properties of Au nanoparticles in polymers. J. de la Venta1, A. Pucci2, E. Fernandez-Pinel1, M. Garcia1, C. de Julian3, P. Crespo2, G. Ruggieri3, A. Hernando4, A. Hoffmann1 and D. Haskel1. 1. Instituto de Magnetismo Aplicado, Universidad Complutense de Madrid, Las Rozas, Madrid, Spain; 2. Dept. de Chemistry and Industrial Chemistry, University of Pisa, Pisa, Italy; 3. Dipartamento di Fisica “G. Galilei”, Università di Padova, Padova, Italy; 4. Materials Science Division, Argonne National Laboratory, Argonne, IL, USA; 5. Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA

HH-02. Magnetic Behavior of Radially Distributed Arrays of Co and Ni Nanowires. R. Sanz1, K.R. Pirota1, M. Hernandez-Velez2 and M. Vazquez1. 1. Propiedades opticas magneticas y de transporte, Instituto de ciencia de materiales de Madrid, Madrid, Spain; 2. Fisica Aplicada, Universidad Autonoma de Madrid, Madrid, Madrid, Spain

HH-03. Magnetic properties of ZnO Nanoparticles. A. Quesada1, J. Merino1, E. Fernandez-Pinel1, J. de la Venta1, M. Garcia1, M. Ruiz-Gonzalez2, P. Crespo3, J. Gonzalez-Calbet1 and A. Hernando1. 1. Instituto de Magnetismo Aplicado, Universidad Complutense de Madrid, Las Rozas, Madrid, Spain; 2. Departamento de Química Inorgánica I, Universidad Complutense de Madrid, Madrid, Madrid, Spain

HH-04. Phase Formation in L10 Magnets. R. Skomski1. 1. Department of Physics and Astronomy and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, NE, USA


HH-06. Magnetic Interactions in Fe3N-GaN Nanocomposites. N.S. Gajbhiye1,2 and S. Bhattacharyya1. 1. Chemistry, Indian Institute of Technology, Kanpur, U.P., India; 2. Institute of Nanotechnology, Karlsruhe, Germany

HH-07. Tailoring the magnetic properties of mechanically hardest Co-Fe-Ta-B glassy thin films. P. Sharma1, H. Kimura3 and A. Inoue1. 1. Japan Science and Technology Agency, Institute for Materials Research, Tohoku University, Sendai, Japan; 2. Institute for Materials Research, Tohoku University, Sendai, Japan

HH-08. Magnetorheological Fluid in Squeeze Mode under Different Instantaneous Magnetic Field. S. Mazlan1 and A. Olabi1. School of Mechanical and Manufacturing Engineering, Dublin City University, Dublin 9, Ireland

HH-09. Ferromagnetic Semiconductor Material Based on Mechanochemical Mixture of Polyaniline-Polystyrene and Fe Nanoparticles. R. Rakhimov1, J.S. Hwang2, S.P. Solodovnikov3, I.A. Alexandrov4 and A.I. Aleksandrov4. 1. Norfolk State University, Norfolk, V A, USA; 2. Texas A & M University at Qatar, Doha, Qatar; 3. Institute of Organoelement Compounds, Moscow, Russian Federation; 4. Institute of Synthetic Polymer Materials, Moscow, Russian Federation

HH-10. Secondary recrystallization, crystallographic texture and magnetostriction in rolled Fe-Ga based alloys. S.M. Na1 and A. Flatau1. 1. Univ. MD, College Park, MD, USA