INTERMAG

2005

Program of the 2005 IEEE International Magnetics Conference

April 4-8, 2005
Nagoya, Japan

http://www.intermag2005.jp

Sponsors:
The Magnetics Society of Japan
The Magnetics Society of the IEEE
CONFERENCE PROGRAM AT A GLANCE

APRIL 4

MONDAY MORNING
10:00 AM - 3:00 PM
Technical Tour to Toyota Motor Corp. Grand Floor Atrium (Meeting Place)

MONDAY AFTERNOON
2:00 PM - 7:00 PM
Registration Desks Open Grand Floor Atrium
4:00 PM - 6:50 PM
TZ Tutorials Room 141/142

MONDAY EVENING
7:00 PM
Welcome Reception Event Hall

APRIL 5

TUESDAY MORNING
8:20 AM - 5:00 PM
Registration Desks Open Grand Floor Atrium
9:30 AM
AA GMR and Current Induced Instabilities I Reception Hall
AB Symposium on Heat Assisted Recording Technology Room 141/142
AC Nanocrystalline Materials Room 234
AD Films and Surfaces I Room 224
AE Motors I Room 131/132
AF Magnetic Recording System I Room 133/134

TUESDAY AFTERNOON
2:30 PM
BA Current Induced Switching I Reception Hall
BB Symposium on Advanced Perpendicular Magnetic Recording Room 141/142
BC Clusters and Particles I Room 234
BD Magnetic Imaging I Room 224
BE Actuators and Power Devices Room 131/132
1:30 PM - 5:00 PM Event Hall
BP Magneto-Optical Recording and Heat Assisted Recording
BQ Magnetic Semiconductors I
BR  Nanocrystalline and Other Materials I
BS  Hard Magnets
BT  Films and Surfaces II
BU  Films and Surfaces III
BV  Magnetoimpedance
BW  Magnetic Sensors and Sensing Systems
BX  Magnetic Particles in Life Science

TUESDAY EVENING

6:00 PM - 8:00 PM
BZ  Evening Symposium on MRAM  Room 141/142

APRIL 6

WEDNESDAY MORNING

8:20 AM - 5:00 PM
Registration Desks Open  Grand Floor Atrium
9:30 AM
CA  Magnetic Tunnel Junctions  Reception Hall
CB  Magnetic Recording Physics I  Room 141/142
CC  Symposium on Biosensing with Magnetic Beads  Room 234
CD  Nanocrystalline and Other Materials II  Room 224
CE  Integrated Passives and Devices I  Room 131/132

8:30 AM - 12 Noon  Event Hall
CP  Inductive Heads & Materials
CQ  Perpendicular Recording Media I
CR  Spin Injection & Transport: Theory to Devices
CS  Hard Magnet Applications I
CT  Clusters and Particles II
CU  Magnetic Imaging II
CV  Motors II
CW  Motors III

WEDNESDAY AFTERNOON

2:30 PM
DA  Magnetic Semiconductors II  Reception Hall
DB  Current Developments in Inductive Heads & Materials  Room 141/142
DC  Magnetic Nanoparticles in Biomagnetism  Room 234
DD  Applications of Soft Magnetic Materials I  Room 224
DE  New Phenomena & Applications  Room 131/132
DF  Micromagnetic Simulations  Room 133/134

WEDNESDAY EVENING

4:10 PM
DZ  Plenary Session  Shirotori Hall

6:10 PM - 8:00 PM
Plenary Reception  Event Hall

APRIL 7

THURSDAY MORNING

8:20 AM - 2:30 PM
Registration Desks Open  Grand Floor Atrium

9:30 AM
EA  MRAMs  Reception Hall
EB  FePt Media and Materials  Room 141/142
EC  Ferrites  Room 234
ED  Patterned Nanostructures I  Room 224
EE  Rare Earth-Transition Metal Magnets and Processing  Room 131/132
EF  Magnetic Sensors I  Room 133/134

8:30 AM - 12 Noon  Event Hall
EP  Advanced Coding and Recording Channels
EQ  Current Induced Switching II
ER  Nanocrystalline and Other Materials III
ES  Clusters and Particles III
ET  Inductors and Transformers
EU  Integrated Passives and Devices II
EV  Biomagnetism and Applications I
EW  Biomagnetism and Applications II
EX  Domains & Interdisciplinary Topics

THURSDAY AFTERNOON

12:30 PM - 1:00 PM
IEEE Magnetics Society Annual General Meeting  Room 131/132

2:30 PM
FA  Physics of Spin Injection  Reception Hall
FB  Sensors, Mostly CPP I  Room 141/142
FC  Biomagnetism  Room 234
FD  Magnetic Sensors II  Room 224
FE  Intermetallic and Other Hard Magnetic Materials  Room 131/132
FF  Clusters and Particles IV  Room 133/134
1:30 PM - 5:00 PM
FP  Perpendicular Recording Media II (SUL)
FQ  Magnetic Recording Physics II
FR  Patterned Media and FePt Media
FS  Head Disk Interface I
FT  Magnetic Actuators
FU  Magnetoresistive Oxides & Halfmetallic Materials
FV  Ferrites and Other Materials
FW  Patterned Nanostructures II
FX  Shielding and Magnetic Particles

THURSDAY EVENING
6:00 PM - 8:00 PM
FZ  Town Meeting  Room 141/142

APRIL 8

FRIDAY MORNING
8:20 AM - 2:30 PM
Registration Desks Open  Grand Floor Atrium
9:30 AM
GA  Symposium on Spin Electronics Technology  Reception Hall
GB  Advanced Perpendicular Recording Media  Room 141/142
GC  Coding and Recording Channels  Room 234
GD  Exchange Biasing and Fast Switching I  Room 224
GE  Nanostructured Hard Magnetic Materials  Room 131/132
GF  Magneto-Optic and Other Magnetic Materials/Devices  Room 133/134
8:30 AM - 12 Noon
GP  Magnetic Recording System II
GQ  Sensors, Mostly CPP II
GR  Particulate & Tape, Thin Film Media
GS  GMR and Current Induced Instabilities II
GT  Applications of Soft Magnetic Materials II
GU  Magnetoelastic and Novel Magnetic Materials/Devices
GV  Magnetic Measurements
GW  Computational Magnetics

FRIDAY AFTERNOON
2:30 PM
HA  Novel Magnetoresistive Oxides & Halfmetallic Materials  Reception Hall
HB  Head Disk Interface II  Room 141/142
HC  Symposium on High Magnetic Anisotropy L1₀ and Related Materials  Room 234
HD  Microwave and Magnetoelastic Materials/Devices  Room 224
HE  Hard Magnet Applications II  Room 131/132

1:30 PM - 5:00 PM  Event Hall
HP  MRAMs and Magnetic Tunnel Junctions
HQ  Exchange Biasing
HR  Exchange Biasing and Fast Switching II
HS  Microwave and Magneto-Optic Materials/Devices
HT  Crystalline and Transport Properties of Magnetic Materials
HU  Unconventional Magnetic Properties

5:00 PM
Conclusion of the INTERMAG 2005 Conference
WELCOME TO INTERMAG ASIA 2005

The INTERMAG ASIA 2005 Conference will be held in Nagoya, Japan, from Monday, April 4th, to Friday, April 8th, 2005. This conference, jointly sponsored by the IEEE Magnetics Society and the Magnetics Society of Japan, is certain to draw a large attendance. An exciting and informative technical program is planned including six invited symposiums, three tutorial topics, and a special plenary session & reception. All members of the international scientific and engineering communities interested in new developments in magnetism and associated technologies are invited to enjoy and to contribute to all the technical discussions. The conference will be held in the Nagoya Congress Center which is equipped with the most modern facilities and is conveniently close to the center of Nagoya city. A new related attraction nearby will be EXPO 2005 linked by a MAGLEV train connection and featuring a futuristic transit system based on magnetics technologies.

SCOPE OF CONFERENCE

Intermag is the major annual conference for the IEEE Magnetics Society and is the premier conference in its field. The conference addresses all basic and applied science and technology related to the field of magnetism. Topics include magnetic and magneto-optical recording, spin-electronics, soft magnetic materials and permanent magnet materials and applications, biomagnetics and many other magnetics related topics. The conference starts with the first day allocated to a technical tour of Toyota Motor Corporation and to tutorials on magnetic recording, spintronics, and biomagnetism in the afternoon. The four days of technical sessions will include invited symposia on perpendicular recording, hybrid recording, spin-electronics, biosensing, high-anisotropy materials, and MRAM. Altogether about 1,000 technical presentations will be given in either oral or poster sessions. These have been selected from the over 1,500 digests submitted. We expect the number of attendees to also approach one thousand. Many of the highest quality presentations will subsequently appear as papers in the October issue of the IEEE Transactions on Magnetics.

LOCATION

The Nagoya Congress Center is conveniently located in an area easily accessible from major train stations such as Nagoya and Kanayama. The Congress Center has been recently renovated and offers an appealing selection of food outlets and comfortable amenities.
Visitors can quickly and easily reach Nagoya by air or rail. The new Central Japan International Airport is scheduled to be completed in February 2005, and will be served by direct flights from the world’s major cities. The trip from the Central Japan International Airport to Nagoya will take approximately 1 hour by train. The city is also conveniently connected by Shinkansen bullet trains to Tokyo and Osaka, Japan’s two major gateways. The travel times are 1 hour and 40 minutes from Tokyo and 1 hour from Osaka.

CONFERENCE REGISTRATION

Participants can pay the registration fee either in Japanese yen or in U.S. dollars by credit card, bank transfer (yen only), or personal or corporate check (U.S. dollars only). Registration fee at a reduced rate is available, but fee must be received by the Secretariat no later than February 28th, 2005 in order to be eligible for the reduced rate. All Conference attendees, including speakers, must pay registration fees.

The Conference Registration Form and complete instructions for submission can be found on the INTERMAG 2005 website at: http://www.intermag2005.jp. Registration via the secure website is the most convenient way to register and is highly recommended so that you are registered well in advance of the deadline of February 28th, 2005. If you would like to know the flow of the registration procedure, go to http://www.intermag2005.jp/flow.html. On-line registration will be available until March 20th, however, Advance Registration at a reduced rate is available only until February 28th. Between March 1st and March 20th, registration via the website will still be available but only the higher registration fees will be accepted. March 21st and on, registration can only be made at the Registration Desks on the day of the Conference and at the higher fee. Forms not accompanied by payment or with incomplete or incorrect credit card information will be considered "late" and the higher rates will be collected on the day of the Conference.

All registrants paying the full registration fees will receive a copy of the Digest Book, which will be distributed at the Conference Registration Desks. They will also receive the Conference Proceedings, scheduled to be published in the IEEE Transactions on Magnetics (Fall 2005).
Registration Fees:

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<tr>
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<th>Until Feb. 28th</th>
<th>After March 1st</th>
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<tbody>
<tr>
<td>IEEE or MSJ Member</td>
<td>¥65,000/$550</td>
<td>¥70,000/$600</td>
</tr>
<tr>
<td>Non-Member</td>
<td>¥80,000/$700</td>
<td>¥85,000/$750</td>
</tr>
<tr>
<td>Student/Retiree</td>
<td>¥25,000/$200</td>
<td>¥30,000/$245</td>
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Students and unemployed retirees who register at the lower fees will not receive a copy of the Proceedings, except through their membership in the IEEE Magnetics Society. Non-member students registering for the Conference will be given IEEE and Magnetics Society memberships free of charge for the remainder of the year 2005 (April onwards). This offer is only valid if a completed IEEE membership application form is submitted at the Conference.

All attendees will be required to wear INTERMAG 2005 name badges to enter the Technical Sessions and Exhibits. The use of cameras, videotaping and/or recording devices in the technical sessions is strictly prohibited.

REMEMBER: All Advance Registration forms must be accompanied by full payment and must be received by February 28, 2005.

The Conference Registration Desks, located in the Grand Floor Atrium in front of the Event Hall, will be open during the following hours:

- Monday, April 4th: 2:00 PM ~ 7:00 PM
- Tuesday, April 5th: 8:20 AM ~ 5:00 PM
- Wednesday, April 6th: 8:20 AM ~ 5:00 PM
- Thursday, April 7th: 8:20 AM ~ 2:30 PM
- Friday, April 8th: 8:20 AM ~ 2:30 PM

At the Registration Desks, each registrant will receive the receipt for registration payment, a bag, a name badge, a lunch map, and the Digest.

Registration Cancellation Policy: Cancellations of Advance Registrations must be submitted in writing and received by the Secretariat no later than February 28th, 2005. Refunds of the original payment, less ¥8,000 or $70 service fee will be made following the Conference. After February 28th, cancellations can be made, but registration fees are not refundable.

VISA REQUIREMENTS FOR ENTRY INTO JAPAN
Citizens of countries other than Japan must carry a valid passport and visa to enter Japan. Participants requiring visas should contact the Japanese Embassy, Consulate, or Office of Tourism in their home country AS SOON AS POSSIBLE to determine their particular visa requirements. The application process for a visa should be started well in advance of the departure date (preferably two months). The Secretariat can is-
sue a signed letter of invitation and necessary documents to those participants who have completed both the registration and payment, and need a visa. Once you have registered AND made your payment, download the Application Form for the Invitation Letter from the INTERMAG 2005 Profile ID login User’s Page, fill in all appropriate items, and mail it to the INTERMAG 2005 Secretariat. Upon confirmation of payment, the Invitation Letter will be issued and mailed to you. Be sure to provide your full name and complete mailing address so that the signed Invitation Letter can then be mailed to you via standard mail service. Refer to the VISA information section from your User’s Page for details.

PLEASE NOTE that the INTERMAG 2005 Secretariat CANNOT contact or intervene with any Japanese Embassy or Consulate office abroad on your behalf.

PUBLICATIONS ROOM
The Publications Room will be located in Room 143 on the fourth floor of the Nagoya Congress Center. Authors can check the status of their manuscripts. The status of all papers can be located here and authors should check periodically on their individual papers. This room will be open 9:30 AM - 5:30 PM from Tuesday, April 5th to Thursday, April 7th and 9:30 AM - 12:00 Noon on Friday, April 8th.

SPEAKER PRACTICE ROOM
All presentations must be in English. Speakers will be allowed 12 minutes plus 2 minutes for discussion. Speakers should wait in the speaker waiting seats of their oral session rooms at least thirty minutes before their presentation. Oral presentations are given on Tuesday, Thursday, and Friday from 9:30 AM - 12:30 PM and 2:30 PM - 5:30 PM and on Wednesday from 9:30 AM - 12:30 PM and 2:30 PM - 4:00 PM. Speakers are reminded that the 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 Conference. Every speaker will be responsible for operating the equipments themselves. You should come prepared with your presentation in Microsoft PowerPoint format for a PC, or else on a MAC. MAC presenters should bring the display cable that came with their PCs. If you are bringing your presentation in USB flash memory and plan to use the PC provided by the Conference, only presentations in Microsoft PowerPoint format will be accepted and authors should preview their material using the Windows PC in the Speaker Practice Room. 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. To ensure smooth operation, a strict procedure will be enforced: detailed instructions will be sent to all speakers and will be posted on the INTERMAG 2005 website. To keep the time schedule precisely as planned the presenters must also bring overhead transparencies. In case a problem with a digital presentation occurs, which cannot be solved within a minute, the speaker will be asked to transfer to his/her transparencies. The session chairs will control precise schedule of the whole meeting.

Speakers may use Room 222 in Building 2 to practice their presentations. Audiovisual equipment will be available for authors to use to check connection of their laptops to the projectors provided from 2:00 PM until 7:00 PM on Monday, from 9:00 AM until 9:00 PM on Tuesday through Thursday, and from 9:00 AM until 4:00 PM on Friday. Speakers are urged to use the facility to practice their presentation, either alone or with colleagues.

POSTER SESSIONS
The hours of the Poster Sessions are 8:30 AM - 12:00 PM and 1:30 PM - 5:00 PM. Authors should set up their materials at least ten minutes before session start times. Clear descriptive visual material should be arranged within the board size of W1800cm X H2100cm. The hall will open at 8:00 AM for the morning session. They must be by their posters from 8:30 AM - 9:30 AM and 11:00 AM - 12:00 PM for the morning sessions, and from 1:30 PM - 2:30 PM and 4:00 PM - 5:00 PM for the afternoon sessions. Authors are reminded to remove all of their materials, excluding the pushpins that have been provided by the Conference, promptly at the end of their session. Materials that are not removed will be discarded in order to prepare for the next session.

PLENARY SESSION
During the Conference Plenary Session on Wednesday, April 6th, at 4:10 PM in the Shirotori Hall, the IEEE Magnetics Society will recognize its 2005 award recipients: the IEEE Reynold B. Johnson Information Storage Systems Award will be presented to Dr. Francois Dolivo, and the IEEE Magnetics Society Achievement Award will be presented to Dr. Robert E. Fontana, Jr. of Hitachi Global Storage Technologies. The following newly elected IEEE Fellows will be recognized: Dr. Pavel J.D. Kabos of National Institutes of Standards and Technology, Dr. Nobutake Imamura of TeraHouse Corporation, Prof. Jaekyun Moon of University of Minne-
sota, Dr. Kent Ritter Davey of University of Texas and Dr. Giorgio Bertotti of IEN Galileo Ferrais. The INTERMAG Student Travel Award winners will also be announced. Afterwards, a plenary lecture on "Future Power-train System for Sustainable Mobility" will be given by Mr. Kiyoshi Nakanishi, President of Genesis Research Institute, INC. and Advisor of Toyota Motor Corporation.

TUTORIALS
Three successive lectures will be presented on Monday, April 4th, 2005, from 4:00 PM to 6:50 PM in Room 141/142 in Tutorials as follows: "MODELING AND THE FUTURE OF MAGNETIC RECORDING" will be presented by Prof. Randall Victora, University of Minnesota; "MANIPULATION OF MAGNETIC MOMENTS BY SPIN TRANSFER: EXPERIMENTS AND THEORY" will be presented by Prof. Albert Fert, Unité Mixte de Physique CNRS-Thales and Université Paris-Sud; "NEW HORIZON IN BIOMAGNETICS" will be presented by Prof. Shoogo Ueno, University of Tokyo.

IEEE MAGNETICS SOCIETY ANNUAL GENERAL MEETING
This meeting is open to all. Please come to learn what the IEEE Magnetics Society is doing for you. Or please come to find out the benefits of joining. Note that free membership is being offered to students attending this conference! The meeting will be held from 12:30 PM to 1:00 PM on Thursday, April 7th in Room 131/132.

TECHNICAL TOUR
A tour of the hybrid car plant of Toyota Motor Corporation is planned for Monday, April 4th, from 11:30 AM to 1:30 PM. The cost of the tour is free. The meeting place will be located near the Conference Registration Desks. Two buses are reserved for a capacity of 80 persons and will leave from the Nagoya Congress Center at 10:00 AM and hope to be back at the Nagoya Congress Center by 3:00 PM; but due to EXPO 2005, traffic may be delayed. Boxed lunches (tea included) will be available at ¥1,050 payable on the day of the tour for those who wish, but carry-ins are also welcome. To reserve the tour (and lunch), please download and fill out an application form from the INTERMAG 2005 website at http://www.intermag2005.jp and send it as an attachment to Professor Gomi at gomi@mse.nitech.ac.jp. Seats are limited, so please make the reservation well ahead of time. The hybrid car is a new-generation vehicle that achieves outstanding fuel economy and low emission levels. Currently,
medium class cars represented by Prius, which is the world’s first mass-produced hybrid car, are manufactured in this plant. This plant has almost all the processes necessary to produce a car. It is a plant worth visiting.

CONFERENCE SOCIAL EVENT

Welcome Reception
Date: Monday, April 4th
Time: 7:00 PM ~
Place: Event Hall
Cost: Free (Included in the Registration Fee)
Please participate in the Welcome Reception after registering at the Registration Desks.

Plenary Reception
Date: Wednesday, April 6th
Time: 6:00 PM ~
Place: Event Hall
Cost: Free (Included in the Registration Fee)

BIERSTUBE AND COFFEE
Coffee service will be available on Tuesday through Friday mornings among the Poster Sessions and Exhibits in the Event Hall, from 8:30 AM to 10:00 AM. On Tuesday and Thursday evenings, the Bierstube will be held in the Event Hall from 5:00 PM to 6:00 PM.

SPOUSE HOSPITALITY
In keeping with recent INTERMAG Conferences, the Nagoya Conference will not include a specific program for accompanying spouses. However, we will have a hospitality area with seating available in Room 225 in Building 2 to provide a convenient meeting point.

LUNCH
Nagoya Congress Center has three dining locations: the Skyview Restaurant Pastel with 120 seats, Cafeteria Cascade with 250 seats, and the Coffee Shop Yuri with 100 seats. Also, a map with nearby lunch locations will be provided at the Registration Desks.
STUDENT TRAVEL AWARD

The Conference awards travel grants of approximately $1,000 each to a limited number of students working in basic and applied magnetism. These awards are intended to partially offset travel costs to attend INTERMAG 2005. Award is for current graduate students only; postdoctoral fellows or non-students are not eligible. Preference will be given to students who are nearing completion of their graduate studies and are presenting Conference Papers. The oral and poster presentation students have an equal chance to get the Student Travel Award. To apply, forms and instructions will be available at http://www.intermag2005.jp, under the category "Student Travel". Students must download and fill out an application form and send it as an attachment to the INTERMAG 2005 Secretariat at st-intermag@secretariat.ne.jp. The student must also download an advisor form and ask the advisor to fill it out and send it to the Secretariat. The forms may be sent together by the student, or separately by the student and the advisor. The INTERMAG 2005 Secretariat will forward those applications from students or advisors to Dr. Matthew Carey and Prof. Masahiko Yamamoto as they come in. Applications AND letters of endorsement must be submitted between January 1st and February 1st, 2005. (Applications closed on February 1st, 2005.)

PARTNER PROGRAM

The 1,500 professionals in attendance during the INTERMAG Conference are primarily scientists, engineers and managers representing a diverse range of disciplines related to the physics and engineering applications of magnetism and magnetic materials. Principal areas of interest cover both theory and applications, and include magnetic recording, magnetic thin films, magnetic computation, magnetism in the biological sciences, soft and hard magnetic materials, and microwave magnetics to name a few.

Contributions from our Partners help offset the expenditures involved with the screening process of papers and presentations, food and beverage and audiovisual needs. These contributions help keep down registration fees without compromising the quality of the program. We thank you for your consideration and appreciate any monetary support you are able to provide.

DIAMOND PARTNERSHIP......... More than $2,000
PLATINUM PARTNERSHIP......... $2,000
GOLD PARTNERSHIP............. $1,500
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raoka; M. Purdavi-Horvath; B. Terris; S. Wang

FUTURE CONFERENCES
50th Conference on Magnetism and Magnetic Materials: October 30-November 3, 2005, San Jose, CA
INTERMAG Conference: May 8-12, 2006, San Diego, CA
10th Joint MMM-Intermag Conference: January 7-11, 2007, Baltimore, MD
CONFERENCE ORGANIZATION

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ADDITIONAL INFORMATION
If you would like to receive more information about INTERMAG 2005, please contact INTERMAG 2005 Secretariat at:

INTERMAG 2005 Secretariat
c/o Convention Linkage, Inc.
Asahiseimei Yabacho Bldg, 3-32-20, Sakae,
Naka-ku, Nagoya 460-0008, Japan
Phone: +81-52-262-5070
Fax: +81-52-262-5084
Email: info@intermag2005.jp

You may also access complete conference information through the Web at the INTERMAG home page at:
http://www.intermagconference.com

GENERAL INFORMATION
TRANSPORTATION
The all-new Nagoya International Airport is being constructed and scheduled to begin operation on February 17th, 2005. The 24-hour airport is called "Centrair" and is located 35km south of Nagoya. The airport is about 40 minutes by car (about ¥15,000 by taxi) and 37 minutes by Meitetsu railway (about ¥700~¥1200) from central Nagoya. It’s not just an airport, but also an amusement park full of entertainment with zones for shopping, relaxation, gourmet, events, etc. For more information, please visit http://www.cijiac.co.jp/foreign/english/index.html
To get to places in Nagoya, there are three major railways, an extensive subway system, buses, and taxis. The subway is recommended for its convenience and ease. Visit the following
NAGOYA CITY
Geographically located around the center of main island of Japan, Nagoya has been a cultural crossroad since ancient times. Due to its convenient location, it has served as a meeting place for the nation’s eastern and western cultures. Nagoya has outstanding features both in historical and modern aspects. Back in the 16th century, three very popular Samurai heroes - Oda, Toyotomi, and First Shogun Tokugawa - were all born in and out of Nagoya. At present, the city enjoys prosperity as a center of various industries. It has a population of 2.17 million, making it the 4th largest city in Japan.

NAGOYA WEATHER
The temperature in Nagoya during the Conference period is quite pleasant, and it will range between 10-14 °C (50-57 °F). However, the average temperature last April was around 20 °C, so please come ready for any unpredictable weather.

ACCOMODATION
The travel agency, JTB, is assigned as the official travel agency for INTERMAG 2005. JTB has booked several hotels near some of the major stations in Nagoya that are conveniently located from the Conference site, but the number of rooms are limited. If you wish to reserve a hotel room or book a tour from our web site, please register for the Conference. After registration, you will receive your Profile ID, with which you can login to your own personal User’s Page. Click on the Hotel & Travel link to access information on application for hotel reservation. If you already have a Profile ID, please follow the same direction as above. You may find difficulty in reserving hotel rooms due to EXPO 2005. Please reserve hotel rooms well in advance.

EXPO 2005
The first World Expo of the 21st century, EXPO 2005 Aichi, Japan, is to be held in the outskirts of Nagoya from March 25th until September 25th, 2005. Japan’s first maglev train service (HSST) is scheduled to begin its operation and provides access to the EXPO 2005 site. Within the site, an Intelligent Multimode Transit System (IMTS), utilizing magnetics technology, will be operating. EXPO 2005 visitors will experience futuristic intelligent transport systems (ITS) traveling to, between, and within the event exhibition areas.
The theme of EXPO 2005 is "Nature's Wisdom". For more information, please visit: http://www.expo2005.or.jp

CURRENCY EXCHANGE
The currency used in Japan is yen (¥). Foreign currency can be changed to yen at major banks, hotels or airports. Only Japanese yen is accepted at stores and restaurants. Bills come in units of 1,000, 2,000, 5,000 and 10,000 yen, and coins in units of 1, 5, 10, 50, 100 and 500 yen. The approximate exchange rate for US$1.00 is 104 yen (as of December 2004) and it fluctuates daily depending on the money market.

Traveler's Checks
Traveler's checks are not as popular in Japan as in some other countries. Usually, only major banks and hotels accept them. It is necessary to show your passport for identification when exchanging traveler's checks.

Credit Cards
Visa, MasterCard, American Express, and Diners Club cards are widely accepted at hotels, department stores, shops and restaurants. However, credit card transactions are not always convenient outside big cities.

ATMs
Automatic Teller Machines (ATMs) are commonly available in large urban areas throughout Japan. However, most do not accept foreign credit cards or cash cards and their service hours are very often restricted: Many ATMs operate only during banking hours and weekend services are restricted to Saturday mornings.
For ATMs that accept credit cards, it is advised to contact each credit card company beforehand and check its availability as these conditions vary from machine to machine.
Most Japanese Post Office ATMs in Tokyo show the service availability with stickers indicating which cards are accepted.
Cards from the Cirrus, Plus, Maestro and Visa Electron networks can be used. Accepted credit cards include Visa, MasterCard, American Express and Diners Club.

TIPPING
There is no custom of individual tipping in Japan. Instead, a service charge will be included in the bill where applicable. And 5% consumption tax applies to almost all consumer goods purchased in Japan.

ELECTRICAL APPLIANCES
The voltage used throughout Japan is uniformly 100 volts,
A.C. There are two frequencies in use; 50 Hertz in eastern Japan (including Tokyo) and 60 Hertz in western Japan (including Nagoya, Kyoto and Osaka).

A convertible type of electrical appliance such as a hair dryer, travel iron and shaver will therefore be handy; otherwise a step-down transformer is required to convert the voltage.

There are no columnar-shaped plugs or 3-pin plugs used in Japan but 2-flat-pin plugs as in North America are used instead. It is therefore advised to purchase a plug adapter beforehand.

SHOPPING

There are many department stores around major train/subway stations in Nagoya. They offer just about everything from grocery, clothing, to furniture and even goods from foreign countries. There are usually restaurants of different cuisine and nationality at the top level that people enjoy. The prices, however, are higher than average.

Underground shopping centers are also popular amongst the Japanese on rainy days. There are cafes, bookstores, shoe stores, clothing stores, you name it.

The Osu shopping arcade is popular amongst people looking for authentic Japanese mementos. There are traditional Japanese food concession stands, new and used kimono shops, and antique shops.

If you love shopping, you’ll enjoy shopping in Nagoya.

USEFUL WEBSITES FOR TRAVELING IN JAPAN

The following website offers wide range of information about all of Japan.

• Japan National Tourist Organization  
  http://www.jnto.go.jp/eng

The following two websites offer information on Nagoya.

• Nagoya Convention and Business Bureau  
  http://www.ncvb.or.jp/index_e.html

• Nagoya InfoGuide  
  http://www.japaninfoguides.com/
Apr. 4  
Room 141/142

Session TZ
Tutorials

Y. Miura  
Shinsyu University
N. Matsushita  
Tokyo Institute of Technology

16:00

*TZ-01 MODELING AND THE FUTURE OF MAGNETIC RECORDING
R. H. Victoria, MINT, Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, United States of America

17:00

*TZ-02 MANIPULATION OF MAGNETIC MEMORY BY SPIN TRANSFER: EXPERIMENTS AND THEORY
A. Fert, Unite Mixte de Physique CNRS-Thales and Universite Paris-Sud, France

18:00

*TZ-03 NEW HORIZON IN BIOMAGNETICS
Shoogo Ueno, Department of Biomedical Engineering, Graduate School of Medicine, University of Tokyo, Japan
Session AA
GMR and Current Induced Instabilities I
J.R. Childress
San Jose Research Center, Hitachi Global Storage Technologies

AA-01 MICROWAVE DYNAMICS IN NANOSCALE
9:30 MULTILAYER CPP DEVICES DRIVEN BY SPIN-TRANSFER TORQUE
Sergey I. Kiselev1, Jack C. Sankey2, Ilya N. Krivorotov1, Nathan C. Emley3, Robert A. Buhrman2, Daniel C. Ralph3, 1Hitachi GST, United States of America, 2Cornell University, United States of America

AA-02 SUB-NS MAGNETIZATION SWITCHING AND RF
9:45 EMISSION IN CoFe/Cu/CoFe PILLARS USING SPIN-TRANSFER EFFECT
Thibaut Devolder1, Ashwin A. Tulapurkar2, Paul Crozat1, Claude Chappert1, Yoshishigue Suzuki2, Kunji Yagami2, 1Institut d’Electronique Fondamentale, CNRS UMR 8622, Bat. 220, Universite Paris Sud, France, 2NanoElectronics Research Institute, National Institute of Advanced Industrial Science and Technology, Japan, 3SSNC, Semiconductor Technology Development Group, SONY Corp., Japan

AA-03 APPROXIMATE THEORY OF MICROWAVE
10:00 GENERATION IN A MAGNETIC NANO-CONTACT DRIVEN BY A SPIN-POLARIZED CURRENT
Andrei N. Slavin1, Pavel Kabos2, 1Dept. of Physics, Oakland University, United States of America, 2Electromagnetics Division, National Institute of Standards, United States of America

AA-04 MAGNETIZATION SELF-OSCILLATIONS INDUCED
10:15 BY SPIN-POLARIZED CURRENTS
Roberto Bonini1, Giorgio Bertotti2, Claudio Serpico3, Isaak D. Mayergoz2, Alessandro Magni1, Massimiliano d’Aquino3, 1Physics Dept., Polytechnic of Turin, Italy, 2Materials Dept., IEN Galileo Ferraris, Italy, 3Dept. of Electrical Engineering, University of Naples, Italy, 4Dept. of Electrical and Computer Engineering, University of Maryland, MD, United States of America

AA-05 PELTIER EFFECT IN METALLIC CPP STRUCTURES
10:30 Akio Fukushima1, Hitoshi Kubota1, Atsushi Yamamoto1, Yoshishige Suzuki2, Shinji Yuasa3, 1National Institute of Advanced Industrial Science and Technology, Japan, 2Graduate School of Engineering Science, Osaka University, Japan
AA-06 THE RELATION BETWEEN NANOCONTACT MAGNETORESISTANCE AND CONDUCTANCE QUANTIZED STATES
Koji Sekiguchi, Eiji Saitoh, Hideki Miyajima, Dept. of Physics, Keio University, Japan

AA-07 CPP CHARGE AND HEAT TRANSPORTS IN MULTILAYERED NANOWIRES: THE SPIN-PELTIER EFFECT
Laurent Gravier, Ecole Polytechnique federale de LAUSANNE, Switzerland

AA-08 COMPOSITIONAL DEPENDENCE OF MAGNETORESISTANCE IN TbFeCo AMORPHOUS FILMS
Md. Tofizur Rahman, Xiao Xi Liu, Mitsunori Matsumoto, Akimitsu Morisako, Dept. of Information Engineering, Faculty of Engineering, Shinshu University, Japan

AA-09 CPP SPIN-VALVES UTILIZING ULTRA-STRONG Ir COUPLED ANTIPARALLEL PINNED LAYERS FOR THICK REFERENCE LAYER STABILIZATION
Stefan Maat, Matthew Carey, Jordan Katine, Jeff Childress, Hitachi Global Storage Technologies, United States of America

AA-10 VARIATIONS OF MAGNETIC PROPERTIES FOR VARIOUS NITROGEN CONCENTRATION IN Ta THIN FILMS FOR SPIN VALVE STRUCTURE
Yeonbong Choi, Soonchul Jo, Ji Seop So, Moon Kyu Song, Chang Woo, 'School of Electronics, Soongsil University, Republic of Korea, 'Dept. of Nano & Electronic Physics, Kookmin University, Republic of Korea

AA-11 CARRIER SCATTERING CAUSED BY ANTIPARALLEL COUPLED PERPENDICULAR MAGNETIC DOMAINS IN Co/Pd MULTILAYERS
Tomoki Kobayashi, Sigeki Nakagawa, Department of Physical Electronics, Tokyo Institute of Technology, Japan

AA-12 IN-SITU MAGNETORESISTANCE MEASUREMENTS OF A NANOCONSTRICTED NICKEL-IRON FILM WITH IN-PLANE CONFIGURATION
Yuichi Ohsawa, Yuichi Ohsawa, 'CR & D Center, Toshiba corp., Japan, 'RIEC, Tohoku University, Japan
Session AB
Symposium on Heat Assisted Recording Technology
K. Nakagawa
Nihon University

*AB-01 THERMAL MANAGEMENT IN HEAT ASSISTED MAGNETIC RECORDING
9:30
T. E. Schlesinger, E. J. Black, J. A. Bain, Carnegie Mellon University, United States of America

*AB-02 PSEUDO-BINARY ALLOYS AND EXCHANGE SPRINGS: A REVIEW OF MEDIA CONCEPTS FOR THERMALLY ASSISTED MAGNETIC RECORDING
10:00
Jan-Ulrich Thiele, Hitachi Global Storage Technologies, San Jose Research Center, United States of America

*AB-03 NEAR FIELD ASSISTED MAGNETIC RECORDING
10:30

*AB-04 CHARACTERIZATION OF BLUE- AND RED-VERY SMALL APERTURE LASERS FOR HYBRID RECORDING
11:00
Tomoki Ohno¹, J. A. Bain², T. E. Schlesinger², ‘Sharp Laboratories of America Inc., United States of America, ’Carnegie Mellon University, United States of America

*AB-05 LASER INDUCED ULTRAFAST MANIPULATION OF SPINS IN ANTI FERROMAGNETIC MATERIALS: A NEW AVENUE IN MAGNETIC MEMORY
11:30
Theo Rasing, IMM, Radboud University Nijmegen,

*AB-06 THERMO-MAGNETIC RANDOM ACCESS MEMORY: A NEW ROUTE FOR LOW POWER APPLICATIONS
12:00
Olivier Redon¹, Ioan Lucian Prejbeanu¹, Ricardo C. Sousa¹, Marta Kerekes¹, Bernard Dieny¹, Jean-Pierre Nozieres¹, Paulo P. Freitas², ‘SPINTEC, France, ’INESC-MN, Portugal

Apr. 5
Session AC
Nanocrystalline Materials
K.Y. Kim
Korean Institute of Science and Technology

AC-01 B CONTENT DEPENDENCE ON ANISOTROPY FIELD OF CoFeB THIN FILM FOR GHz FREQUENCY USE
9:30
Masashi Namikawa, Makoto Munakata, Sin-Ichi Aoqui, Masaaki Yagi, Energy Electronics Laboratory and Faculty of Engineering, Sojo University, Japan
AC-02  DEVELOPMENT OF SOFT MAGNETIC THIN FILMS
9:45  FOR GHz APPLICATIONS
Jongsik Shim¹, Inyoung Kim¹, Jong-Ryoul Kim¹, Suk Hee Han¹,
HeeJung Kim¹, Ki Hyeon Kim¹, Masahiro Yamaguchi¹, ‘Dept. of
Materials Engineering Science, Hanyang University, Republic
of Korea, ¹Nano Device Research Center, Korea Institute of
Science and Technology, Republic of Korea, ¹Research Institute
of Electrical Communication, Tohoku University, Japan

AC-03  EXTRACTION OF COMPLEX PERMEABILITY ON
10:00  COPLANAR TRANSMISSION LINE BY MEASURING
SCATTERING PARAMETERS UP TO 20GHz
Jaecheon Sohn, Ki Hyeon Kim, Masahiro Yamaguchi, Dept. of
Electrical and Communication Engineering, Tohoku University,
Japan

AC-04  DYNAMIC LOSSES AND DOMAIN REFINEMENT IN
10:15  NANOCRYSTALLINE TAPE WOUND CORES
Sybille Flohrer¹, Rudolf Schaefer¹, Jeffrey McCord¹, Stefan
Roth¹, Giselher Herzer², Ludwig Schultz¹, ¹IFW Dresden,
Germany, ²VACUUMSCHMELZE GmbH & Co. KG, Germany

AC-05  GROWTH RATE EFFECTS IN SOFT CoFe FILMS
10:30  MARIAN VOPSAROU'I, MILENA GEORGIEVA', PHIL J. GRUNDY', MIKE J.
THWAITES¹, KEVIN O'GRADY¹, 'DEPARTMENT OF PHYSICS, UNIVERSITY
OF YORK, ENGLAND, 'DEPARTMENT OF PHYSICS, UNIVERSITY OF SALFORD,
M5 4WT, UNITED KINGDOM, 'PLASMA QUEST LTD., UNITED KINGDOM

AC-06  THE CHANGE OF MAGNETIC PROPERTIES BY ION
10:45  IRRADIATION IN THE Co-BASED AMORPHOUS
RIBBON
Duck-Gun Park¹, Gi-Duck Kim¹, Jae-Hyung Lee¹, Cheol-Gi
Kim¹, Jun-Hwa Hong¹, ‘Dept. Development of Nuclear
Material, Korea Atomic Energy Research Institute, Republic of
Korea, ¹Dept. of Materials Engineering, Chungnam National
University, Republic of Korea

AC-07  INFLUENCE OF THE MAGNETOElastIC
11:00  MECHANISM ON THE SWITCHING FIELD
FLUCTUATIONS ON Fe BASED AMORPHOUS
MICROWIRES
K. L. Garcia¹, R. Varga¹, M.Vazquez¹, ‘Materials Science
Institute of Madrid, Spain, ¹Institute of Physics, Faculty of
Sciences, UPJŠ, Slovakia
AC-08 HELICAL MAGNETIC STRUCTURE IN COLD-11:15 RAWN Fe-RICH AMORPHOUS WIRE
A. Chizhik¹, C. Garcia¹, J. Gonzalez¹, J. J. del Val¹, J. M. Blanco², D. N. Merenkov³, S. L. Gnatchenko⁴, Y. A. Shakhayeva¹, A. N. Bludov⁴, ¹Dep. Física de Materiales, Facultad de Química, UPV, San Sebastian, Spain, ²Unidad Física Materiales, CSIC-UPV/EHU, San Sebastian, Spain, ³Dep. Física Aplicada I, EUPDS, UPV/EHU, San Sebastian, Spain, ⁴Institute for Low Temperature Physics & Engineering, NAS of Ukraine, Kharkov, Ukraine

AC-09 COMBINED SOFT MAGNETISM, GOOD CORROSION IN GLASSY Fe₆₅.₅Cr₄Mo₄Ga₄P₁₂C₅B₅.₅
Mihai Stoica, Stefan Roth, Uwe Gaitzsch, Annett Gebert, Ludwig Schultz, IFW Dresden, Germany

AC-10 THE INFLUENCE OF TRANSVERSE FIELD ANNEALING ON MAGNETIC PROPERTIES OF (Fe₁₋ₓCox)₈₁Nb₇B₁₂ (x=0.25, 0.33, 0.5, 0.66) NANOCRYSTALLINE ALLOYS
Ivan Skorvanek, Inst. Exp. Physics SAS, Kosice, Slovakia

AC-11 ORIGIN OF THE STRESS-INDUCED MAGNETIC ANISOTROPY IN Fe-BASED NANOCRYSTALLINE ALLOY
Masato Ohnuma¹, Takeshi Yanai², Masaki Nakano², Hirotoshi Fukunaga¹, Kazuhiro Hono², Yoshihito Yoshizawa², ¹National Institute for Materials Science, Japan, ²Nagasaki University, Japan, ³Hitachi Metals Ltd., Japan

AC-12 ROLE OF HEAT OF FORMATION ON SOFT MAGNETIC PROPERTIES AND STRUCTURE OF METAL-INSULATOR TYPE NANO-GRANULAR MAGNETIC FILMS
Shigehiro Ohnuma¹, Masato Ohnuma², Kazuhiro Hono², Hiroyasu Fujimori³, Tsuyoshi Masumoto¹, ¹The Research Institute for Electric and Magnetic Materials, Japan, ²National Institute for Materials Science, Japan

Apr. 5 Room 224
Session AD
Films and Surfaces I
K. Takanashi
Institute for Materials Research, Tohoku University

AD-01 W AND Ag INDUCED MAGNETIZATION PROFILE IN MULTILAYER WITH 3d METALS
Nicolas Jaouen, Fabrice Wilhelm, Andrei Rogalev, Jose Goulon, European Synchrotron Radiation Facility (ESRF), France
AD-02 SPIN-POLARIZED SCANNING TUNNELING
9:45 SPECTROSCOPY STUDY OF EPITAXIAL IRON(001) LAYERS ON BCT-MANGANESE(001)
Toyokazu Yamada1, Amadeo L. Vazquez de Parga2, Maarten M.J. Bischoff1, Tadashi Mizoguchi1, Herman van Kempen1, 1Dept. of Physics, Gakushuin University, Japan, 2Dept. Fisica de la Materia Condensada, Universidad Autonoma de Madrid, Spain, 3Institute for Molecules and Molecular systems, Radboud University, Netherlands

AD-03 ANTIFERROMAGNETIC Mn ON Fe(001) STUDIED
10:00 BY SPIN-POLARIZED SCANNING TUNNELING MICROSCOPY
U. Schlickum, N. Janke-Gilman, W. Wulfhekel, J. Henk, P. Bruno, J. Kirschner, Max Planck Institute of Microstructure Physics, Germany

AD-04 MAGNETISM AND MAGNETO-OPTICAL RESPONSE
10:15 FROM ULTRA-THIN Co FILMS EPITAXIALLY GROWN ON Pd SUBSTRATES
Marek Przybylski, Miroslav Nyvt, Yisheng Shi, Long Yan, Jan Zukrowski, Jochen Barthel, Jurgen Kirschner, Max-Planck-Institut fuer Mikrostrukturphysik, Germany

AD-05 STRUCTURAL AND MAGNETIC ANISOTROPY PROPERTIES IN EPITAXIAL Fe FILMS ON Al0.48In0.52As(001)
Nicolas Tournerie, Philippe Schieffer, Bruno Lepine, Claude Lallaizon, Guy Jezequel, UMR CNRS 6627 PALMS, France

AD-06 SPIN AND ORBITAL MOMENTS OF ULTRA-THIN Fe FILMS ON VARIOUS SEMICONDUCTOR SURFACES
10:45 Jill S. Claydon1, Daxin Niu1, Yong Bing Xu1, Neil D. Telling2, Ian W. Kirkman2, Gerrit van der Laan3, Spintronics Laboratory, Department of Electronics, University of York, United Kingdom, 2Daresbury Laboratory, United Kingdom

AD-07 ANNEALING INDUCED Fe OXIDE NANOSTRUCTURES ON GaAs
11:00 Yong Xiong Lu1, Ehsan Ahmad1, Yong Bing Xu1, Sarah M. Thompson1, Spintronics Laboratory, Department of Electronics, University of York, United Kingdom, Department of Physics, University of York, United Kingdom

AD-08 MAGNETIZATION RELAXATION IN SPUTTERED THIN Fe FILMS: EVIDENCE OF SPIN-PUMPING EFFECT
11:15 Bijoy K. Kuan1, Alka V. Kuan2, R. E. Camley1, Z. Celinski1, 1Department of Physics, University of Colorado at Colorado Springs, CO, United States of America, 2College of Applied Sc. for Women, Delhi University, Delhi-92, India
AD-09 HIGH WAVE VECTOR SPIN WAVES IN ULTRATHIN
11:30 Co-VIDS INVESTIGATED BY SPIN-POLARIZED
ELECTRON ENERGY LOSS SPECTROSCOPY
M. Etzkorn¹, P. S. Anil Kumar², R. Vollmer², W. Tang¹, Y. Zhang¹, H. Ibach², J. Kirschner¹, 'Max-Planck Institute of
Microstructure Physics, Germany, ²Institute of Surfaces and
Interfaces, Research center Juelich, Germany

AD-10 SYNTHESIS AND MAGNETIC MOMENT OF ALPHA
11:45 PRIME AND GAMMA PRIME-Fe-N PHASES WITH
VARIOUS UNIT-CELL VOLUME
Kazuyuki Sunaga¹, Masakiyo Tsunoda¹, Migaku Takahashi²,
¹Dept. of Electronic Engineering, Tohoku University, Japan,
²New Industry Creation Hatchery Center, Tohoku University,
Japan

AD-11 HIGHLY (001) ORIENTED L1₀ FePt THIN FILM
12:00 USING NiTa SEED LAYER
Tomoyuki Maeda, Corporate R&D Center, Toshiba
Corporation, Japan

AD-12 MICROSTRUCTURE OF HIGH COERCIVITY FePt
12:15 THIN FILMS FABRICATED AT 400 °C
Z. L. Zhao¹, J. S. Chen¹, J. Ding², J. B. Yi², B. H. Liu², J. P.
Wang³, 'SMI Division, Data Storage Institute, Singapore, 'Dept.
of Materials Science, National University of Singapore,
Singapore, 'Dept. of Electrical and Computer Engineering, The
Center for Micromagnetics and Information Technologies
(MINT), University of Minnesota, United States of America

Apr. 5 Room 131/132

Session AE
Motors I

D. Dorrell
The University of Glasgow

AE-01 IRON LOSS IN A MODULAR ROTOR SWITCHED
9:30 RELUCTANCE MACHINE FOR THE 'MORE-
ELECTRIC' AERO-ENGINE
David J. Powell, Geraint W. Jewell, Stuart D. Calverley, David
Howe, Electronic and Electrical Engineering, University of
Sheffield, United Kingdom

AE-02 ASSESSING THEcore LOSSES IN SWITCHED
9:45 RELUCTANCE MACHINES
Ivan Chindurza, David G. Dorrell, Calum Cossar, Dept. of
Electronics and Electrical Engineering, University of Glasgow,
United Kingdom
AE-03 AN ACCURATE ANALYTICAL METHOD FOR ESTIMATION OF FLUX-LINKAGE CHARACTERISTICS OF A SWITCHED RELUCTANCE MOTOR
Nimit K. Sheth, K. R. Rajagopal, Electrical Engineering Department, Indian Institute of Technology Delhi, New Delhi, India

AE-04 A NOVEL SWITCHED RELUCTANCE MOTOR WITH WOUND-CORES PUT ON STATOR AND ROTOR POLES
Kenji Nakamura, Tomoya Ono, Keisuke Sugano, Tadaaki Watanabe, Hiroki Goto, Osamu Ichinokura, Graduate School of Engineering, Tohoku University, Japan

AE-05 DESIGN OPTIMIZATION OF PERMANENT MAGNET MOTORS USING RESPONSE SURFACE METHODOLOGY AND GENETIC ALGORITHMS.
Laurent Jolly1, M. A. Jabbar1, Qing Hua Liu2, 1Dept. of Electrical Engineering, National University of Singapore, Singapore, 2ASM Specific Technology, Singapore

AE-06 DEVELOPMENT OF A WINDING METHOD AND AN INVERTER CIRCUIT TO DRIVE A BLDC MOTOR AT HIGH SPEED WITH LARGE STARTING TORQUE
Gun Hee Jang, Chung Ill Lee, PREM Lab., Hanyang University, Republic of Korea

AE-07 ANALYSIS OF COGGING TORQUE IN BRUSHLESS MACHINES HAVING NON-UNIFORMLY DISTRIBUTED STATOR SLOTS AND STEPPED ROTOR MAGNETS
Zi Qiang Zhu, Som Ruangsinchaiwanich, Dahaman Ishak, David Howe, Dept. of Electronic and Electrical Engineering, University of Sheffield, United Kingdom

AE-08 ROTOR LOSS ESTIMATION IN PERMANENT MAGNET MACHINES WITH CONCENTRATED WINDINGS
Oriano Bottauscio1, Mario Chiampi2, Paolo Guglielmi2, Gianmario Pellegrino2, Alfredo Vagati2, 1IEN Galileo Ferraris, Torino, Italy, 2Dept. Ingegneria Elettrica, Politecnico di Torino, Italy

AE-09 AN AUTOMATIC PIN IDENTIFICATION METHOD FOR THE THREE-PHASE DC BRUSHLESS MOTOR
Shyh-Jier Wang1, Shir-Kuan Lin1, Jau-Jiu Ju1, Der-Ray Huang1, 1Industrial Technology Research Institute, Opto-Electronics & Systems Laboratories, Taiwan, 2Department of Electrical and Control Engineering, National Chiao Tung University, Taiwan
AE-10 MEASUREMENT AND MODELLING OF CORE LOSSES OF SOFT MAGNETIC COMPOSITES UNDER 3D MAGNETIC EXCITATIONS IN ROTATING MOTORS
You Guang Guo, Jian Guo Zhu, Jin Jiang Zhong, Zhi Wei Lin, Faculty of Engineering, University of Technology, Sydney, Australia

AE-11 ANALYSES OF A BEARINGLESS MACHINE WITH DIVIDED WINDINGS
Jossana M. S. Ferreira, Felipe E. F. Castro, Andres O. Salazar, Mauro Zucca, Lorenzo Donadio, ‘Computation and Automation Dept., UFRN, Lagoa Nova, Brazil, 2Istituto Eletrotecnico Nazionale Galileo Ferraris (IEN), Italy

AE-12 DRIVE OF HIGH-VOLTAGE SINGLE-PHASE BRUSHLESS DC MOTORS BASED ON TORQUE ANALYSIS
Li Zhi Sun, Jing Shang, Ji Bin Zou, Harbin Institute of Technology, China

Apr. 5 Room 133/134
Session AF
Magnetic Recording System I
D.C. Palmer
Seagate Technology

AF-01 STUDY OF GMR SIDE READING EFFECT IN PERPENDICULAR RECORDING SYSTEM
Peng Luo, Yan Wu, Herbert G. Lin, Maxtor Corporation, United States of America

AF-02 GEOMETRY EFFECTS FOR PRINTING FINAL SERVO PATTERNS ON PERPENDICULAR DISKS
Bill R. Baker, Redwood Technology, United States of America

AF-03 ALTERNATING-DC TRACK SERVO PATTERN FOR PERPENDICULAR RECORDING
Takehiko Hamaguchi, Hideaki Maeda, Kazuaki Usui, Kazuhisa Shishida, ‘Storage Research Center, Research & Development Group, Hitachi, Ltd., Japan, 2Advanced & Common HDD Technology, Hitachi Global Storage Technologies, Japan

AF-04 THERMAL ASPERITY SUPPRESSION IN PERPENDICULAR RECORDING CHANNELS
George Mathew, Indrawan Tjhia, Dept. of Electrical & Computer Eng., National University of Singapore, and Data Storage Institute, Singapore
AF-05 LOW CROSS TALK INTERCONNECT FOR 10:30 MAGNETIC RECORDING HEAD
Yen Fu, Chao-Hui Yang, Li-Yan Zhu, Manuel A. Hernandez, Ellis Cha, SAE Magnetics, United States of America

AF-06 NUMERICAL SIMULATION OF SHOCK RESPONSE 10:45 OF A HARD DISK DRIVE AT OPERATIONAL STATE
Qing Hua Zeng†, Fu-Ying Huang†, Hiroyasu Tsuchida†, ‡San Jose Research Center, Hitachi Global Storage Technologies, United States of America, ‡Mobile BU, Hitachi Global Storage Technologies, Japan

AF-07 ON-OFF ROBUST DESIGN OF HARD DISK RAMP 11:00 LOADING
Ke Xiu Liu†, Ben M. Chen‡, Qing Wei Jia‡, †Servo DE, Seagate Technology International, Singapore, ‡ECE Dept., National University of Singapore, Singapore

AF-08 INTERACTION DECOUPLING CONTROL OF 11:15 MULTIPLE MILLIACTUATORS IN DUAL-STAGE SERVOS
Chun Ling Du, Guo Xiao Guo, Jing Liang Zhang, Mechatronics and Recording Channel, Data Storage Institute, A*STAR, Singapore

AF-09 ELECTRO-STATIC MICRO-ACTUATOR FOR HDD 11:30 TRACKING SERVO: COMPATIBILITY WITH CONTACT RECORDING
Toshiki Hirano, Mathew Mate, Robert Payne, †San Jose Research Center, Hitachi Global Storage Technologies, United States of America

AF-10 ADAPTIVE NEAR TIME-OPTIMAL SEEK CONTROL 11:45 OF A DISK DRIVE ACTUATOR
Pakorn Serikitkankul, Hiroaki Seki, Masatoshi Hikiu, Yoshitsugu Kamiya, Dept of Mechanical Systems Engineering, Kanazawa University, Japan

AF-11 THE EFFECTS OF ACTUATOR ARM GEOMETRY ON 12:00 AIRFLOW AND READ/WRITE HEAD OFF-TRACK VIBRATION IN A MODELED HARD DISK DRIVE PART I: THE EFFECTS OF ACTUATOR ARM THICKNESS
Hany M. Gross†, Toru Watanabe†, David B. Bogy†, Omer Savas†, †Seagate Technology, United States of America, ‡Fujitsu Ltd., Japan, †University of California at Berkeley, United States of America
AF-12  DYNAMICS OF THE OIL-AIR INTERFACE IN HARD
12:15  DISK DRIVE BEARINGS
Ferdinand Hendriks¹, Burt Tilley², John Billingham³, Paul Dellar¹, Rob Hinch³, ‘San Jose Research Center, Hitachi Global
Storage Technologies, United States of America, ²F.W. Olin
College of Engineering, Needham, United States of America,
¹University of Nottingham, School of Mathematical Sciences,
United Kingdom, ³The Oxford Centre for Industrial and Applied
Mathematics, United Kingdom, ²Brasenose College, Oxford,
United Kingdom

Apr. 5  Reception Hall
Session BA
Current Induced Switching I
Y. Suzuki
Graduate School of Engineering Science, Osaka University

*BA-01  CRITICAL CURRENT DISTRIBUTION IN SPIN
14:30  TRANSFER SWITCHED MAGNETIC TUNNELING
JUNCTIONS
M.Pakala, Y.Huai, T.Valet, Z.Diao, Grandis Inc., United States
of America

BA-02  MAGNETIZATION SWITCHING DUE TO NON-
15:00  LOCAL SPIN INJECTION INTO SMALL
FERROMAGNETIC PARTICLE
Takashi¹, Jaroslav Hamrle¹, Tao Yang¹, Yoshichika¹, ‘Riken FRS,
Japan, ‘ISSP Univ of Tokyo, Japan

BA-03  NANOMETER SCALE OBSERVATION OF CURRENT-
15:15  INDUCED NARROW DOMAIN WALL DEPINNING IN
PERPENDICULAR SPIN VALVES
D. Ravelosona, D. Lacour, J. A. Katine, B. D. Terris, Hitachi
Global Storage Technologies, San Jose Research Center, United
States of America

BA-04  CURRENT INDUCED MODIFICATIONS OF DOMAIN
15:30  WALL
Pierre-Oliver Jubert¹, Mathias Klaeu², Andreas Bischof⁰, Rolf
Allenspach¹, C. A. F. Vaz¹, G. Faini², Ulrich Ruediger², ‘IBM
Research, Zurich Research Laboratory, Rueschlikon,
Switzerland, ¹Fachbereich Physik, Universitaet Konstanz,
Universitaetsstr. 10, Konstanz, Germany, ²Cavendish
Laboratory, University of Cambridge, Madingley Road,
Cambridge, United Kingdom, ‘Laboratoire de Photonique et de
Nanostructures-CNRS, Route de Nozay, Marcoussis, France

BA-05  SPIN TRANSFER EFFECT IN MAGNETIC TUNNEL
15:45  JUNCTION WITH LOW RESISTANCE
Hao Meng, Jian-Ping Wang, Dept. of Electrical Engineering,
University of Minnesota, United States of America
ENS-06 ENHANCEMENT OF SPIN CURRENT BY MODIFYING THE CHEMICAL POTENTIAL PROFILE IN THE NANOPILLAR
Tao Yang, Jaroslav Hamrle, Takashi Kimura, Yoshichika Otani, 1FRS-RIKEN and CREST-JST, Japan, 2ISSP-University of Tokyo, FRS-RIKEN and CREST-JST, Japan

ENS-07 GREAT ENHANCEMENT OF THE CURRENT INDUCED MAGNETIZATION SWITCHING EFFECT IN EXCHANGE BIASED SPIN VALVES WITH NANO OXIDE LAYER

ENS-08 INSPECTION OF INTRINSIC CRITICAL CURRENTS FOR SPIN-TRANSFER MAGNETIZATION SWITCHING BY LOW-TEMPERATURE MEASUREMENTS
Kojiro Yagami, Ashwin Tulapurkar, Akio Fukushima, Yoshishige Suzuki, 1SSNC, Sony Corp., Japan, 2Nanoelectronics Institute, AIST, Japan, 3Department of Materials Engineering Science, Osaka Univ., Japan

ENS-09 THERMAL EFFECTS ON THE MAGNETIC-FIELD DEPENDENCE OF SPIN-TRANSFER-INDUCED MAGNETIZATION REVERSAL
Daniel Lacour, Jordan Katine, Neil Smith, Matthew Carey, Jeffrey Childress, Hitachi San Jose Research Center, San Jose, CA, United States of America

ENS-10 MAGNETIZATION REVERSAL BY SPIN POLARIZED CURRENT IN NANO-PILLARS WITH A SYNTHETIC ANTIFERROMAGNET FREE LAYER
Nobuki Tezuka, Kazuhiro Yonezawa, Takao Ochiai, Yang Jiang, Satoshi Sugimoto, Koichiro Inomata, Tohoku University, Japan, 2CREST-JST, Japan

ENS-11 CURRENT INDUCED MAGNETISATION SWITCHING IN ASYMMETRIC NECKED WIRES
Serban G. Lepadatu, Yong Bing Xu, Department of Electronics, The University of York, United Kingdom
Session BB
Symposium on Advanced Perpendicular Magnetic Recording
H. Muraoka
Tohoku University

*BB-01 EXCHANGE COUPLED COMPOSITE MEDIA FOR PERPENDICULAR RECORDING
14:30
R. H. Victoria, Xiao Shen, The Center for Micromagnetics and Information Technologies (MINT), United States of America

*BB-02 AN OVERVIEW OF THE BENEFITS AND CHALLENGES OF DISCRETE TRACK RECORDING MEDIA
15:00

*BB-03 MAGNETIC AND RECORDING PROPERTIES OF PATTERNED PERPENDICULAR ISLANDS
15:30
B. D. Terris¹, G. Hu¹, M. Albrecht¹, T. Thomson¹, C. T. Rettner², ¹Hitachi Global Storage Technologies, San Jose Research Center, United States of America, ²IBM Almaden Research Center, United States of America

*BB-04 NANOIMPRINT TECHNOLOGY AND APPLICATIONS
16:00
Akihiro Miyauchi¹, Chiseki Haginoya¹, Takashi Andou¹, ¹Materials Research Laboratory, Hitachi Ltd., Japan, ²Storage Technology Research Center, Hitachi Ltd., Japan

*BB-05 MICROMAGNETIC SIMULATION OF HIGH SPEED HEAD DYNAMICS IN PERPENDICULAR RECORDING
16:30
Werner Scholz, Sharat Batra, Seagate Research, United States of America

*BB-06 FUNDAMENTAL FEATURES OF PERPENDICULAR MAGNETIC RECORDING AND THE DESIGN CONSIDERATION FOR FUTURE PORTABLE HDD INTEGRATION
17:00
Yoichiro Tanaka, Core Technology Center, Toshiba Corporation, Japan
Session BC
Clusters and Particles I
D.E. Nikles
University of Alabama

*BC-01 MODELLING EXCHANGE BIAS IN THIN FILMS AND NANO STRUCTURES
14:30 Ulrich Nowak, B. Beckmann, G. Scholten, K. D. Usadel,
Universitat Duisburg-Essen, Germany

BC-02 CONTROL OF THE SIZE OF OCTAHEDRAL FePt NANO-DOTS AND THEIR MAGNETIC PROPERTIES
15:00 Hirotaka Ito, Toshiyuki Shima, Koki Takano, Yukiko Takahashi, Kazuhiro Hono, Institute for Material Research,
Tohoku University, Japan, National Institute for Materials Science, Japan

BC-03 MICROSTRUCTURE AND MAGNETIC PROPERTIES OF INTERFACIALLY DISORDERED FePt PARTICLES

BC-04 QUANTITATIVE ANALYSIS OF ORDERING OF EQUIATOMIC FePt NANOPARTICLES BY ELECTRON DIFFRACTION
15:30 Takamichi Miyazaki, Yukiko K. Takahashi, Satoshi Okamoto, Osamu Kitakami, Yutaka Shimada, Zentaro Akase, Yasukazu Murakami, Daisuke Shindo, Kazuhiro Hono, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan

BC-05 NOVEL FABRICATION METHOD OF IBICVD FOR FePt AND CoPt NANO-PARTICLES
15:45 Qing Yu Xu, Yasuyuki Kageyama, Takao Suzuki, Information Storage Materials Laboratory, Toyota Technological Institute, Japan

BC-06 EFFECT OF ALIGNING FIELD ON EASY-AXIS ORIENTATION OF DIRECTLY SYNTHESIZED L10 NANOPARTICLES
16:00 J. W. Harrell, David E. Nikles, Shishou Kang, Zhi Yong Jia, Center for Materials for Information Technology, The University of Alabama, United States of America

BC-07 CRYSTALLOGRAPHIC ALIGNMENT OF NANOPARTICLES DURING SELF-ASSEMBLY
16:15 Shihai Kan, Madhur Sachan, Jennifer Kirchhoff, Sara A. Majetic, Physics Dept., Carnegie Mellon University, United States of America
BC-08 XPS STUDY OF THERMAL EFFECTS ON FePt and FePtAg Nanoparticles
16:30 Tao Song¹, Tiejun Zhou¹, Chilong Chen¹, Hao Gong², Data Storage Institute, Singapore, Materials Science Department, National University of Singapore, Singapore

BC-09 MAGNETIC PROPERTIES AND MICROSTRUCTURE
16:45 OF ISOLATED Fe-Pt NANOPARTICLE-MONOLAYER ASSEMBLY BY PROTECTIVE COATING
Mu-Pei Chen, Kazuya Kuroishi, Yoshitaka Kitamoto, Department of Innovative and Engineered Materials, Tokyo Institute of Technology, Japan

BC-10 CO-DEPOSITION OF FePt AND CoPt
17:00 L. Castaldi¹, Giannakopoulos K.¹, Travlos A.¹, Niarchos D.¹, Boukari S.², Beaurepaire E.², Institute of Materials Science NCSR Demokritos, Greece, IPCMS UMR 7504 CNRS-ULP, France

BC-11 STRUCTURAL PHASE TRANSFORMATION OF FePt
17:15 B. Rellinghaus¹, O. Dmitrieva², M.O. Liedke¹, J. Fassbender¹, IFW Dresden, Institut fur Metallische Werkstoffe, Germany, Experimentalphysik, AG Farle, Univ. Duisburg Essen, Germany, Institut fur Ionenstrahlphysik und Materialforschung, Forschungszentrum Rossendorf, Germany

Apr. 5 Room 224
Session BD
Magnetic Imaging I
K. Sueoka
Hokkaido University

*BD-01 ADVANCES IN HIGH RESOLUTION MAGNETIC FORCE MICROSCOPY
14:30 H. J. Hug, University of Basel, Switzerland

BD-02 DIRECT OBSERVATION OF FERROMAGNETIC EXCHANGE BY MAGNETIC FORCE MICROSCOPY
15:00 Antoine Vanhaverbeke, Michel Viret, Olivier Klein, Commissariat de l’Energie atomique, Saclay, France

BD-03 COMPARING MEDIUM MODELS TO PHYSICAL MEDIA VIA MFM IMAGERY
15:15 Clayton T. Miller, Ronald S. Indeck, Joseph A. O’Sullivan, Marcel W. Muller, Dept. of Electrical and Systems Engineering, Washington University in St. Louis, United States of America
BD-04 CHARACTERIZATION OF Fe/W SPIN-POLARIZED TIPS BY MEANS OF HOLOGRAPHIC TEM AND SPIN-POLARIZED-STS OF OPTICALLY PUMPED P-GaAs
Tsuyoshi Matsuda¹, Akira Tonomura¹, Toyokazu Yamada², Daisuke Okuyama³, Naosumi Mizuno³, Amadeo L. Vazquez de Parga¹, Herman van Kempen⁴, Tadashi Mizoguchi¹, 'Advanced Research Laboratory, Hitachi, Ltd., Japan, ¹Dept. of Physics, Gakushuin University, Japan, ²Dept. Fisica de la Materia Condensada, Universidad Autonoma de Madrid, Spain, ³Institute for Molecules and Molecular systems, Radboud University of Nijmegen, Netherlands

BD-05 LORENTZ MICROSCOPY STUDIES OF DOMAIN WALL TRAP STRUCTURES
Stephen McVitie¹, Craig Brownlie¹, John N Chapman¹, Chris D W Wilkinson¹, ¹Department of Physics and Astronomy, University of Glasgow, United Kingdom, ²Department of Electronics and Electrical Engineering, University of Glasgow, United Kingdom

BD-06 MAGNETIC MICROSTRUCTURES IN NANO-GRANULAR CoPt-Al-O THIN FILMS STUDIED BY ELECTRON HOLOGRAPHY AND LORENTZ MICROSCOPY
H. S. Park¹, D. Shiindo¹, S. Mitani², K. Takanashi², ¹Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan, ²Institute for Materials Research, Tohoku University, Japan

BD-07 SCANNING HALL PROBE MICROSCOPY (SHPM) USING QUARTZ CRYSTAL AFM FEEDBACK
Munir Dede¹, Koray Urankmen¹², Ahmet Oral¹, ¹Dept. of Physics, Bilkent University, Turkey, ²Dept. of Physics, Bilkent University, Turkey

BD-08 FOCUSED ION BEAM MODIFIED ATOMIC FORCE MICROSCOPE TIPS FOR SCANNING HALL PROBE MICROSCOPY
Dorothee Petit¹, Sherri Johnstone², David Wood³, Russel P. Cowburn¹, ¹Nanoscale Magnetics group, Dept. of Physics, University of Durham, United Kingdom, ²Centre for Electronic Systems, School of Engineering, University of Durham, United Kingdom, ³Microsystems Technology group, School of Engineering, University of Durham, United Kingdom

BD-09 NONEQUILIBRIUM MAGNETIC DOMAIN CONFIGURATIONS ASSISTED BY THERMALLY EXCITED MAGNONS
Byoung C. Choi¹, Grey Arnup², Mark R. Freeman², ¹Dept. of Physics & Astronomy, Univ. of Victoria, Canada, ²Dept. of Physics, Univ. of Alberta, Canada
BD-10 MAGNETO-OPTICAL IMAGING USING LIQUID MAGNETIC CRYSTAL MODULATOR
17:00 Takayuki Ishibashi, Zhihao Kuang, Shuta Yufune, Masaru Oda, Toshiro Tani, Yasufumi Imura, Katsuaki Sato, Faculty of Technology, Tokyo University of Agriculture and Technology, Japan

BD-11 EVOLUTION OF Co/Pt-COVERED NANOLINES UNDER MAGNETIC FIELD USING COHERENT SOFT X-RAY RESONANT MAGNETIC SCATTERING
17:15 Guillaume Beutier1, Frederic Livet2, Alain Marty1, Gerrit van der Laan1, Stefan Stanescu1, Virginie Chamard1, Vincent Baltz2, 1CEA-SP2M, France, 2CNRS-LTPCM, France, 3Magnetic Spectroscopy Group, Daresbury Lab., United Kingdom, 4ESRF, France, 5CEA-Spintec, France

Apr. 5 Room 131/132
Session BE Actuators and Power Devices
K. Yamasawa
Shinshu University

BE-01 ADAPTIVE FUZZY LOGIC FOR THE CHARACTERIZATION OF AC ACTUATORS
14:30 A. A. Arkadan, Mohamed Mneimneh, N. Alawar, Department of Electrical and Computer Engineering, Marquette University, United States of America

BE-02 DEVELOPMENT OF A SLOTLESS TUBULAR LINEAR INTERIOR PERMANENT MAGNET MICRO MOTOR FOR ROBOTIC APPLICATIONS
14:45 Hai Wei Lu, Jian Guo Zhu, Youguang Guo, Faculty of Engineering, University of Technology, Sydney, Australia

BE-03 DEVELOPMENT OF THE CONICAL SPRING LINEAR VIBRATOR (CSLV) FOR MOBILE PHONE
15:00 Ju Ho Kim1, Il Oung Park1, Hwa Young Oh1, Joon Choi1, Sung Hong Won2, 1Samsung Electro-Mechanics, Republic of Korea, 2Division of Electrical and Computer Engineering, Hanyang University, Republic of Korea

BE-04 CYLINDRICAL MOVING MAGNET TYPE LINEAR ACTUATOR HAVING LARGE MOTOR CONSTANT
15:15 Mizuno Tsutomu1, Kawai Masanori1, Tsuchiya Fumiaki1, Kosugi Masashi1, Yamada Hajime1, 1Faculty of Engineering, Shinshu University, Japan, 2Doctoral International Collaboration Institute, Japan
BE-05 DESIGN OF A VOICE COIL MOTOR USED IN THE
15:30 FOCUSING SYSTEM OF A DIGITAL CAMERA

BE-06 IMPROVEMENT OF MAGNETIC CIRCUIT IN
15:45 LEVITATION SYSTEM USING HTS AND SOFT
MAGNETIC MATERIAL
Mojtaba Ghodsi, Toshiyuki Ueno, Toshio Higuchi, Dept of Precision Machinery Eng., The Univ. of Tokyo, Japan

BE-07 EXPERIMENTAL DEVELOPMENT OF A1-D.O.F
16:00 CONTROLLED MAGNETIC LINEAR BEARING
I. D. Silva¹, O. Horikawa², 'Escola Politecnica - University of Sao Paulo, Brazil, ²Escola Politecnica - University of Sao Paulo, Brazil

BE-08 DISTRIBUTED INDUCTOR DESIGN FOR VRM
16:15 APPLICATIONS
Christina Collins, Maeve Duffy, Dept. Electronic Engineering, NUI Galway, Ireland

BE-09 A PLANAR INDUCTOR USING Mn-Zn
16:30 FERRITE/POLYIMIDE COMPOSITE THICK FILM FOR LOW-VOLTAGE, LARGE-CURRENT DC-DC CONVERTER
Isao Kowase, Toshiro Sato, Kiyohito Yamasawa, Yoshimasa Miura, Faculty of Engineering, Shinshu University, Japan

BE-10 SIMULATION OF A MAGNETIC AMPLIFIER
16:45 CIRCUIT INCLUDING HYSTERESIS
Lars Austrin¹, David Ribbenfjard², Goran Engdahl², 'Saab AB, Saab Aerosystems, Linkoping, Sweden, ²Electrical Engineering, Royal Institute of Technology, Stockholm, Sweden

BE-11 HYBRID PULSE TRANSFORMER WITH
17:00 PERMANENT MAGNET FOR FLYBACK CONVERTER
Mizuno Tsutomu, Takata Yukinobu, Matsumoto Masashi, Faculty of Engineering, Shinshu University, Japan

BE-12 A SYNCHRONOUS RECTIFICATION USING A
17:15 DIGITAL PLL TECHNIQUE FOR CONTACTLESS
POWER SUPPLYS
Hidekazu Miura¹, Shinsuke Arai¹, Fumihiro Sato¹, Hidetoshi Matsuki¹, Tadakuni Sato², 'Graduate school of engineering, Tohoku University, Japan, ²NEC Tokin Corporation, Japan
BP-01 ON THE STUDY OF COERCIVITY AND INTERACTION FIELD DISTRIBUTIONS FROM MICROHYSTERESIS LOOPS
Lin-Xiu Ye, Jia-Mou Lee, Te-Ho Wu, Taiwan SPIN Research Center and Graduate school of Engineering Science & Technology, National Yunlin Univ. of Science and Technology, Taiwan

BP-02 MECHANISM OF DOMAIN EXPANSION IN MAMMOS
Philipp Herget, T. E. Schlesinger, Daniel D. Stancil, Data Storage Systems Center, Carnegie Mellon University, United States of America

BP-03 MEASUREMENTS OF MAGNETIC DAMPING IN GdFeCo THIN FILMS
Arata Tsukamoto1, Katsuji Nakagawa1, Akiyoshi Itoh1, Arexei Kimel1, Daniel Stanciu2, Andrei Kirilyuk2, Theo Rasing2, 1College of science and technology, Nihon University, Japan, 2NSRIM Institute, Radboud University Nijmegen, Netherlands

BP-04 FDTD ANALYSIS OF RECORDING LIGHT DISTRIBUTION IN NEAR-FIELD MAMMOS RECORDING SYSTEM
Matthew M. Manfredonia1, Paul W. Nutter1, C. David Wright2, 1School of Computer Science, University of Manchester, United Kingdom, 2School of Engineering and Computer Science, University of Exeter, United Kingdom

BP-05 DESIGN OF OPTICAL FLYING HEAD FOR MAGNETO OPTICAL RECORDING
Sang-Joon Yoon1, Jong Soo Lee2, Young-Pil Park2, Dong-Hoon Choi2, 1iDOT, Hanyang University, Republic of Korea, 2Dept. Mech. Eng., Yonsei University, Republic of Korea, 3CISD, Yonsei University, Republic of Korea

BP-06 MAGNETO-OPTICAL PROPERTIES OF TbFeCo FILMS ON A NANO-STRUCTURED SUBSTRATE
Morio Nakatani1, Yoshihisa Suzuki1, Satoshi Sumi1, Shinji Kobayashi1, Saka Tanemura1, 1HD Project BU, SANYO Electric Co., Ltd., Japan, 2Digital Systems Development Center BU, SANYO Electric Co., Ltd., Japan, 3Nagoya Institute of Technology, Japan
BP-07 THERMO-RESISTIVE FLYGHT ATTITUDE MEASUREMENTS OF FLYING HEADS IN NEAR FIELD MAGNETO-OPTICAL DATA STORAGE
Hans H. Gatzen¹, Stephan Knappmann², Claudia Neumeister², ¹Inst. for Microtechnology, Hanover University, Germany, ²Deutsche Thomson-Brandt GmbH, Germany

BP-08 THE EFFECT OF EXTERNAL MAGNETIC FIELD ON MARK SIZE DURING FIELD EMISSION ASSISTED MAGNETIC PROBE RECORDING ON CoNi/Pt MULTILAYERS
Li Zhang¹, James A. Bain¹, Jian-Gang Zhu¹, Leon Abelmann², Takahiro Onoue², ¹Data Storage Systems Center, Carnegie Mellon University, United States of America, ²MESA Research Institute, University of Twente, Netherlands

BP-09 IMPROVED PATTERNED MEDIA FOR PROBE-BASED HAMR
Emmanuelle Algre, Gilles Gaudin, Ahmad Bsiesy, Jean Pierre Nozieres, SPINTEC CNRS/CEA (URA2512), France

BP-10 TRANSIENT THERMAL RESPONSE OF A NANO SCALE HOT-SPOT IN A FILM WITH ALTERNATING MATERIALS
Sartaj S. Ghai¹, Cristina H. Amon¹, Woo Tae Kim¹, Myung S. Jhon¹, ¹Department of Chemical Engineering, Data Storage Systems Center, and Institute for Complex Engineered Systems, Carnegie Mellon University, United States of America, ²Institute for Complex Engineered Systems, Carnegie Mellon University, United States of America, ³Department of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, United States of America

BP-11 REDUCTION OF COERCIVITY IN FePt/FeRh BILAYER FILMS BY HEATING
Shigenobu Koyama¹, Hidehiro Ogata¹, Masaki Konno¹, Takao Goto¹, Kunihiro Koike¹, ¹Daido Electronics Co., Ltd., Japan, ²Faculty of Engineering, Tohoku Gakuin University, Japan, ³Faculty of Engineering, Yamagata University, Japan

BP-12 DAMPING PARAMETER AND WALL VELOCITY OF RE-TM FILMS
Tadashi Kobayashi, Hideaki Hayashi, Yuji Fujiwara, Shigeru Shiomi, Dept. of Physics Engng., Mie University, Japan
BQ-01 FERROMAGNETISM AND ANOMALOUS HALL EFFECT IN Mn-DOPED ZnO THIN FILMS GROWN BY REACTIVE SPUTTERING
Hyun Jung Kim1, Jae Ho Sim2, Hyojin Kim3, Soon-Ku Hong4, Dojin Kim2, Young Eon Ihm2, Woong Kil Choo5, 'Dept. of Materials Science and Engineering, KAIST, Republic of Korea, 
1Dept. of Materials Science and Engineering, Chungnam National University, Republic of Korea

BQ-02 FERROMAGNETISM IN NEW DILUTED MAGNETIC SEMICONDUCTOR Si1-xMnxTe CRYSTALS
Young Hun Hwang, Hye Kyeong Kim, Young Ho Um, Department of Physics, University of Ulsan, Republic of Korea

BQ-03 ROOM TEMPERATURE FERROMAGNETISM IN Co,Ti-1-xO2 POWDERS MADE BY SOL-GEL METHOD: A NMR STUDY
Shi Hui Ge, Xin Wei Wang, Xiao Ming Kou, Xue Yun Zhou, Li Xi, Yalu Zuo, Xiao Lin Yang, Cheng Xian Li, Key Laboratory for Magnetism and Magnetic Materials of Ministry of Education, Lanzhou University, China

BQ-04 MAGNETIC AND HALF-METALLIC PROPERTIES OF Cr-DOPED BETA-SiC
Yoon-Suk Kim1, Hanchul Kim2, Yong-Chae Chung3, 'Dept. of Ceramic Eng., Hanyang University, Republic of Korea, 
1Materials Evaluation Center, Korea Research Institute of Standards and Science, Republic of Korea

BQ-05 LOW TEMPERATURE HYDROGEN TREATMENT OF Fe DOPED ZnO FERROMAGNETIC SEMICONDUCTOR
Geun Young Ahn1, Seung-Iel Park1, Sam Jin Kim1, Bo Wha Lee1, Chul Sung Kim1, 'Dept. of Physics, Kookmin University, 
Republic of Korea, 1Dept. of Physics, Hankuk University of Foreign Studies, Republic of Korea

BQ-06 EFFECTS OF OXYGEN PRESSURE ON FERROMAGNETIC ORDERING IN Mn-DOPED ZnO THIN FILMS
Woo Young Shim1, Kyung Il Lee1, Kyung A Jeon2, Sang Yeol Lee1, Myung Hwa Jung1, Woo Young Lee1, 'Department of Material Science Engineering,Yonsei University, Seoul, Republic of Korea, 
1Department of Electrical and Electronic Engineering, Yonsei University, Seoul, Republic of Korea, 
1Korea Basic Science Institute, Daejon 305-333, Republic of Korea
BQ-07 MAGNETIC PROPERTIES OF LOW TEMPERATURE GROWN Si:Ce THIN FILMS ON (001) Si SUBSTRATE BY MOLECULAR BEAM EPITAXY
Takemi Terao, Yasuhito Yoshimizu, Yoshihiro Nishimura, Norifumi Fujimura, Dept. of Applied materials science, Osaka prefecture university, Japan

BQ-08 MAGNETIC, ELECTRICAL PROPERTIES AND STRUCTURE OF Cr-AlN AND Mn-AlN THIN FILMS GROWN ON Si SUBSTRATES
Yasushi Endo, Takanobu Sato, Ayumu Takita, Yoshio Kawamura, Masahiko Yamamoto, Dept. of Materials Science and Engineering, Osaka University, Japan

BQ-09 MAGNETIC PROPERTIES OF MANGANESE GERMANIUM DIPHOSPHIDE AND MANGANESE PHOSPHIDE GROWN BY MOLECULAR BEAM EPITAXY TECHNIQUE
Kazuyuki Minami, Junpei Jogo, Manami Mori, Takayuki Ishibashi, Katsuaki Sato, Tokyo University of Agriculture and Technology, Japan

BQ-10 EFFECT OF ANNEALING ON MAGNETIC PROPERTIES OF NEW (In, Al, Mn)As FERROMAGNETIC SEMICONDUCTORS
Y. F. Chen1, W. N. Lee2, J. H. Huang1, T. S. Chin1, H. C. Ku1, 1Department of Materials Science & Engineering, Materials Science Center, National Tsing Hua University, Taiwan, 2Department of Materials Science & Engineering, National Chiao Tung University, Taiwan, 3Department of Physics, National Tsing Hua University, Taiwan

BQ-11 DILUTED FERROMAGNETIC PROPERTIES IN Fe- AND Co-DOPED TiO2-THIN FILMS
Kwang Joo1, Young Ran Park1, Geun Young Ahn2, Chul Sung Kim2, Jae Yun Park1, 1Department of Physics, Konkuk University, Republic of Korea, 2Department of Physics, Kookmin University, Republic of Korea, 3Department of Materials Science and Engineering, University of Incheon, Republic of Korea

BQ-12 MAGNETIC PROPERTIES OF TiO:Fe0.01O:
Eng Chan Kim, Su Ho Moon, Seung Il, Woo, Hyung Dong Kim, Byung Yong Kim, Sung Hyun Lee, Jong Ho Cho, Young Gull Joh, Dong Ho Kim, Dept. of Physics, Yenangnam University, Republic of Korea

BQ-13 MAGNETOTRANSPORT PROPERTIES OF A ROOM TEMPERATURE FERROMAGNET (Ga,Mn)N
Heikki Holmberg1, Natalia Lebedeva1, Sergei Novikov1, Pekka Kuivalainen1, Mathieu Malfait2, Victor Moschalkov2, Pasi Kostamo1, 1Electron Physics Laboratory, Department of Electrical and Communications Engineering, Helsinki University of Technology, Finland, 2Pulsveden-LVSM,
Katholieke Universiteit Leuven, Belgium, Optoelectronics Laboratory, Department of Electrical and Communications Engineering, Helsinki University of Technology, Finland

BQ-14 ROOM TEMPERATURE FERROMAGNETISM AND MAGNETORESISTANCE IN CHROMIUM-DOPED INDIUM TIN OXIDE
Hyoun Soo Kim¹, Sung Hwa Ji², Hyojin Kim², Dojin Kim², Soon Kil Yoon¹, Woong Kil Choo¹, 'Dept. of Materials Science and Engineering, KAIST, Republic of Korea, 'Dept. of Materials Science and Engineering, Chungnam National University, Republic of Korea

BQ-15 Co VALENCE AND POSSIBLE SPIN TRANSFORMATION IN DILUTED MAGNETIC SEMICONDUCTORS Zn₁₋ₓMgₓO AND Zn₁₋ₓCoxO
Germanas Peleckis¹, Xiao Lin Wang¹, Ru-Shi Liu¹, Shixue Dou¹, 'Institute of Superconducting and Electronic Materials, University of Wollongong, Australia, 'Dept. of Chemistry, National Taiwan University, Taiwan

Apr. 5 Event Hall
13:30-17:00 Session BR
Nanocrystalline and Other Materials I
A. Makino
Akita Prefectual Univeristy

BR-01 MAGNETIC PROPERTIES OF NANOCRYSTALLINE MECHANICALLY ALLOYED Fe₈₆.₅Zr₇B₅Cu₁.₅ POWDERS AND THICK FILMS
Chun-Rong Lin, Wen-Jie Lee, Dept. of Mechanical Engineering, Southern Taiwan University of Technology, Taiwan

BR-02 MICROSTRUCTURE AND MAGNETIC PROPERTIES OF AMORPHOUS AND NANOCRYSTALLINE Fe₆₃Mn₉Zr₇ ALLOY
Alagarsamy Perumal¹, Veeturi Srinivas², M. Vasundara³, V. V. Rao³, R. A. Dunlap¹, 'Department of Physics, Indian Institute of Technology Guwahati, India, 'Department of Physics, Indian Institute of Technology, Kharagpur, India, 'Cryogenic Engineering Center, Indian Institute of Technology, Kharagpur, India, 'Department of Physics, Dalhousie University, Canada

BR-03 NANO-STRUCTURE AND MAGNETIC PROPERTIES OF AS QUENCHED Fe BASED RIBBONS
Jifan Hu¹, Bo Li², Hong Wei Qin³, Min Hua Jiang¹, 'Department of Physics, Shandong University, China, 'Central Iron & Steel Research Institute, China
BR-04 MAGNETIC PROPERTIES OF HIGH Bs NANOCRYSTALLINE FeCoCuNbSiB ALLOYS
Yoshihito Yoshizawa, Yuichi Ogawa, Advanced Electronics Research Lab., Hitachi Metals, Ltd., Japan

BR-05 SURFACE MAGNETIC CHARACTERISATION OF FeSiB AMORPHOUS RIBBONS
Marius Dobromir1, Maria Neagu1, Gheorghe Popa1, Horia Chiriac2, Gheorghe Singurel1, Cornelia Hison1, ’Al. I. Cuza University, Faculty of Physics, Romania, ‘National Institute of R&D for Technical Physics, Romania, ’Dip.Ingegneria dei Materiali e della Produzione, Universita Federico II, Italy

BR-06 SOFT MAGNETIC TERNARY AND QUARTERNARY Y-M-B BULK METALLIC GLASSES (M= Fe, Co, Ni)
Chih Yuan, Tsung Shune Chin, Department of Materials Science and Engineering, National Tsing Hua University, Taiwan

BR-07 DISTRIBUTION OF FLUCTUATIONS OF SWITCHING FIELD IN Fe-RICH WIRES UNDER TENSILE STRESS
Przemyslaw Gawronska1, Arcady Zhukov1, Juan M. Blanco1, Julian Gonzalez1, Krzysztof Kulakowski1, ’Faculty of Physics and Applied Computer Science, AGH University of Science and Technology, Poland, ’Departamento de Fisica Aplicada I, Eascula Universitaria Politecnica de Donostia, Universidad del Pais Vasco, Spain, ’Departamento de Fisica de Materiales, Facultad de Quimicas, Universidad del Pais Vasco, Spain

BR-08 HIGH TEMPERATURE SUPERPARAMAGNETISM IN BORON SUBSTITUTED FeZrMn ALLOYS
A. N. Ulyanov1, Seong-Cho Yu1, Young-min Kang1, Sang-Im Yoo2, ’Department of Physics, Chungbuk National University, Cheongju, Republic of Korea, ’School of Materials Science and Engineering, Seoul National University, Republic of Korea

BR-09 MAGNETIC PROPERTIES OF MAGNETICALLY SOFT NANOCOMPOSITE Co-SiO2 PREPARED VIA MECHANICAL MILLING
Sanjay R. Mishra1, Igor Dubenko2, Joe Losby1, Kanishka Marasinghe1, Mehdii Ali3, Nausad Ali1, ’Department of Physics, The University of Memphis, United States of America, ’Department of Physics, Southern Illinois University, United States of America, ’Department of Physics, University of North Dakota, United States of America

BR-10 MAGNETIC SOFTNESS OF PERMALLOY GRANULAR FILMS PRODUCED BY CO-EVAPORATION
Yutaka Shimada1, Tetsuo Itoh2, Shigeysahi Yoshida1, Satoshi Okamoto1, Osamu Kitakami1, ’Inst. for Multidisciplinary Research, Tohoku University, Japan, ’NEC Tokin Corporation, Japan
BR-11 EFFECTS OF POST-ANNEALING ON THE MAGNETIC PROPERTIES OF FeCoBN THIN FILMS
Cheon Woon Ji, Inyoung Kim, Jong-Ryoul Kim, Dept. of Materials Engineering Science, Hanyang University, Republic of Korea

Apr. 5 Event Hall
13:30-17:00 Session BS
Hard Magnets

T. Iriyama
Daido Steel Co. Ltd

H. Kato
Graduate School of Engineering, Tohoku University

BS-01 MICROSTRUCTURE OF Fe/Pt(110) MULTILAYERS WITH HIGH IN-PLANE Ku
D. H. Wei¹, C. C. Yu¹, J. H. Chan¹, Y. D. Yao¹, Y. Liou¹, W. C. Cheng², T. S. Chin¹, ¹Department of Materials Science and Engineering, National Tsing-Hua University, Taiwan, ²Institute of Physics, Academia Sinica, Taiwan, ³Department of Mechanical Engineering, National Taiwan University of Science and Technology, Taiwan

BS-02 MAGNETIC PROPERTIES OF Co-Zr-C ALLOYS
Tetsuji Saito¹, Yasushi Kamagata¹, Wen Quan Wang², ¹Dept. Mechanical Science and Engineering, Chiba Institute of Technology, Japan, ²Dept. Physics, Jilin University, China

BS-03 STUDYING OF MAGNETOElastic EFFECTS IN YFe₁₀V₂ FERROMAGNETIC ALLOY
Hassan Khandan Fadafan¹, Mohammad Reza¹, Nasser Tajabor¹, Daniel Fruchart², ¹Dept. of Physics, Ferdowsi Univ. of Mashhad, Iran, ²Lab. de crystallographie, Poly CNRS, Grenoble, France

BS-04 STRUCTURE TRANSITION AND MAGNETIC ANOMALY IN (Nd₀·Erₓ)Fe₁₈Co₆Cr₅ COMPOUNDS
Bao Dan Liu¹, Yoshio Bando¹, Yi Hua Gao², Cheng Chun Tang², Guangheng Wu³, Fuming Yang³, ¹Graduate School of Pure and Applied Science, University of Tsukuba, Japan, ²Advanced Materials Laboratory, National Institute for Materials Science, Japan

BS-05 MAGNETOSTRICTIVE STRAIN EFFECTS IN Pr₆Fe₁₁Ga₃ ALLOY
Mohammad Reza Alinejad¹, Nasser Tajabor¹, Ahmad Amirabadizadeh¹, Faiz Pourarian³, ¹Dept. of Physics, Ferdowsi University of Mashhad, Mashhad, Iran, ³Dept. of Physics, University of Birjand, Birjand, Iran, ²Carnegie Mellon Univ., Pittsburgh, United States of America
BS-06 REDUCTION OF GRAIN SIZE AND ORDERING TEMPERATURE IN L1₀ FePt THIN FILMS
An-Cheng Sun¹, Po-Cheng Kuo¹, Jen-Hwa Hsu², Huei-Li¹,
¹Institute of Materials Science and Engineering, and Center for Nanostorage Research, National Taiwan University, Taiwan,
²Department of Physics, National Taiwan University, and Center for Nanostorage Research, National Taiwan University, Taiwan

BS-07 FABRICATION OF FePt/FeCo/FePt EXCHANGE SPRING TRILAYERS WITH VERY THIN FeCo LAYER FOR HIGH RESOLUTION MFM TIPS
Young Woo Rheem¹, Hitoshi Saito², Shunji Ishio², ¹Venture Business Laboratory, Akita University, Japan, ²Dept. of Materials Science and Engineering, Akita University, Japan

BS-08 MAGNETIC PROPERTIES AND MICROSTRUCTURE OF THE GRANULAR FILMS PROCESSED BY ANNEALING Fe-Pt BASED MULTILAYERS
Tomoko Seki¹, Yukiko Takahashi², Kazuhiro Hono², ¹Graduate School of Pure and Applied Sciences, University of Tsukuba, Japan, ²National Institute for Materials Science, Japan

BS-09 ENERGY PRODUCT ENHANCEMENT IN Feᵦ₉Co₃Pt₃ THIN FILMS
Shi-Kun Chen¹, Shih-Nan Hsiao¹, Fu-Te Yuan¹, Wen-Cheng Chang¹, ¹Department of Materials Science and Engineering, Feng Chia University, Taiwan, ²Department of Physics, National Chung Cheng University, Taiwan

BS-10 PRODUCTION OF BULK NANOCOMPOSITE MAGNETS OF AN Nd₃Fe₇₇.₅B₁₈.₅ ALLOY BY COMPRESSION SHEARING METHOD
Tetsuji Saito¹, Hiroyuki Takeishi¹, Noboru Nakayama¹, ¹Dept. Mechanical Science and Engineering, Chiba Institute of Technology, Japan, ²Dept. Machine Intelligence and Systems Engineering, Akita Prefectural University, Japan

BS-11 MAGNETIC PROPERTIES OF HIGH COERCIVITY MELT-SPUN Pr-Fe-Co-Ti-B-Si SYSTEM RIBBONS AND THEIR BONDED MAGNETS
Hroshi Yamamoto, Ryuki Monma, School of Science & Technology, Meiji University, Japan

BS-12 EFFECT OF Fe/Pt RATIO ON THE MAGNETIC PROPERTIES AND CORROSION BEHAVIOR OF NANOCOMPOSITE FePtRIBBONS
C. W. Chang, H. W. Chang, C. H. Chiu, Wen-Cheng Chang, Department of Physics, National Chung Cheng University, Taiwan
BS-13 CRYSTALLIZATION BEHAVIOR IN TWO-PHASE PrFeB MECHANICALLY MILLED POWDER
Melania Marinescu, Yong Zhang, Alexander Gabay, George C. Hadjipanayis, Dept. of Physics & Astronomy, University of Delaware, United States of America

BS-14 EFFECT OF HIGH-MAGNETIC-FIELD ANNEALING ON THE MAGNETIC PROPERTIES OF Nd-Co-B NANOCOMPOSITE RIBBONS
Hiroaki Kato1, Keiichi Koyama1, Terunobu Miyazaki1, ‘Dept. of Applied Physics, Tohoku University, Japan, 2Inst. for Materials Research, Tohoku University, Japan

BS-15 PERPENDICULAR ORIENTATION OF BARIUM FERRITE THIN FILM WITH ALUMINUM TOPLAYER
Nazmun Nahar Shams, Xiao Xi Liu, Mitsunori Matsumoto, Akimitsu Morisako, Dept. of Information Engineering Shinshu University, Japan

BS-16 SIMULATIONS AND EXPERIMENTS ON EDDY CURRENT IN Nd-Fe-B MAGNETS
Yasukuni Aoyama, Koji Miyata, Ken Ohashi, Shin-Etsu Chemical Co. Ltd., Japan

BS-17 MAGNETIC PROPERTIES OF Nd-Fe-B HDDR THIN HOT PRESSED MAGNET
Katsuhiko Mori1, Ryoji Nakayama1, Koichiro Morimoto2, 1Central Research Institute, Mitsubishi Materials Corp., Japan, 2Niigata Plant, Mitsubishi Materials Corp., Japan

BS-18 PRECISION ANALYSIS OF MAGNETIZATION PROCESS IN Nd2Fe14B SINTERED MAGNETS
Kurima Kobayashi1, Kengo Itoh1, Masato Sagawa1, ‘Dept. of Materials and Life Science, Shizuoka Institute of Science and Technology, Japan, Intermetallics Co.,Ltd., Japan

BS-19 MICROSTRUCTURE CONTROL IN HDDR PROCESS FOR HIGHER ANISOTROPIC Nd-Fe-B MAGNET POWDERS
Noriyuki Kuwano1, Masaru Itakura1, Yoshitsugu Tomokiyoshi1, Ryoji Nakayama1, Koichiro Morimoto1, 1ASTEC, Kyushu University, Japan, 2Dept. of Appl. Sci. for Electr. Mater., Kyushu University, Japan, 3Central Res. Inst., Mitsubishi Materials Corp., Japan, 4Niigata Plant, Mitsubishi Materials Corp., Japan

BS-20 EFFECT OF BORON CONTENT ON THE MAGNETIC PROPERTIES, PHASE EVOLUTION AND MICROSTRUCTURE OF PrFe8-xTi2.5Bx (x=7-15) NANOCOMPOSITES
C. H. Chiu, C. W. Chang, H. W. Chang, Wen-Cheng Chang, Department of Physics, National Chung Cheng University, Taiwan
BS-21 ANISOTROPIC THIN BONDED MAGNETS PREPARED BY COMPACTION USING SLIP-FLOW PHENOMENON
Fumitoshi Yamashita1, Hirotoshi Fukunaga2, 1Matsushita Electric Industrial Co., Ltd., Japan, 2Faculty of Engineering, Nagasaki University, Japan

BS-22 THE EFFECT OF H₂ ANNEALING ON THE MAGNETIC PROPERTIES OF ELECTRODEPOSITED CoPt
Fernando M. F. Rhen, J. M. D. Coey, Physics Department, Trinity College, Ireland

Apr. 5
13:30-17:00            Session BT
Films and Surfaces II
S. Nakagawa
Tokyo Institute of Technology

BT-01 MAGNETIC REVERSAL STUDY OF Au/FePt THIN FILMS WITH VERY HIGH COERCIVITY
Fu-Te Yuan1, Shi-Kun Chen1, Lance Horng2, Jia-Lin Tsai2, 1Dept. Materials Science and Engineering, Feng Chia University, Taiwan, 2Dept. Physics, National Changhua University of Education, Taiwan, 3Dept. Materials Science & Engineering, National Chung Hsing University, Taiwan

BT-02 MICROSTRUCTURE AND MAGNETIC PROPERTIES OF GRANULAR NANOCOMPOSITE FePt/Ag MULTILAYER FILMS
S. C. Chen1, P. C. Kuo2, A. C. Sun3, C. Y. Chou1, Y. H. Fang2, S. Y. Kuo1, 1Department of Mechanical Engineering, De Lin Institute of Technology, Taipei 236 and Center for Nanostorage Research, National Taiwan University, Taiwan, 2Institute of Materials Science and Engineering and Center for Nanostorage Research, National Taiwan University, Taiwan, 3Department of Civil Engineering, De Lin Institute of Technology, Taiwan

BT-03 EFFECT OF Ru INTERLAYER ON EXCHANGE COUPLING IN FePt/Fe FILMS
Jian Hua Jiang, N. Tezuka, K. Inomata, Department of Materials Science, Tohoku University, Japan

BT-04 ELECTRODEPOSITION OF FePt MAGNETIC MATERIAL AND EMBEDDING INTO ANODIC ALUMINA-NANOHOLES
Shigeru Ichihara, Miki Ueda, Toru Den, Inorganic Material Research, Canon Inc., Japan
BT-05 Pt THICKNESS DEPENDENCE OF OSCILLATORY INTERLAYER EXCHANGE COUPLING IN [CoFe/Pt/CoFe]/IrMn MULTILAYERS WITH PERPENDICULAR ANISOTROPY
Jong Gu Choi1, Jin Yong Lee1, Mi Sun Kim1, Sun Wook Kim1, Do Guwn Hwang1, Sang Suk Lee1, Jang rho Rhec1, 'Dept. of Computer and Electronic Physics, Sangji University, Republic of Korea, 'Dept. of Physics, Sookmyung Women University, Republic of Korea

BT-06 THERMAL STABILITY STUDY IN CoFe/Os/OsMn FILMS
Tai-Yen Peng1, Yeong-Der Yao2, Chi-Kuen Lo1, Ta-Chang Tien1, San-Yuan Chen1, 'The Department of Materials Science and Engineering, National Chiao Tung University, Taiwan, 2Opto Electronics and Systems Laboratories, Industrial Technology Research Institute, Taiwan, 'Institute of Phys., Academia Sinica, Taiwan, 'Material Research Laboratories, Industrial Technology Research Institute, Taiwan

BT-07 MAGNETO-OPTICAL PROPERTIES OF SPIN VALVE STRUCTURE
Jung-Hwa Seo1, Jae-Joon Lim1, Lan Jin1, Kwang-Enn Lee1, E. A. Gan' shina2, Cheo Gi Kim1, Chong-Oh Kim1, 'Dept. of Materials Science and Engineering, Chungnam National University, Republic of Korea, 'Physical Faculty, Moscow State University, Russian Federation

BT-08 EFFECT OF RuCo AND PdSiO2 UNDERLAYERS ON MAGNETIC PROPERTIES OF Co/PdSiO2 MULTILAYERS
Won Bae, Byun, Taek Dong Lee, Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Republic of Korea

BT-09 MAGNETIC PROPERTY CALCULATIONS FOR B2-CoxAl1-x STRUCTURE AT THE INTERFACE OF Co/Al MULTILAYER
Sang-Pil Kim1, Seung-Cheol Lee2, Kwang-Ryeol Lee2, Yong-Chae Chung1, 'Dept. of Ceramic Eng., Hanyang University, Republic of Korea, 'Future Technology Research Division, KIST, Republic of Korea

BT-10 SELECTIVE MOCVD GROWTH OF Fe3O4 EPITAXIAL THIN FILMS FOR NANOSTRUCTURE
Manabu Gomi1, Hiromitsu Nogi2, 'Dept. of Environmental and Materials Engineering, Nagoya Institute of Technology, Japan, 2School of Materials Science, Japan Advanced Institute of Science and Technology, Japan
BU-01 SYNTHESIS AND CHARACTERIZATION OF FERROMAGNETIC MnSiC COMPOUND
Fumiyoshi Takano1, Hironori Ofuchi2, Jeung Woo Lee3, Koki Takita1, Hiro Akinaga1, 'Nanotechnology Research Institute, National Institute of Advanced Industrial Science and Technology, Japan. 2Department of Materials Science and Engineering, Graduate School of Engineering, Nagoya University, Japan, 3Institute of Materials Science, University of Tsukuba, Japan

BU-02 EPITAXIAL ABO3-TYPE OXIDE FILMS PREPARED BY THE SOL-GEL METHOD
Takashi Taniguchi1, Fukuoka Naoto1, Ozawa Tadashi2, Nagata Yujiro1, Noro Yoshikiko1, Samata Hiroaki1, 'Dept. of Electrical Engn. and Electronics, Aoyama Gakuin University, Japan. 2National Institute for Materials Science, Japan, 3Kawazoe Frontier Technologies, Co. Ltd, Japan, 4Faculty of Maritime Sciences, Kobe University, Japan

BU-03 STUDY OF MAGNETIC INTERACTION IN METALLIC NANOWIRES NETWORKS
Ioan Dumitru¹, Feng Li², John B. Wiley³, Dorin Cimpoesu⁴, Alexandru Stancu⁵, Leonard Spinu⁶, 'Advanced Materials Research Institute, University of New Orleans, United States of America, ²AMRI and Department of Chemistry, University of New Orleans, New Orleans, United States of America, ³Faculty of Physics, Al. I. Cuza University, Iasi, Romania, ⁴Department of Physics and AMRI, University of New Orleans, New Orleans, United States of America

BU-04 THE MAGNETIZATION REVERSAL OF Fe FILMS ON Ag SUBMICROMETER PYRAMIDAL ISLANDS
Chin-Chung Yu¹, Yeong-Der Yao², Yung Liou¹, 'Dept. of Appl. Phys, National University of Kaohsiung, Taiwan. ²Institute of Physics, Academia Sinica, Taiwan

BU-05 MAGNETIC AND ORDERING STUDIES OF SPUTTERING NANOSTRUCTURED FeNi FILMS
Qi Zeng, Ian Baker, Thayer School of Engineering, Dartmouth College, United States of America
BU-06 TUNED MAGNETISM IN OFF-STOICHIOMETRIC YTTRIUM IRON GARNET THIN FILMS AND ITS RELATION TO PREFERENTIAL SITE-OCCUPATION
Niels Keller, Yves Dumont, Elena Popova, David S. Schmool, Sarbari Bhattacharya, Branko Stahl, Pierre Richard Dahou, Michel Tessier, Marcel Guyot, LMOLV, University of Versailles - CNRS, France, LPSC, University of Versailles - CNRS, France, Lab. Vaste-Stoffysica en Magnetisme, K.U. Leuven, Belgium, Departamento de Fisica and IFIMUP, Univ. do Porto, Portugal, Fachbereich Materialwissenschaft, TU Darmstadt, Germany

BU-07 MAGNETIC PROPERTIES OF THIN CHROMIUM LAYERS IN Gd/Cr AND Y/Cr MULTILAYERS STUDIED USING \(^{119}\)Sn MOSSBAUER SPECTROSCOPY
Norihiro Jiko, Ko Mibu, Tomasz Baczewski, Institute for Chemical Research, Kyoto University, Japan, Research Center for Low Temperature and Materials Sciences, Kyoto University, Japan, Institute of Physics, Polish Academy of Sciences, Poland

BU-08 MODIFIED SURFACE STATE OF Cr(001) THIN FILM SURFACES OBSERVED BY SCANNING TUNNELING SPECTROSCOPY
Hirofumi Oka, Kazuhisa Sueoka, Graduate School of Information Science and Technology, Hokkaido University, Japan

BU-09 THEORETICAL STUDY OF IRON FILMS ON TUNGSTEN
Daniel Spisak, Juergen Hafner, Dept. of Materials Science, Vienna University, Austria

Apr. 5 Event Hall
13:30-17:00 Session BV
Magnetoimpedance
M. Vazquez
Instituto de Ciencia de Materiales de Madrid, CSIC

BV-01 CHARACTERISTICS OF HIGHLY ENHANCED PHASE DETECTION TYPE MAGNETIC FIELD SENSOR BY CONTROLLING AN ANNEALING TEMPERATURE
Tetsuya Ozawa, Chikako Yokota, Shin Yabukami, Ken-ichi Arai, Research Institute of Electrical Communication, Tohoku University, Japan
BV-02 HIGH FREQUENCY IMPEDANCE OF AMORPHOUS MAGNETIC TRANSMISSION LINES
Kwang-Ho Shin, Younghak Kim, Geon Sa-Gong, Sang-Ho Lim, Dept. of Multimedia Engineering, Kyungsung University, Republic of Korea, Department of Electrical Engineering, Pukyong National University, Republic of Korea, Department of Electrical Engineering, Dong-A University, Republic of Korea, Division of Materials Science and Engineering, Korea University, Republic of Korea

BV-03 MAGNETOIMPEDANCE EFFECTS IN ELECTRODEPOSITING FeCoNi THIN FILMS DIRECTLY ON n-Si(100)
Z. Y. Zhong, H. W. Zhang, X. L. Tang, Y. Shi, S. Liu, College of Microelectronics and Solid-state Electronics, University of Electronic Science and Technology of China, China, College of Opto-electronics Information, University of Electronic Science and Technology of China, China

BV-04 MICROMACHINED LAYERED THIN FILM MAGNETOIMPEDANCE ELEMENT
Hideya Yamadera, Yuji Nishibe, Norikazu Ohta, Atsushi Tsukada, Nobuyoshi Sugitani, Toyota Central Research & Development Laboratories, Inc., Japan, Toyota Motor Co., Japan

BV-05 AC BIASED SUB NANO TESLA MAGNETIC FIELD SENSOR FOR LOW FREQUENCY APPLICATIONS UTILISING MAGNETO IMPEDANCE IN MULTILAYER FILMS
Paul Delooze, Larissa V. Panina, Desmond J. Mapps, School of Computing, Communications and Electronics, University Of Plymouth, United Kingdom

BV-06 CHARACTERIZATION OF INTERFACIAL PROPERTIES IN MAGNETIC TUNNEL JUNCTIONS BY BIAS-DEPENDENT COMPLEX IMPEDANCE SPECTROSCOPY
C. Y. Hsu, J. C. A. Huang, Department of Physics, National Cheng Kung University, Taiwan

BV-07 MAGNETO-IMPEDANCE EFFECT IN NiFe/P/CuBe ELECTROLESS-DEPOSITED WIRES BY DC JOULE ANNEALING
Shirong Wu, Wangzhi Yuan, Zhen Jie Zhao, Jian Zhong Ruan, Xie Long Yang, Dept. of Physics, East China Normal University, China
BV-08 THE INFLUENCE OF CURRENT AMPLITUDE ON ASYMMETRIC OFF-DIAGONAL MAGNETOIMPEDEANCE IN FIELD-ANNEALED AMORPHOUS RIBBONS
Nikita A. Buznikov, Cheol Gi Kim, Chong Oh Kim, Seok-Soo Yoon, ‘Research Center for Advanced Magnetic Materials, Chungnam National University, Republic of Korea, 2Department of Physics, Andong National University, Republic of Korea

BV-09 IMPEDANCE MATCHING NETWORKS FOR POWER TRANSFER AND SENSITIVITY ENHANCEMENT IN GMI SENSORS
David de Cos, Serghei Sandacci, Alfredo Garcia-Arribas, Jose Manuel Barandiaran, ‘Departamento de Electricidad y Electronica, Universidad del Pais Vasco, Spain, 2SoCCE, University of Plymouth, United Kingdom

BV-10 EXPERIMENTAL EVIDENCE OF FERROMAGNETIC RESONANCE IN MAGNETOIMPEDEANCE MEASUREMENTS
David de Cos, Alfredo Garcia-Arribas, Jose Manuel Barandiaran, ‘Departamento de Electricidad y Electronica, Universidad del Pais Vasco, Spain

BV-11 3-AXIS AMORPHOUS WIRE TYPE GIANT MAGNETOIMPEDEANCE SENSORS
Chang Mei Cai, Michiharu Yamamoto, Hitoshi Aoyama, Masaki Mori, Yoshinobu Honkura, Electronic & Magnetic product Div., Aichi Steel Corporation, Japan

BV-12 ACCELEROMETER USING MI SENSOR
Hayato Takei, Masaki Mori, Eiji Kako, Hitoshi Aoyama, Michiharu Yamamoto, Yoshinobu Honkura, Aichi Steel Corporation, Japan

Apr. 5 Event Hall
13:30-17:00 Session BW
Magnetic Sensors and Sensing Systems
P.J.P. de Freitas
Institute for Systems and Computer Engineering-Microsistemas e Nanotecnologias
Y. Takemura
Yokohama National University

BW-01 MAGNETIC FIELD SENSING BY A PIEZOELECTRIC/MAGNETOSTRICTIVE RESONATOR
Nobuyuki Yoshizawa, Yutaka Shimada, ‘Salesian Polytechnic, Japan, 2IMRAM Tohoku Univ, Japan
BW-02 MICROMAGNETIC SIMULATION FOR NANOBEADS DETECTION USING PLANAR HALL SENSORS
Yao Wen Liu¹, Zong Zhi Zhang², Qing Yuan Jin², ¹Dept. of Physics, Tongji University, Shanghai, China, ²Dept. of Optical Science and Engineering, Fudan University, Shanghai, China

BW-03 IMPROVED GMR SENSITIVITY OF ELECTRODEPOSITED FeCoNi/Cu MULTILAYERS
Jie Gong¹, W. H. Butler¹, G. Zangari¹, ¹MINT center, Materials Science Program, University of Alabama, Tuscaloosa, United States of America, ²MINT Center, University of Alabama, Tuscaloosa, United States of America, ³Materials Science and Engineering and CESE, University of Virginia, United States of America

BW-04 HIGH-TEMPERATURE OPERATIONS OF ROTATION ANGLE SENSORS WITH SPIN-VALVE-TYPE MAGNETIC TUNNEL JUNCTIONS
Takashi Takenaga, Beysen Sadeh, Takeharu Kuroiwa, Hiroshi Konbayashi, Tatsuo Oomori, Advanced R&D Center, Mitsubishi Electric Corporation, Japan

BW-05 CONDUCTIVE MICRO-BEAD ARRAY DETECTION BY HIGH-FREQUENCY EDDY-CURRENT TESTING TECHNIQUE WITH SV-GMR SENSOR
Sotoshi Yamada¹, Komkrit Chomsuwan¹, Takeshi Hagino¹, Haiyan Tian¹, Masayoshi Iwahara¹, ¹Institute of Nature and Environmental Technology, Kanazawa University, Japan, ²The Key Laboratory of High Voltage and New Technology, Chongqing University, China

BW-06 APPLICATION OF EDDY-CURRENT TESTING TECHNIQUE FOR HIGH-DENSITY DOUBLE-LAYER PRINTED CIRCUIT BOARD INSPECTION
Komkrit Chomsuwan¹, Sotoshi Yamada¹, Masayoshi Iwahara¹, Hiroyuki Wakiwaka¹, Shigeru Shoji¹, ¹Institute of Nature and Environmental Technology, Kanazawa University, Japan, ²Dept. of Electrical Engineering, Shinshu University, Japan, ³TDK corporation, Japan

BW-07 ELECTROMAGNETIC NON-DESTRUCTIVE TESTING OF RUST REGION IN STEEL
Yuji Gotoh¹, Hiroshi Hirano¹, Masanori Nakano², Koji Fujiwara², Norio Takahashi³, ¹Kurume National College of Technology, Japan, ²Dept. Electrical and Electronic Eng. Okayama University, Japan

BW-08 EDDY-CURRENT SCRATCH INSPECTION WITH HIGH PROBE LIFT-OFF
Haiyan Tian¹, Sotoshi Yamada¹, Masayoshi Iwahara¹, H.Watanabe², Hirotake Tooyama¹, ¹Institute of biological measurement and applications, Kanazawa University, Japan, ²Research & Development Lab., Daido Steel Co.Ltd., Japan
BW-09 EVALUATION OF FATIGUE DAMAGE IN AN AUSTENITIC STAINLESS STEEL (SUS304) USING THE EDDY CURRENT PROBE
Mohachiro Oka, Terutoshi Yakushiji, Yuji Tsuchida, Masato Enokizono, Dept. Computer and Control Engineering, Oita National College of Thechnology, Japan, Dept. Mechanical Engineering, Oita National College of Thechnology, Japan, Dept. of Electrical and Electronic Engineering, Oita University, Japan

BW-10 NUMBER OF DETECTING PROBE AND SPECTRAL COMPONENTS IN TWO-DIMENSIONAL MAGNETIC FIELD VISUALIZATION BASED ON THE PROJECTION METHOD
Takashi Nishimura, Yoshihiro Miyamoto, Masayoshi Iwahara, Sotoshi Yamada, Graduate School of Natural Science and Technology, Kanazawa University, Japan

BW-11 MAGNETIC FIELD OPTICAL SENSORS USING (TbY)IG CRYSTALS WITH STRIPE MAGNETIC DOMAIN STRUCTURE
K. Okubo, O. Kamada, Dept. of Electronic Engineering, Polytechnic University, Japan

BW-12 PARAMETRIC MAGNETIC SENSOR WITH PULSE OSCILLATOR
Koichi Karasawa, Masaki Kurumisawa, Nagano National College of Technology, Japan

BW-13 A TORQUE SENSOR USING MAGNETOSTRICTIVE SLEEVE ATTACHED TO THE SHAFT BY SHRINK-FIT
Ichiro Sasada, Youhei Habata, Yoshiyuki Etou, Dept. of Applied Science for Electronics and Materials, Kyushu University, Japan

BW-14 THE SEARCH SYSTEM FOR CRACKS IN THE DISTRIBUTION LINE USING MAGNETIC FIELD
Hideyuki Yamaguchi, Takashi Nonaka, Fumihiro Sato, Hidetoshi Matsuki, Tadakuni Sato, Graduate School of Tohoku University, Japan, National College of Technology Hachinohe, Japan, NEC Tokin Corporation, Japan

BW-15 DEVELOPMENT OF A MAGNETIC SEAT SENSOR FOR MONITORING CONDITION OF A CAR DRIVER
Yuji Tsuchida, Hiroyasu Shimoji, Takashi Todaka, Masato Enokizono, Hideyuki Yamane, Yoshimi Enoki, Etsunori Fujita, Faculty of Engineering, Oita University, Japan, Delta Tolling Co., Japan
BX-01 MgFe2O4 NANO-PARTICLE FOR INTERSTITIAL HYPERTHERMIA ON CANCER TREATMENT
Toshifumi Shimizu, Masaaki Matsui, Dep. of Crystalline Material Science, Nagoya University, Japan

BX-02 MAGNETIC RESONANCE OF POLYASPARTIC ACID-COATED MAGNETITE NANOPARTICLES ADMINISTERED IN MICE
Neda Sadeghiani1, Luzirlane Barbosa1, Maria-Helena Guedes1, Sacha Chaves1, Judes Santos1, Osni Silva1, Fernando Pelegrini1, Ricardo Azevedo1, Paulo Morais2, Zulmira G. M. Lacava1, 1Instituto de Biologia, Universidade de Brasilia, Brazil, 2Instituto de Fisica, Universidade de Brasilia, Brazil, 3Instituto de Fisica, Universidade Federal de Goias, Brazil

BX-03 DIAMAGNETIC ACCUMULATION AND ALIGNMENT OF NUCLEOPROTEIN MICROPARTICLES IN HIGH GRADIENT MAGNETIC FIELD
Svetlana B.Norina, Kwang Sup Soh, Sang Hyun Park, Smig Il Cho, Biomedical Physics Lab., School of Physics, Seoul National University, Russian Federation, 2Biomedical Physics Lab., School of Physics, Seoul National University, Republic of Korea

BX-04 MAGNETIC NANOPARTICLES ASSEMBLY ON PEPTIDE NANOTUBE
Mutsuhiro Shima1, Ipsita A. Banerjee2, Ling Tao Yu1, Hiroshi Matsui3, Tomoko Yoshino1, Haruko Takeyama1, Tadashi Matsunaga1, 1Dept. of Materials Science and Engineering, Rensselaer Polytechnic Institute, United States of America, 2Dept. of Chemistry and Biochemistry at Hunter College and the Graduate Center, The City University of New York, United States of America, 3Dept. of Biotechnology, Tokyo University of Agriculture and Technology, Japan

BX-05 PREPARATION OF CELLULOSE BASED BIOCOMPATIBLE SUSPENSION OF NANO SIZED $\gamma$-AlFe$_2$O$_3$
Nand Kishore Prasad1, Dulal Panda2, Sher Singh1, Dhirendra Bahadur1, 1Metallurgical Engineering and Materials Science, Indian Institute of Technology, Bombay, Powai, Mumbai, India, 2School of BioSciences & Bioengineering, Indian Institute of Technology, Bombay, Powai, Mumbai, India, 3Solid State Physics Division, Bhabha Atomic Research Centre, Mumbai, India
BX-06 IN VIVO BIO-DISTRIBUTION OF INTRAVENOUSLY INJECTED Tc-99m LABELED FERRITE NANOPARTICLES BOUNDED WITH BIOCOMPATIBLE MEDICALS
Chao-Ming Fu1, Yuh-Feng Wang2, Tang-Yi Lin1, Yu-Feng Guo1, Fu-Wen Lee2, 1Physics department, National Kaoshiung Normal University, Taiwan, 2Department of Nuclear Medicine, Buddhish Dalin TzuChi General Hospital, Taiwan

BX-07 IN VITRO INVESTIGATION OF MICE BLOOD DOPED WITH MAGNETITE-COATED NANOPARTICLES
J. F. B. Santana1, M. A. G. Soler1, S. W. da Silva1, M. H. Guedes2, Zulmira G. M. Lacava2, P. C. Morais2, 1Nucleo de Fisica Aplicada, Instituto de Fisica, Universidade de Brasilia, Brazil, 2Departamento de Genetica e Morfologia, Instituto de Ciencias Biologias, Universidade de Brasilia, Brazil

BX-08 DEXTRAN-COATED MAGNETITE NANOPARTICLES EFFECTS IN MICE: A TRANSMISSION ELECTRON MICROSCOPY INVESTIGATION
Leandro M. Lacava1, Ricardo B. Azevedo1, Sonia N. Bao1, Paulo C. Morais2, Zulmira G. M. Lacava2, 1Institute of Biology, University of Brasilia, Brazil, 2Institute of Physics, University of Brasilia, Brazil

BX-09 STYRENE COATED IRON NANOBead FOR MEDICAL USE
Carlos S. Kuroda1, Masahito Maeda1, Hiroshi Nishibiraki1, Nobuhiito Matsushita1, Hiroshi Handa2, Masanori Abe1, 1Dept. of Physical Electronics, Tokyo Institute of Technology, Japan, 2Dept. of Biological Information, Tokyo Institute of Technology, Japan

BX-10 MOSSBAUER STUDIES OF NANO-SIZE CONTROLLED IRON OXIDE FOR BIOMEDICAL APPLICATIONS
Sang Won Lee, Sam Jin Kim, In-Bo Shim, Chul Sung Kim, 1Dept. of Physics, Kookmin University, Republic of Korea

BX-11 SYNTHESIS OF NANO-SIZE MAGNETITE COATED WITH CHITOSAN FOR MRI CONTRAST AGENT BY SONOCHEMISTRY
Hui Ping Shao1, Hyo Sook Lee2, Yu Qiang Huang1, Byung Kook Kwak1, Chong Oh Kim1, 1Department of materials engineering, ChungNam National University, Republic of Korea, 2Korea Institute of Geoscience & Mineral Resources, Republic of Korea, 1College of Medicine, Chung-Ang University, Republic of Korea
BX-12 IN VIVO AND IN VITRO INVESTIGATION OF PHOTOSENSITIZER-COATED SUPERPARAMAGNETIC NANOPARTICLES FOR PHOTODYNAMIC THERAPY
Sang-Im Park¹, Jong-Hwan², Jong-Hee Kim³, Chong-Oh Kim⁴,
¹Materials Engineering, Chungnam National University, Republic of Korea, ²Division of veterinary pharmacology and toxicology, Chungnam National University, Republic of Korea, ³Research Center for Advanced Magnetic Materials, Chungnam National University, Republic of Korea

BX-13 EVALUATION OF NEW COMPLEXES OF BIOCOMPATIBLE MAGNETIC FLUID AND 3rd GENERATION OF PHOTOSENSITIZER USEFUL TO CANCER TREATMENT
Antonio C. Tedesco¹, Patricia P. Macaroff¹, Daniela M. Oliveira¹, Karina F. Ribeiro¹, Zulmira G. M. Lacava², Emilia C. D. Lima¹, Paulo C. Moraes³, ¹FFCLRP, Universidade de Sao Paulo, Brazil, ²Instituto de Ciencias Biologicas, Universidade de Brasilia, Brazil, ³Instituto de Quimica, Universidade Federal de Goias, Brazil, ³Instituto de Fisica Nucleo de Fisica Aplicada, Universidade de Brasilia, Brazil

Apr. 5 Room 141/142
18:00-20:00 Session BZ
Evening Symposium on MRAM
T. Miyazaki
Tohoku University

*BZ-01 Saied Tehrani, Freescale, United States of America
*BZ-02 Jim Deak, NVE, United States of America
*BZ-03 William Gallagher, IBM, United States of America
*BZ-04 Hiroaki Yoda, NEC-Toshiba, Japan
Session CA
Magnetic Tunnel Junctions
K.H. Shin
Korea Institute of Science and Technology

* CA-01  230% ROOM TEMPERATURE  
9:30 MAGNETORESISTANCE IN CoFeB/MgO/CoFeB MAGNETIC TUNNEL JUNCTIONS
David D. Djayaprawira¹, Koji Tsunekawa¹, Motonobu Nagai¹, Hiroki Maehara¹, Shinji Yamagata¹, Naoki Watanabe¹, Shinji Yuasa¹, Koji Ando², 'Anelva Corporation, Japan, 'National Institute of Advanced Industrial Science and Technology (AIST), Japan

CA-02 HIGH TUNNEL MAGNETORESISTANCE IN  
10:00 EPITAXIAL Co,Cr₉Fe₆Al/MgO/CoFe TUNNEL JUNCTIONS
Takao Marukame, Takashi Kasahara, Ken-ichi Matsuda, Tetsuya Uemura, Masafumi Yamamoto, Division of Electronics for Informatics, Graduate School of Information Science and Technology, Hokkaido University, Japan

CA-03 EXTRAORDINARY TUNNEL MAGNETORESISTANCE  
10:15 IN HALF METALLIC FERROMAGNETIC DEVICES
T. W. Kim¹, Injun Hwang¹, Y. K. Kim², R. Gambino³, Wanjun Park¹, 'Samsung Advanced Institute of Technology, Republic of Korea, 'Korea University, Republic of Korea, 'SUNY at Stony Brook, United States of America

CA-04 INELASTIC ELECTRON TUNNELING  
10:30 SPECTROSCOPY IN MAGNETIC TUNNEL JUNCTIONS WITH MgO(001) TUNNEL BARRIER
Takefumi Miyakoshi¹, Yasuo Ando¹, Mikihiro Oogane¹, Terunobu Miyazaki¹, Hitoshi Kubota¹, Akio Fukushima², Taro Nagahama², Shinji Yuasa², Shinji Yuasa², 'Dept. of Applied Physics, Tohoku University, Japan, 'National Institute of Advanced Industrial Science and Technology, Japan, 'PRESTO, Japan Science and Technology Agency (JST), Japan

CA-05 SCANNING TUNNELING MICROSCOPY STUDY OF A  
10:45 TUNNELING MAGNETO-RESISTANCE DEVICE WITH COHERENT TUNNELING TRANSPORTS
Masaki Mizuguchi¹, Yoshishige Suzuki¹, Taro Nagahama², Shinji Yuasa², 'Osaka University / CREST, Japan, 'AIST / CREST, Japan

CA-06 MAGNETORESISTANCE IN MAGNETIC TUNNEL  
11:00 JUNCTIONS WITH AMORPHOUS ELECTRODES
Kentaro Nakajima, Gen Feng, John Miceal David Coey, Physics Department, Trinity College Dublin, Ireland
CA-07 FABRICATION AND CHARACTERIZATION OF 11:15 MAGNETIC TUNNEL JUNCTIONS WITH L1-ORDERED FePt ALLOY ELECTRODES
Seiji Mitani, Kazuhiko Tsukamoto, Takeshi Seki, Toshiyuki Shima, Koki Takanashi, IMR Tohoku University, Japan

CA-08 KONDO RESONANCE IN MAGNETIC DOUBLE 11:30 TUNNEL JUNCTIONS
Hyun Soo Yang, See-Hun Yang, Christian Kaiser, Stuart Parkin, Stanford & IBM spintronics research center, United States of America

CA-09 THERMAL STABILITY OF MTJ USING Zr CAPPING 11:45 LAYER

CA-10 FREQUENCY-ASSISTED CURRENT-DISTRIBUTION 12:00 EFFECT IN MAGNETIC TUNNEL JUNCTION
Y. M. Chang1, K. S. Li1, S. Y. Tong2, M. J. Tung2, Minn-Tsong Lin1, Minn-Tsong Lin2, 1Department of Physics, National Taiwan University, Taiwan, 2Material Research Lab., Industrial Technology Research Institute, Taiwan

CA-11 OXIDATION PROCESS OF METAL FILMS BY USING 12:15 HIGH CONCENTRATION OZONE IN MAGNETIC TUNNEL JUNCTIONS
Satoru Yoshimura1, Yosuke Narisawa1, Toshiharu Nozawa1, Masakiyo Tsunoda1, Migaku Takahashi2, 1Department of Electronic Engineering, Tohoku University, Japan, 2New Industry Creation Hatchery Center, Tohoku University, Japan

Apr. 6 Room 141/142
Session CB
Magnetic Recording Physics I
H.J. Richter
Seagate Technology
Y. Suzuki
Tohoku University

CB-01 THE EFFECT OF WRITE HEAD STRUCTURES ON 9:30 WRITTEN TRANSITIONS IN PERPENDICULAR MEDIA
Simon J Greaves1, Hiroaki Muraoka1, Yasushi Kanai2, 1RIEC, Tohoku University, Sendai, Japan, 2Niigata Institute of Technology, Kashiwazaki, Japan
CB-02 PARTITIONING OF THE PERPENDICULAR WRITE
9:45 FIELD INTO HEAD AND SUL CONTRIBUTIONS
Thomas Schrefl¹, Manfred E. Schabes², Dieter Suess¹, Otmar Ertl¹, Markus Kirschner¹, Florian Dörflbauer¹, Gino Hrkac¹, Josef Fidler¹, ¹University of Sheffield, United Kingdom, ²HGST, United States of America, ³TU Vienna, Austria

CB-03 DYNAMIC MICROMAGNETIC STUDIES OF
10:00 ANISOTROPY EFFECTS IN PERPENDICULAR WRITE HEADS
Manfred E. Schabes¹, Thomas Schrefl¹, Dieter Suess¹, Otmar Ertl¹, ¹San Jose Research Center, Hitachi GST, United States of America, ²Dept. of Engineering Materials, University of Sheffield, United Kingdom, ³Dept. of Solid State Physics, Technical University Vienna, Austria

CB-04 OPTIMIZATION OF PERPENDICULAR RECORDING
10:15 WITH SHIELDED POLE HEAD
Yu Hui Tang, Jiang-Gang Zhu, Department ECE, CMU, United States of America

CB-05 EFFECT OF SIDE SHIELDS ON NEIGHBOR
10:30 INDUCED TRANSITION SHIFT
Sissay G. Yoseph, Mohamed U. Khan, Randall H. Victora, Center for Micromagnetics and Information Technology (MINT), Electrical and Computer Engineering, University of Minnesota, United States of America

CB-06 COMPUTER SIMULATION OF GRANULAR
10:45 PERPENDICULAR RECORDING MEDIA WITH DISPERSIONS OF GRAIN SIZE AND GRAIN SEPARATION
Masukazu Igarashi¹, Fumiko Akagi¹, Miki Hara¹, Atsushi Nakamura¹, Yuzuru Hosoe¹, Yutaka Sugita¹, ¹Storage Technology Research Center, Hitachi, Ltd., Japan, ²Tohoku Institute of Technology, Japan

CB-07 EXPERIMENTAL STUDY OF OVERWRITE
11:00 MODULATION IN PERPENDICULAR MAGNETIC RECORDING
Yuchen Zhou, Jian-Gang Zhu, Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, United States of America

CB-08 IMPROVED RECIPROCITY CALCULATION METHOD
11:15 FOR SENSITIVITY PROFILE OF GMR HEADS
Yoshio Suzuki, Hajime Aoi, Hiroaki Muraoka, Yoshihisa Nakamura, RIEC, Tohoku University, Japan

CB-09 WRITE PROCESS STUDY UTILIZING NON-LINEAR
11:30 DISTORTION (NLD) HARMONIC RATIO MEASUREMENTS AND MODELING
Thomas Y Chang¹, David Seagle², ¹Seagate Technology, United States of America, ²Hitachi Global Storage Technologies, United States of America
CB-10 FULL-TRACK PROFILE DERIVATIVE METHOD FOR 11:45 TRACK WIDTH MEASUREMENTS OF MAGNETIC RECORDING HEAD
Zhong-Heng Lin, Terence Lam, Xiao Dong Che, Xiao Yu Sui, Hitachi Global Storage Technologies, Inc., United States of America

CB-11 REDUCTION OF WRITE POLE-TIP ERASURE IN 12:00 PERPENDICULAR MAGNETIC RECORDING BY TRACK MAGNETIZATION STATE AND MEDIA DESIGN
Albert Chekanov, E. Noel Abarra, Gunn Choe, MMC Technology, United States of America

CB-12 UNLOCKING OF REMANENT MAGNETIZATION OF 12:15 POLE HEADS BY "RUMBLE STRIPS"
Hans Juergen Richter, Elzbieta Haftek, Dean Palmer, Seagate Technology, United States of America

Apr. 6
Room 234

Session CC
Symposium on Biosensing with Magnetic Beads
N. Matsushita
Tokyo Institute of Technology

*CC-01 MAGNETIC IMMUNOASSAY WITH SQUID AND 9:30 MAGNETIC MARKER
Keiji Enpuku, Research Institute of Superconductor Science and Systems, Kyushu University, Japan

*CC-02 SPINTRONIC BIOSENSORS FOR GENE OR MICRO- 10:00 ORGANISM DETECTION
P. P. Freitas1,2, H. Ferreira1,2, D. Graham1, N. Feliciano1, C. Carias1,2, R. Ferreira1,2, L. Clarke1, M. Amaral1,4, P. Galvin1, V. Martins1,4, L. Fonseca1, J. S. Cabral1, 1INESC Microsystems and Nanotechnologies, Portugal, 2Physics Department, Instituto Superior Tecnico, Portugal, 3Chemistry and Biochemistry Department, Faculty of Sciences, University of Lisbon, Portugal, 4Center for Human Genetics, National Institute of Health, Lisbon, Portugal, 5Tyndal Institute, Cork, Ireland, 6Bioengineering Research Group, Chemistry Department, Instituto Superior Tecnico, Lisbon, Portugal

*CC-03 REGENERATIVE MEDICINE UTILIZING MAGNETIC 10:30 BEADS
H. Honda, Akira Ito, Department of Biotechnology, School of Engineering, Nagoya University, Japan

N. Matsushita
*CC-04 MEDICAL APPLICATION OF SMALL MAGNETIC PARTICLES AND SQUID MAGNETIC SENSOR
11:00
Saburo Tanaka, Zarina Aspanut, Chika Toriyabe, Yoshimi Hatuskade, Shinji Katsura, Toyohashi University of Technology, Japan

*CC-05 ON-CHIP MAGNETIC PARTICLE TRANSPORT:
WHERE PHYSICS, CHEMISTRY AND BIOLOGY MEET
11:30
Roel Wirix-Speetjens, Wim Fyen, Kai Dong Xu, Jo De Boeck, Gustaaf Borghs, IMEC vzw., Belgium

*CC-06 PRACTICAL HALL EFFECT SENSORS FOR BIOMEDICAL INSTRUMENTATION
12:00
Adarsh Sandhu, Hiroshi Handa, 1 Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Japan, 2Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Japan

Apr. 6 Room 224
Session CD
Nanocrystalline and Other Materials II
M. Shima
Rensselaer Polytech. Inst.

*CD-01 MECHANISM OF INDUCED MAGNETIC ANISOTROPY IN METAL-NONMETAL GRANULAR FILMS AND THEIR ENHANCEMENT BY A HIGH FIELD ANNEALING
9:30
Masato Ohnuma, Hideyuki Ohtsuka, Hiroyasu Fujimori, Kazuhiro Hono, 1 National Institute for Materials Science, Japan, 2The Research Institute for Electric and Magnetic Materials, Japan

CD-02 MICROSTRUCTURAL STUDY OF NANOCRYSTALLINE SOFT MAGNETIC THIN FILMS OF Fe-C AND Fe-Co-C DEPOSITED BY FACING TARGETS SPUTTERING
10:00
Yoshitaka Kitamoto, Goro Kiyota, Department of Innovative and Engineered Materials, Tokyo Institute of Technology, Japan

CD-03 HIGH-FREQUENCY RESISTIVITY OF SOFT MAGNETIC GRANULAR FILMS
10:15
Wei Dong Li, Yuqin Sun, Charles R. Sullivan, Thayer School of Engineering, Dartmouth College, United States of America
CD-04  NEW FeNbB BASED BULK AMORPHOUS AND  
10:30 NANOCOMPOSITE SOFT MAGNETS FOR  
APPLICATIONS  
Horia Chiriac, Nicoleta Lupu, National Institute of Research  
and Development for Technical Physics, Iasi, Romania

CD-05  PROPERTIES OF HIGH DENSITY MAGNETIC  
10:45 COMPOSITE (HDMC) FABRICATED FROM IRON  
POWDER COATED WITH NEW TYPE PHOSPHATE  
INSULATOR  
Shin Tajima1, Mikio Kondoh1, Takeshi Hattori1, Hidefumi  
Kishimoto2, Masaki Sugiyama3, Tadayoshi Kikko1, Toyota  
Central R&D., Inc., Japan, 2Toyota Motor Corp., Japan,  
3Finesinter, Japan

CD-06  LOW LOSS, HIGH FLUX DENSITY POWDER CORES  
11:00 MADE OF FERRITE-PLATED Fe-Si POWDERS  
Yasunobu Yamada1, Teruhiko Fujiwara1, Shigeyoshi Yoshida1,  
Nobuhiro Matsuhashi1, Masanori Abe1, NEC Tokin Corporation,  
Japan, 1Dept. of Physical Electronics, Tokyo Institute of  
Technology, Japan

CD-07  EFFECT OF ATOMIC ORDER ON THE ELECTRICAL  
11:15 AND MAGNETIC PROPERTIES OF Fe100-xSix(6 < x < 14)  
ALLOYS  
Daniel Ruiz1, Tanya Ros-Yanez1, Leticia Ortega1, Laura Garcia1,  
Lode Vandenberghe2, Luc Dupre2, Bernard Legendre2, Robert  
E. Vandenberghe2, Yvan Houbaert1, Dept. of Metallurgy and  
Materials Science, Ghent University, Belgium, 1Dept. of  
Electrical Energy, Systems and Automation, Ghent University,  
University, France

CD-08  CURRENT DENSITY EFFECT ON MAGNETIC  
11:30 PROPERTIES OF NANOCRYSTALLINE  
ELECTROPLATED NiFe/Cu composite wires  
Hang Li Seet, Xiao Ping Li, Zhen Jie Zhao, Lik Chee Wong,  
Hui Min Zheng, Department of Mechanical Engineering,  
National University of Singapore, Singapore

CD-09  SWITCHING FIELD DISTRIBUTION STUDY IN  
11:45 AMORPHOUS MICROWIRES.  
Rastislav Varga1, Arcady Zhukov2, Juan M. Blanco3, Julian  
Gonzalez1, Valentina Zhukova2, Pavol Vojtanik2, Inst. Phys.,  
Fac. Sci., Park Angelinau 9, Slovakia, 1Dpto. Física Aplicada I,  
EUPDS, UPV/EHU, Plaza Europa 1, Spain, 2Dpto. Física de  
Materiales, Facultad de Química, UPV/EHU, San Sebastian,  
Spain, 3“TAMag Iberica” S.L., Parque Tecnologico de Miramon,  
San Sebastian, Spain

CD-10  A NUMERICALLY OPTIMIZED VECTOR  
12:00 HYSTERESIS MODEL USING PLAY OPERATOR  
Julius Krah, Dept. of Electrical Engineering, Royal Institute of  
Technology, Stockholm, Sweden
CD-11 Modeling Microstructural Effects on Barkhausen Effect Signals in Surface-Modified Magnetic Materials
Emily Kinser, Chester Lo, Tony Barsic, David Jiles, Center for Nondestructive Evaluation, Iowa State University, United States of America

Apr. 6 Room 131/132
Session CE
Integrated Passives and Devices I
T. Sato
Shinshu University
Z. Celinski
University of Colorado

*CE-01 ON-WAfer Band-Stop And Band-Pass
9:30 Microwave Filters Based on Ferromagnetic Resonance
Bijoy K. Kuanr, I. R. Harward, R. E. Camley, Z. Celinski, Center of Magnetism and Magnetic Nanostructures, University of Colorado at Colorado Springs, United States of America

CE-02 Role of Sheet Resistance and Magnetic Loss on a Near Field Noise Suppression Effect of Magnetic Thin Films Attached on a Microwave Transmission Line
Shigehiro Ohnuma¹, Tadayoshi Iwasa¹, Hiroshi Ono¹, Masahiro Yamaguchi², Tsuyoshi Masumoto¹, 'The Research Institute for Electric and Magnetic Materials, Japan, 'NEC Tokin Co., Japan, 'Dept. of Electronics, Tohoku University, Japan

CE-03 Stress-Dependent MagnetoImpedance in Co-Based Amorphous Wires and Application to Tunable Microwave Composites
Serghei I. Sandacci¹, Dmitriy P. Makhnovskiy², Larissa V. Panina², Vladimir S. Larin³, 'Sensor Technology Ltd., United Kingdom, 'School of Computing, Communications and Electronics, University of Plymouth, United Kingdom, 'MFTI Ltd., Republic of Moldova

*CE-04 High Magnetization Ferromagnetic Spiral Inductors Using Shape Anisotropy
Sandrine Couderc¹, Bernard Viala², Anne-Sophie Royer¹, Pascal Ancey¹, Guillaume Bouche¹, 'STMicroelectronics, Crolles, France, 'CEA-DRT-Leti, Grenoble, France
CE-05 CLOSED MAGNETIC CIRCUIT STRUCTURE FOR RF INTEGRATED SPIRAL INDUCTOR
Seok Bae1, Ki Hyeon Kim1, Masahiro Yamaguchi1, Kenji Tan2, Takayuki Kusumi2, Kiyoshi Yamakawa2, 1Dept. of Electrical and Communication Engineering, Tohoku University, Japan, 2Akiita Research Institute of Advanced Technology, Japan

*CE-06 LEFT HANDED TRANSMISSION CHARACTERISTICS OF RECTANGULAR WAVEGUIDES PERIODICALLY LOADED WITH FERRITE
Tetsuya Ueda1, Makoto Tsutsumi2, 1Dept. of Electronics and Information Science, Kyoto Institute of Technology, Japan, 2Dept. of Space Communication Engineering, Fukui University of Technology, Japan

CE-07 SELF GENERATION OF SOLITARY CHAOTIC SPIN WAVE PULSES
Ming Zhong Wu1, Boris A. Kalinikos2, Carl E. Patton1, 1Department of Physics, Colorado State University, United States of America, 2St. Petersburg Electrotechnical University, Russian Federation

CE-08 FABRICATION OF CIRCULATOR WITH COPLANER WAVE GUIDE STRUCTURE
Kazunori Oshiro1, Hideto Mikami1, Shigeo Fuji2, Terumitsu Tanaka1, Hirotaka Fujimori1, Mitsuru Matsuura1, Setsuo Yamamoto1, 1Yamaguchi University, Japan, 2Hitachi Metals Ltd., Japan

CE-09 POSSIBIRITY OF DRASTIC MINIATURIZATION OF MICROSTRIP Y-ISOLATOR
Kazunori Oshiro, Terumitsu Tanaka, Hirotaka Fujimori, Mitsuru Matsuura, Setsuo Yamamoto, Faculty of Engineering, Yamaguchi University, Japan

Apr. 6 Event Hall
8:30-12:00 Session CP Inductive Heads & Materials
I. Tagawa
Hitachi Ltd.

CP-01 3DAP ANALYSIS OF FeCo ELECTRODEPOSITED SOFT MAGNETIC FILMS WITH HIGH Bs
Y. K. Takahashi1, K. Hono1, Y. Miyake1, D. Kaneko1, H. Kana11, 1National Institute for Material Science, Japan, 2Fujitsu Ltd., Japan, 3Fujitsu Lab.Ltd., Japan
CP-02 MECHANISM OF THE SOFTNESS OF HIGH Bs Fe-Co-Al-O FILMS WITH A THIN UNDERLAYER
Kazuhiko Shintaku, Saori Watanabe, Akita Research Institute of Advanced Technology, Japan

CP-03 HIGH MOMENT SOFT FeCoN/NiFe LAMINATED THIN FILMS
Hai Jiang, Kyusik Sin, Ying Jian Chen, Western Digital Corporation, United States of America

CP-04 SOFT ANISOTROPIC HIGH-MOMENT Fe35Co65/Co THIN FILMS PREPARED BY FACING TARGETS SPUTTERING
Yu Fu1, Takoji Miyazo2, Shinya Chino2, Xiao Xi Liu2, Mitsunori Matsumoto2, Akimitsu Morisako2, 1Research Institute of Magnetic Materials, Lanzhou University, China, 2Department of Information Engineering, Shinshu University, Japan,

CP-05 MATERIAL PROPERTY AND DOMAIN STRUCTURE INFLUENCE ON POLE ERASURE OCCURRENCE IN PERPENDICULAR RECORDING HEADS
Kei Hirata, Tetsuya Roppongi, Mitsuo Ohtsuki, Atsushi Yamaguchi, Kiyoshi Noguchi, Head Business Group, TDK Corporation, Japan

CP-06 3-D FEM ANALYSIS OF SPT HEAD DIMENSION ON RECORDING CHARACTERISTICS
Masaya Ohtake, Akifumi Sadatoshi, Norio Takahashi, Dept. Electrical and Electronic Engineering, Okayama University, Japan

CP-07 NEWLY DEVELOPED WRAPAROUND SHIELDED POLE HEADS FOR PERPENDICULAR RECORDING
Tomohiro Okada, Isao Nunokawa, Masafumi Mochizuki, Hisashi Kimura, Kimitoshi Etoh, Masahiko Hatatani, Moriaki Fuyama, Kazuhiro Nakamoto, Storage Technology Research Center, Hitachi, Ltd., Japan

CP-08 DISTRIBUTION OF SLANTED WRITE FIELD FOR PERPENDICULAR RECORDING HEADS WITH SHIELDED POLE
Z. J. Liu1, J. T. Li1, H. T. Wang1, J. P. Wang1, 1Data Storage Institute, National University of Singapore, Singapore, 2MINT, ECE Department, University of Minnesota, United States of America
CQ-01 INTEGRATION OF HIGH-PERFORMANCE PMR COMPONENTS
Davide Guarisco, Bill E. Higgins, Maxtor Corporation, United States of America

CQ-02 EFFECT OF NiCr AND NiFeCr SEEDLAYER ON MAGNETIC PROPERTIES AND CRYSTALLOGRAPHY OF CoCrPt-SiO₂ PERPENDICULAR RECORDING MEDIA
Masahiro Shibamoto, Kazuto Yamanaka, David Djayaprawira, Naoki Watanabe, Electron Device Equipment Division, ANELVA Corp., Japan

CQ-03 TEM STUDY OF GRAIN BOUNDARY STRUCTURE IN CoCrPt-SiO₂/Ru FOR PERPENDICULAR MAGNETIC RECORDING MEDIA
Ryoko Araki, Yoshio Takahashi, Storage Technology Research Center, Hitachi, Ltd., Japan

CQ-04 ANISOTROPY ENHANCED DUAL MAGNETIC LAYER DESIGN FOR HIGH-DENSITY PERPENDICULAR RECORDING
B. Ramamurthy Acharya, Min Zheng, Gunn Choe, Ming Jun Yu, Paramjit Gill, E. Noel Abarra, MMC Technology, United States of America

CQ-05 A NEW Co-Pt-TiO₂ PERPENDICULAR MAGNETIC RECORDING MEDIUM
Jun Ariake, Takashi Chiba, Noriko Okada, Naoki Honda, Akita Research Institute of Advanced Technology, Japan

CQ-06 PRELIMINARY STUDY ON (CoPtCr/NiFe)-SiO₂ HARD/SOFT-STACKED PERPENDICULAR RECORDING MEDIA
Yuki Inaba, Takehito Shimatsu, Osamu Kitakami, Hideo Sato, Tadaaki Oikawa, Hiroaki Muraoka, Hajime Aoi, Yoshihisa Nakamura, ‘Research Institute of Electrical Communication, Tohoku University, Japan, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan

CQ-07 EFFECT OF UNDERLAYER STRUCTURE ON THE PROPERTIES OF NdFeB THIN FILMS
T.Okumoto, K.Yamasawa, X.Liu, A.Morisako, M.Matsumoto, Department of Information Engineering, Shinshu University, Japan
CQ-08 SmCo<sub>5</sub> THIN FILMS WITH HIGH MAGNETIC ANISOTROPY FOR PERPENDICULAR MAGNETIC RECORDING
Junichi Sayama, Kazuki Mizutani, Yuki Yamashita, Toru Asahi, Tetsuya Osaka, Waseda University, Japan

CQ-09 SUPERPOSITION OF MAGNETO-ELASTIC AND MAGNETO-CRYSTALLINE ANISOTROPY IN TILTED MAGNETIC RECORDING
Wei Peng, Roy W. Chantrell, Yiao-Tee Hsia, Timothy J Klemmer, Seagate Technology, United States of America

CQ-10 ACTIVATION VOLUMES IN CoPtCr-SiO<sub>2</sub> PERPENDICULAR RECORDING MEDIA
Yuki Inaba<sup>1</sup>, T. Shimatsu<sup>1</sup>, H. Muraoka<sup>1</sup>, James D. Dutson<sup>2</sup>, Kevin O’Grady<sup>1</sup>, <sup>1</sup>Research Institute of Electrical Comunication, Tohoku University, Sendai, Japan, <sup>2</sup>Dept. of Physics, University of York, York, United Kingdom

CQ-11 THERMAL DECAY IN PERPENDICULAR MEDIA
Andreas Moser, Byron Lengsfield, Yoshihiro Ikeda, Bruce Wilson, Hitachi Global Storage Technologies, San Jose Research Center, United States of America

CQ-12 DEMAGNETIZATION EFFECTS IN COERCIVITY MEASUREMENTS: A GENERALIZED SHARROCK MODEL FOR PERPENDICULAR MEDIA
Byron H. Lengsfield, Manfred E. Schabes, Hitachi Global Storage Technologies, United States of America

CQ-13 BULK AC ERASE TECHNIQUE FOR PERPENDICULAR RECORDING MEDIA: EFFECT OF EXCHANGE COUPLING
E. Noel Abarra, Paramjit Gill, B. Ramamurthy Acharya, Jia Ning Zhou, Min Zheng, Gunn Choe, MMC Technology, United States of America

CQ-14 FLUCTUATION FIELDS IN PERPENDICULAR MEDIA
Simon J. Greaves, Hiroaki Muraoka, RIEC, Tohoku University, Sendai, Japan
Apr. 6

8:30-12:00  Session CR
Spin Injection & Transport: Theory to Devices

M-H. Jung
Korea basic science institute

CR-01 FULL TIGHT-BINDING CALCULATION OF TMR FOR Fe/MgO/Fe JUNCTION WITH RANDOMNESS
Hiroyoshi Itoh, Jun-ichiro Inoue, Dept. of Applied Physics, Nagoya University, Japan

CR-02 EXTERNAL MAGNETIC FIELD INFLUENCE CORRECTIONS IN RKKY EXCHANGE COUPLING MODEL
Elena Gomonay¹, Yevgen Pogoryelov¹, ¹Institute for Physics and Technology, National Ukrainian Technical University, Ukraine, ²Institute for Magnetism, National Academy of Sciences of Ukraine, Ukraine

CR-03 A TRIAL FOR FABRICATING A SPIN-FILTER OPERATING AT ROOM TEMPERATURE USING A FERROMAGNETIC INSULATOR
Ryota Goto¹, Nobuki Tezuka², Satoshi Sugimoto¹, Koichiro Inomata¹, ¹Graduate School of Engineering, Tohoku University, Japan, ²Graduate School of Engineering, Tohoku University and CREST-JST, Japan

CR-04 VERTICAL SPIN ELECTRONIC DEVICE WITH LARGE ROOM TEMPERATURE MAGNETORESISTANCE
Ehsan Ahmad, Alex Valavanis, Yong Bing Xu, Spintronics Laboratory, Department of Electronics, University of York, United Kingdom

CR-05 A NOVEL TYPE OF SPIN INJECTION BARRIER IN A GaAs BASED TWO-DIMENSIONAL ELECTRON GAS SYSTEM
H. C. Koo, Hyun Jung Yi, J. D. Song, J. Y. Chang, Suk Hee Han, Nano Device Research Center, Korea Institute of Science and Technology, Republic of Korea

CR-06 GENERALIZED DIFFUSIVE SPIN TRANSPORT THEORY IN MAGNETIC MULTILAYER STRUCTURES
Mansoor B. A. Jalil, Electrical and Computer Engineering Department, National University of Singapore, Singapore

CR-07 DOMAIN WALL MAGNETORESISTANCE IN A QUANTUM WIRE
Arash Phirouznia, Mohammad Mehdi Tehranchi, Majid Ghanatshoir, Laser Research Institute and Dept. of Physics, Shahid Beheshti University, Iran
CR-08 SPIN ACCUMULATION AND DETECTION IN AN InAs BASED TWO-DIMENSIONAL ELECTRON GAS WITH NOVEL MEASUREMENT GEOMETRY
Hyun Jung Yi1, H. C. Koo2, W. Y. Kim1, Joon Yeon Chang1, Suk Hee Han1, Y. H. Cho3, M. H. Jung3, 'Nano Device Research Center, Korea Institute of Science and Technology, Republic of Korea, 2National Fusion R&D center, Korea Basic Science Institute, Republic of Korea

CR-09 SILICON BASED SPIN VALVE DEVICE
Won Young Kim, Joon Yeon Chang, Hyun Jung, Hyun Cheol Koo, Suk Hee Han, Woo Young Lee, Dept. of Materials Science & Engineering, Yonsei University, Republic of Korea

CR-10 GEOMETRICAL EFFECT ON SPIN ACCUMULATION IN MAGNETIC NANO-STRUCTURES
Masahiko Ichimura1,2, Saburo Takahashi1, Sadamichi Maekawa1, 1Institute for Materials Research, Tohoku University, Japan, 2Advanced Research Laboratory, Hitachi, Ltd., Japan

CR-11 INFLUENCE OF Au CAPPING LAYER ON SPIN ACCUMULATION IN LATERAL SPIN-VALVE STRUCTURE
Takashi Kimura1, Jaroslav1, Yoshichika Otani2, 'Riken FRS, Japan, 2ISSP Univ of Tokyo, Japan

CR-12 CURRENT-INDUCED DOMAIN NUCLEATION IN FERROMAGNET
Junya Shibata1, Gen Tatara2, Hiroshi Kohno1, Yoshichika Otani2, 'RIKEN FRS, Japan, 2Graduate School of Science, Osaka University, Japan, 3Graduate School of Engineering Science, Osaka University, Japan, 4Institute for Solid State Physics, University of Tokyo, Japan

CR-13 THICKNESS DEPENDENCE OF GIANT MAGNETORESISTANCE IN SINGLE, SYNTHETIC AND DUAL SPIN VALVES: INFLUENCE OF INTERFACE AND BULK SCATTERING
Li Wang1, William Joseph McMahon1, Guchang Han1, Bo Liu1, Yi Hong Wu1, 'Data Storage Institute, DSI Building, 5 Engineering Drive 1, Singapore, 2Department of Electrical and Computer Engineering, National University of Singapore, Singapore

CR-14 MAGNETITE SCHOTTKY BARRIERS ON GaAs SUBSTRATES
Steven M. Watts, Catherine Boothman, Sebastiaan van Dijken, J. M. D. Coey, SFI Trinity Nanoscience Laboratory, Physics Department, Trinity College, Dublin, Ireland
CR-15 LARGE SPIN SUSCEPTIBILITY OF HgCdTe TWO DIMENSIONAL ELECTRON GAS IN THE EXTREME QUANTUM LIMIT REGIME
Jinki Hong, Jinseo Lee, Sung Jung Joo, Kungwon Rhie, B. C. Lee, Se-Young An, Jinsang Kim, Kyung-Ho Shin,
1Department of Physics, Korea University, Republic of Korea,
2Department of Physics, Inha University, Republic of Korea,
3Nano Devices Research center, KIST, Republic of Korea

CR-16 CALCULATIONS OF IMPURITY DOPING EFFECTS IN CrO$_2$
Katsuhiko Suzuki, Hiroyuki Abe, 1Dept. Integrated Arts and Sciences, Miyagi National College of Technology, Japan, 2Dept. Applied Physics, Tohoku Univ., Japan

CR-17 RECOILED PARTICLE IRRADIATION EFFECTS TO RE-TM FILMS AROUND COMPENSATION POINT OBSERVED BY FERROMAGNETIC HALL EFFECT
Mitsunobu Okuda, Sarbano Das, Tomoki Kobayashi, Shigeki Nakagawa, Dept. of Physical Electronics, Tokyo Institute of Technology, Japan

CR-18 GATE EFFECT ON HALL VOLTAGE IN A InSb/FM DEVICE
Won Young Kim, Joon Yeon Chang, Suk Hee, Woo Young Lee, Dept. of Materials Science & Engineering, Yonsei University, Republic of Korea

Apr. 6 Event Hall
8:30-12:00 Session CS
Hard Magnet Applications I
F. Yamashita
Matsushita Electric Industrial Co., Ltd.
K. Ohmori
Sumitomo Metal Mining Co.

CS-01 DEVELOPMENT OF WOOFER MICROSPKERS USED CELLULAR PHONES
Ki-Chang Bang, Yong-Chang Yang, Gun-Yong Hwang, Sang-Moon Hwang, 1School of Mechanical Engineering, Pusan National University, Republic of Korea, 2School of Information and Communication Engineering, Youngsan University, Republic of Korea
CS-02 APPLICATION OF THE REPULSIVE-TYPE MAGNETIC BEARING FOR MANUFACTURING MICRO-MASS MEASUREMENT BALANCE EQUIPMENT
Alaa A. Hussien1, Sotoshi Yamada1, Masayoshi Iwahara1, Tomotada Okada1, Takahisa Ohji2, 1Institute of Nature and Environmental Technology, Kanazawa University, Japan, 2Dept. of Electrical and Electronic Engineering, Toyama University, Japan

CS-03 ELECTROMAGNETICALLY ACTUATED ACTIVE BALANCER WITH FLUX GUIDES
Branislav Hredzak, Guo Xiao Guo, A*Star, Data Storage Institute, Singapore

CS-04 CHARACTERISTICS OF MOVING MAGNET ROTATOR OVER CONDUCTING PLATE
Nobuo Fujii, Yuichiro Ito, Takehiro Yoshihara, Dept. of Electrical and Electronic Systems Engineering, Kyushu University, Japan

CS-05 DYNAMIC CHARACTERISTIC ANALYSIS AND EXPERIMENTS OF MOVING-MAGNET LINEAR ACTUATOR WITH CYLINDRICAL HALBACH ARRAY
Seok Myeong Jang1, Jang Young Choi1, Han Wook Cho1, Sung Ho Lee1, 1Dept. of Electrical Engineering, Chungnam National University, Republic of Korea, 2LG Digital Appliance Lab., Republic of Korea

CS-06 THE DESIGN FOR HIGH POWER DENSITY IN THE SLOTLESS TYPE PERMANENT MAGNET LINEAR SYNCHRONOUS MOTOR
Dong-Yeup Lee1, Gyu-Tak1, Jung-Keying Choi1, 1Dep. of Electrical Engineering, Changwon National University, Republic of Korea, 2Dep. of Electronics Engineering, Changwon National University, Republic of Korea

CS-07 EXPERIMENT AND CHARACTERISTIC ANALYSIS OF DISK TYPE PMLSM WITH HALBACH ARRAY
Seok-Myeong Jang, Jung-Chul Seo, Jeong-Ki Kwon, Jang-young Choi, Han Wook Cho, Dept. of Electrical Engineering, Chungnam Nat’l Univ., Republic of Korea

CS-08 STIFFNESS ANALYSIS OF A MAGNETICALLY SUSPENDED BEARINGLESS MOTOR WITH PERMANENT MAGNET PASSIVE POSITIONING
Kazuyoshi Asami1, Akira Chiba1, Takeshi Hoshino1, Atsushi Nakajima1, 1Tokyo University of Science, Japan, 2Japan Aerospace Exploration Agency, Japan
CS-09  EFFECTS OF SHIFTED STATOR POLE AND FLAT ROTOR POLES ON THE STATIC CHARACTERISTICS OF THE DOUBLY SALIENT PERMANENT MAGNET MOTOR
Angara, R. C. Sekhar Babu, K. R. Rajagopal, Electrical Engineering Department, Indian Institute of Technology Delhi, New Delhi, India

CS-10  DEVELOPMENT OF BLDC MOTOR WITH 3 TIMES OUTPUT
Yoshinobu Honkura, Daisuke Nagaya, Hiroshi Matsuoka, Hironari Mitarai, Norihiko Hamada, Kenji Noguchi, Electronic & Magnetics Product Div., Aichi Steel Corporation, Japan

CS-11  A COMPARATIVE STUDY OF HIGH-SPEED PERMANENT MAGNET SYNCHRONOUS MOTOR FOR AIR COMPRESSOR
Ju Lee, Dept. of Electrical Engineering, Hanyang University, Republic of Korea

CS-12  DESIGN OF PERMANENT MAGNETS TO GUARANTEE FREQUENCY-CHANGING STARTUP FOR PM SYNCHRONOUS MACHINES
Yuan Gao, K. T. Chau, Department of Electrical & Electronic Engineering, The University of Hong Kong, Pokfulam Road, Hong Kong, China

CS-13  ANALYSIS ON THE EFFECT OF POLE ARC AND SALIENT POLE RATIO TO IMPROVE TORQUE CHARACTERISTICS OF IPMSM
Kab-Jae Lee1, Ki-Chan Kim1, Ju Lee1, 1Electro-Mechanical Research Institute, Hyundai Heavy Industry Co., Republic of Korea, 2Dept. of Electrical Engineering, Hanyang University, Republic of Korea

CS-14  PERFORMANCE AND APPLICATIONS OF A SMALL PERMANENT MAGNET GENERATOR
Chang-Chou Hwang1, Ping-Huey Tang2, 1Dept. of Electrical Engineering, Feng Chia University, Taiwan, 2Dept. of Computer Applications Engineering, Far East College, Taiwan

CS-15  DYNAMIC ANALYSIS OF SPOKE TYPE PERMANENT MAGNET GENERATOR WITH LARGE OVERHANG
Ki-Chan Kim1, Kab-Jae Lee1, Ju Lee1, 1Dept. of Electrical Engineering, Hanyang University, Haengdang, Seongdong, Seoul, Republic of Korea, 2Hyundai Heavy Industries Co., LTD. Mabook, Kuseong, Yongin, Republic of Korea
CT-01 SUPERPARAMAGNETIC FLUCTUATION IN MAGNETIC NANO PARTICLES: AN APPROACH TO EXTREMELY SLOW RELAXATION
Hiroaki Mamiya, Masato Ohnuma, Isao Nakatani, Takao Furubayashi, National Institute for Materials Science, Japan

CT-02 PREPARATION OF Ni NANO PARTICLES MONOLAYER ON POLYIMIDE SUBSTRATE
Chong Seung Yoon, Dong Hyun Im, Ikk Su Chun, Ki Sik Ban, Sang Uk Lim, Kyung Sook Jeon, Ji Weon Kim, Chang Kyung Kim, Young Ho Kim, Dept of Materials Science and Engineering, Hanyang University, Seoul, Republic of Korea

CT-03 PREPARATION AND PROPERTIES OF NOVEL IRON NANO PARTICLES
Hui Ping Shao1, Hyo Soo Lee2, Yu Qiang Huang1, In Yong Ko1, Chong Oh Kim1, 1Department of materials engineering, ChungNam National University, Republic of Korea, 2Korea Institute of Geoscience & Mineral Resources, Republic of Korea, 3ChunBuk National University, Republic of Korea

CT-04 CONTROLLED MONODISPERSE Fe NANO PARTICLES SYNTHESIZED BY CHEMICAL METHOD
Wen Li Pei1, Saku Kakibe2, Ippei Ohta2, Migaku Takahashi2, 1College of Materials and Metallurgy, Northeastern University, China, 2Department of Electronics Graduate School of Engineering, Tohoku University, Japan

CT-05 MICROSTRUCTURE AND MAGNETIC PROPERTIES OF COBALT NANOCRYSTALS
You Hui Gao1, Zentaro Akase1, Daisuke Shindo1, Yu Ping Bao2, Kannan Krishnan1, 1Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan, 2Department of Materials Science and Engineering, University of Washington, United States of America

CT-06 SYNTHESIS AND MAGNETIC PROPERTIES OF CoPt(Ag) NANO PARTICLES ASSEMBLY
Xiang Cheng Sun1, Yunhe Huang2, Zhi Yong Jia1, J. W. Harrell1, D.E. Nikles1, 1Department of Nuclear Engineering, University of Michigan, United States of America, 2Department of Physics, University of Delaware, United States of America, 3Center for Materials for Information Technology, the University of Alabama, United States of America
CT-07 SIZE CONTROL AND MAGNETIC PROPERTIES OF FePt NANOPARTICLES
Masafumi Nakaya, Toshiharu Teranishi, Grad. School of Pure and Appl. Sci., Univ. of Tsukuba, Japan

CT-08 USE OF THE PHOTOACOUSTIC SPECTROSCOPY FOR SURFACE CHARACTERIZATION OF NANOMETER-SIZED COBALT-FERRITE PARTICLES
Paulo C. Moraïs¹, Luciene B. Silveira¹, Judges G. Santos¹, Aderbal C. Oliveira¹, Alvaro L. Tronconi¹, Regiane L. Santos², Emilia C.D. Lima², Juliana M. Marchetti², Antonio C. Tedesco³, ¹Instituto de Física, Universidade de Brasília, Brazil, ²Instituto de Química, Universidade Federal de Goiás, Brazil, ³Departamento de Farmacia, Universidade de Sao Paulo, Brazil, ²Faculdade de Filosofia Ciencias e Letras, Universidade de Sao Paulo, Brazil

CT-09 SYNTHESIS OF FePtAu NANOPARTICLES IN HIGH-BOILING-POINT SOLVENTS
Zhi Yong Jia, Shishou Kang, David E. Nikeles, J. W. Harrell, MINT Center, The University of Alabama, United States of America

Apr. 6 Event Hall
8:30-12:00 Session CU
Magnetic Imaging II
H. Koo
Korea Institute of Science and Technology

CU-01 A NOVEL INSTRUMENT FOR REAL TIME DYNAMIC DOMAIN OBSERVATION IN BULK AND MICROMAGNETIC MATERIALS
Anthony Moses, Paul Williams, Oleksandr Hoshtanar, Wolfson Centre for Magnetism Technology, School of Engineering, Cardiff University, United Kingdom

CU-02 MAGNETIZATION CONFIGURATIONS IN MICROSTRUCTURED PERMALLOY NETWORKS
Jong-Ching¹, Ida Chang¹, Zung-Hang Wei¹, Mei-Feng Lai², Ching-Ray Chang², ¹Taiwan SPIN Research Center and Department of Physics, Nationa Changhua University of Education, Taiwan, ²Department of Physics, National Taiwan University, Taiwan

CU-03 THE IRREVERSIBLE MAGNETIZATION PROCESS IN MICROSTRUCTURED PERMALLOY ELLIPSES
Yi-Chen Chang, Chia-Chi Chang, Che-Chinmr Chen, Jong-Ching Wu, Taiwan SPIN Research Center and Department of Physics, National Changhua University of Education, Taiwan
CU-04 HIGH-RESOLUTION MAGNETIC IMAGE BY HIGH-Tc SQUID PROBE MICROSCOPE
Tadayuki Hayashi\textsuperscript{1}, Hideo Itozaki\textsuperscript{1}, ‘Sendai National College of Technology and National Institute for Materials Science, Japan, \textsuperscript{2}Osaka University and National Institute for Materials Science, Japan

CU-05 ANTI-PHASE DOMAINS AND CHARGE ORDERING ON EPITAXIAL MAGNETITE FILMS STUDIED BY SPIN-POLARIZED SCANNING TUNNELING MICROSCOPY
Agus Subagyo, Kazuhisa Sueoka, Graduate School of Information Science and Technology, Hokkaido University, Japan

CU-06 APPLICATIONS OF HIGH-RESOLUTION MFM SYSTEM WITH LOW MOMENT PROBE AND Q-CONTROL IN VACUUM
Takehiro Yamaoka\textsuperscript{1}, Kazutoshi Watanabe\textsuperscript{1}, Yoshiharu Shirakawab\textsuperscript{1}, Kazuo Chinone\textsuperscript{1}, Eiji Saitoh\textsuperscript{1}, Masaaki Tanaka\textsuperscript{2}, Hideki Miyajima\textsuperscript{2}, ‘SII NanoTechnology Inc., Japan, \textsuperscript{2}Dept. of Phys., Keio University, Japan

CU-07 MAGNETIZATION REVERSAL AND STRAY FIELD OF PERIODICALLY MAGNETIC DOTS DETECTED BY BOTH MFM AND GMR READ HEAD
Kebin Li\textsuperscript{1}, Yuankai Zheng\textsuperscript{1}, Ping Luo\textsuperscript{1}, Zhi Yong Liu\textsuperscript{1}, Lihua An\textsuperscript{1}, Zai Bing Guo\textsuperscript{1}, Guchang Han\textsuperscript{1}, Yi Hong Wu\textsuperscript{1}, ‘Data Storage Institute, Singapore, Singapore, \textsuperscript{2}Department of Electrical and Computer Engineering, National University of Singapore, Singapore

CU-08 HIGH SENSITIVITY SCANNING HALL PROBE MICROSCOPY AND MAGNETIC IMAGING OF PERMANENT MAGNET
Masayoshi Shimizu\textsuperscript{1}, Hiromasa Saitoh\textsuperscript{1}, Eiji Saitoh\textsuperscript{1}, Hideki Miyajima\textsuperscript{1}, Hiroshi Masuda\textsuperscript{1}, Makoto Satoh\textsuperscript{1}, ‘Dept. of Physics, Keio University, Japan, ‘Toei Industry, Co., Ltd., Japan

CU-09 LOW NOISE MFM WITH HIGH RESOLUTION BY TIP COOLING
Hitoshi Saito\textsuperscript{1}, Ryosuke Sunahara\textsuperscript{1}, Young Woo Rheem\textsuperscript{2}, Shunji Ishio\textsuperscript{1}, ‘Dept. of Materials Science and Engineering, Akita University, Japan, ‘Venture Business Laboratory, Japan

CU-10 JUSTIFICATION OF AN ALTERNATIVE SYSTEM FOR ONE- AND TWO-DIMENSIONAL MAGNETIC MEASUREMENTS
Julius Krah, Dept. of Electrical Engineering, Royal Institute of Technology, Stockholm, Sweden
CU-11 MEASUREMENT AND VISUALIZATION OF THREE-DIMENSIONAL RADIAL AND VECTORED MAGNETIC FIELD DISTRIBUTION BY USE OF THE MAGNETIC CT METHOD
Yoshihiro Miyamoto, Takashi Nishimura, Masayoshi Iwahara, Sotoshi Yamada, Graduate School of Natural Science and Technology, Kanazawa University, Japan

CU-12 APPLICATION OF SPIN VALVE SENSOR FOR SCANNING MAGNETORESISTANCE MICROSCOPE
Taiichi Takezaki, Daiki Yagisawa, Kazuhisa Sueoka, Graduate School of Information Science and Technology, Hokkaido University, Japan

Apr. 6 Event Hall
8:30-12:00 Session CV
Motors II
H.J. Guo
Tohoku Gakuin University

CV-01 VERIFICATION OF THE FROZEN PERMEABILITIES METHOD OF CALCULATING THE INTERIOR PERMANENT MAGNET MOTOR
Jill A. Walker, David G. Dorrell, SPEED Laboratory, Dept. of Electronics & Electrical Engineering, University of Glasgow, United Kingdom

CV-02 ROTOR OPTIMIZATION OF INTERIOR PERMANENT MAGNET SYNCHRONOUS MOTOR CONSIDERING MECHANICAL STRESS
Kab-Jae Lee¹, Ki-Chan Kim¹, Ju Lee¹, ¹Electro-Mechanical Research Institute, Hyundai Heavy Industry Co., Republic of Korea, ²Dept. of Electrical Engineering, Hanyang University, Republic of Korea

CV-03 AN INVESTIGATION ON INFLUENCE OF MAGNET ARC SHAPING UPON BACK ELECTROMOTIVE FORCE WAVEFORMS FOR DESIGN OF PERMANENT-MAGNET BRUSHLESS MOTORS
Min-Fu Hsieh, Yu-Sheng, Dept. of Systems and Naval Mechatronic Engineering, National Cheng Kung University, Taiwan

CV-04 CALCULATION OF DQ-AXIS INDUCTANCES OF PM BRUSHLESS AC MACHINES ACCOUNTING FOR SKEW
Yang Shen Chen, Zi Qiang Zhu, David Howe, Dept. of Electronic and Electrical Engineering, University of Sheffield, United Kingdom
CV-05 DESIGN OF PERMANENT MAGNETS TO CHAOTIC PM SYNCHRONOUS MOTORS FOR INDUSTRIAL MIXERS
Shuang Ye, K. T. Chau, Dept. of Electrical and Electronic Engineering, The University of Hong Kong, China

CV-06 EFFECT OF MATERIAL PROPERTIES ON MOTOR IRON LOSS
Horoaki Toda, Kunihiro Senda, Masayoshi Ishida, Steel Research Laboratory, JFE Steel Corporation, Japan

CV-07 COMPARISON AND ANALYSIS OF BLDC MOTOR WITH RADIAL AND POLAR ANISOTROPIC PLASTIC MAGNET
Seok Myeong Jang, Jang Young Choi, Dae Joon You, Hyun Sup Yang, ‘Dept. of Electrical Engineering, Chungnam National University, Republic of Korea, ‘SAMSUNG TECHWIN CO. LTD., Republic of Korea

CV-08 FE ANALYSIS AND CAD OF RADIAL-FLUX SURFACE MOUNTED PERMANENT MAGNET BRUSHLESS DC MOTORS
Parag R. Upadhyay, K. R. Rajagopal, Electrical Engineering Department, IIT Delhi, India

CV-09 A NOVEL INTEGRAL-FORCE TECHNIQUE FOR THE ANALYSIS OF AN AXIAL-FIELD PERMANENT MAGNET BRUSHLESS DC MOTOR USING FE METHOD
Parag R. Upadhyay, K. R. Rajagopal, Electrical Engineering Department, IIT Delhi, India

CV-10 FE ANALYSIS OF MULTI-PHASE DOUBLY SALIENT PERMANENT MAGNET MOTORS
Angara. R. C. Sekhar Babu, K. R. Rajagopal, Electrical Engineering Department, Indian Institute of Technology Delhi, New Delhi, India

CV-11 PERMANENT MAGNET DEMAGNETIZATION CHARACTERISTICS ANALYSIS OF A VARIABLE FLUX MEMORY MOTOR USING COUPLED PREISACH MODELING AND FEM

CV-12 DYNAMIC CHARACTERISTICS ANALYSIS IN A POLE CHANGING MEMORY MOTOR USING COUPLED FEM & PREISACH MODELING
Jung-Min Park, Sun-Bum Kwon, Jung-Ho Lee, Dept. of Electrical Engineering, Hanbat National University, Republic of Korea
CV-13 BLDC SPINDLE MOTOR COGGING TORQUE CALCULATION WITH THE MOVING MATERIAL METHOD IN THE FINITE ELEMENT METHOD
Sung Hong Won, Ju Lee, Dept. of Electric Eng., Hanyang University, Republic of Korea

CV-14 SENSORLESS DETECTION OF FREE-FALLING STATE OF A HDD BY MONITORING ELECTROMECHANICAL SIGNAL OF A SPINDLE MOTOR
Gun Hee Jang, Sang Jin Park, PREM Lab., Hanyang University, Republic of Korea

Apr. 6 Event Hall
8:30-12:00 Session CW Motors III
O. Ichinokura
Tohoku University

CW-01 A ROTOR ANGULAR POSITION ESTIMATION BASED ON A SIMPLE MATHEMATICAL EXPRESSION OF THE MAGNETIZING CHARACTERISTICS OF SWITCHED RELUCTANCE MACHINES
Takanori Suzuki1, Motoichiro Terada1, Akira Chiba1, Masatsugu Takemoto1, Tadashi Fukao2, 1Tokyo University of Science, Japan, 2Musashi Institute of Technology, Japan

CW-02 EFFECTS OF ROTOR ECCENTRICITY ON TORQUE IN SWITCHED RELUCTANCE MOTORS
David G Dorrell, Ivan Chindurza, Calum Cossar, Dept. of Electronics and Electrical Engineering, University of Glasgow, United Kingdom

CW-03 VARIATIONS IN OVERALL DEVELOPED TORQUE OF A SWITCHED RELUCTANCE MOTOR WITH AIRGAP NONUNIFORMITY
Nimit K. Sheth, K. R. Rajagopal, Electrical Engineering Department, Indian Institute of Technology Delhi, New Delhi, India

CW-04 NOVEL POLE SHAPES FOR IMPROVED PERFORMANCE OF SWITCHED RELUCTANCE HUB MOTORS
Kamal Pandey, K. R. Rajagopal, Electrical Engineering Department, Indian Institute of Technology Delhi, India
CW-05 SPICE SIMULATION OF A SWITCHED RELUCTANCE MOTOR WITH NOVEL DRIVING CIRCUIT
Hiroki Goto¹, Hai-Jiao Guo², Osamu Ichinokura¹, ‘Department of Electrical and Communication Engineering, Tohoku University, Japan, ’Department of Electrical and Information Engineering, Tohoku-Gakuin University, Japan

CW-06 SPEED CONTROL WITH NEGATIVE TORQUE MINIMIZATION IN SINGLE PHASE SRM
Joon Seon Ahn, Hee-Kwan Park, Seung-Joo Kim, Jae-Hak Choi, Ju Lee, Energy Conversion Lab., Department of Electrical Engineering, Hanyang University, Republic of Korea

CW-07 OPTIMUM DESIGN CRITERIA BASED ON RATED WATT OF SYNCHRONOUS RELUCTANCE MOTOR USING A COUPLED FEM & SUMT
Sun-Bum Kwon¹, Jung-Ho Lee¹, Jung-Chul Kim², ‘Dept. of Electrical Engineering, Hanbat National University, Republic of Korea, ’LG Electronics Inc.DA Research Lab., Republic of KOREA

CW-08 EFFICIENCY EVALUATION OF PMASynRM VS. SynRM USING COUPLING FEM & PREISACH MODELING
Rae-Hwa Lee, Young-Jin Jang, Jung-Ho Lee, Dept. of Electrical Engineering, Hanbat National University, Republic of Korea

CW-09 IRON LOSS DISTRIBUTION OF FLUX-REVERSAL MACHINE ACCORDING TO VARIOUS PWM MODES
Tae Heoung Kim, Ki-Bong Jang, Seung-Bin, Jae-Nam Bae, Ju Lee, Dept. of Electrical Engineering, Hanyang University, Republic of Korea

CW-10 STARTING AND HIGH SPEED DRIVING OF SINGLE PHASE FLUX REVERSAL MOTOR FOR VACUUM CLEANER
Ki-Bong Jang, Tae Heoung Kim, Seung-Bin Lim, Ju Lee, Department of Electrical Engineering, Hanyang University, Republic of Korea

CW-11 REDUCTION OF COGGIN TORQUE IN FLUX-REVERSAL MACHINE BY ROTOR TEETH PAIRING
Tae Heoung Kim, Sung Hong Won, Jae-Nam Bae, Ju Lee, Dept. of Electrical Engineering, Hanyang University, Republic of Korea

CW-12 EFFECT OF DESIGN VARIABLES ON IRREVERSIBLE PERMANENT MAGNET DEMAGNETIZATION IN FLUX-REVERSAL MACHINE
Tae Heoung Kim, Jae Nam Bae, Ju Lee, Dept. of Electrical Engineering, Hanyang University, Republic of Korea
CW-13 ANALYSIS OF A LAMINATED CORE PARAMETRIC INDUCTION MOTOR BASED ON THREE DIMENSIONAL RELUCTANCE NETWORK MODEL
Katsubumi Tajima1, Masatoshi Hattori1, Tsuboshi Miyaji1, Tadashi Sato1, Yoshinori Sakamoto2, 1Department of Electrical and Electronic Engineering, Akita University, Japan, 2Department of Kansei Design, Hachinohe Institute of Technology, Japan

Apr. 6  
Reception Hall  
Session DA  
Magnetic Semiconductors II  
M. Tanaka  
The University of Tokyo  

DA-01 TUNNEL MAGNETORESISTANCE IN II-VI/III-V  
14:30 HETEROSTRUCTURE Ga0.5Mn0.5As/ZnSe/Ga0.5Mn0.5As  
MAGNETIC TUNNEL JUNCTIONS  
Hidekazu Saito, Shinji Yuasa, Koji Ando, Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology, Japan

DA-02 EFFECT OF CLUSTERING ON FERROMAGNETISM  
14:45 IN (Ga,Mn)As  
Hannes Raebiger1, Andres Ayuela2, Juhani von Boehm1, Risto M. Nieminen1, 1COMP/Laboratory of Physics, Finland, 2Donostia International Physics Centre (DIPC), Spain

DA-03 MAGNETIZATION REVERSAL WITH DOMAIN-  
15:00 WALL PINNING IN (Ga,Mn)As WIRE  
Takayoshi Koike1, Kohei Hamaya1, Naofumi Funakoshi1, Yasushi Takemura1, Yoshitaka Kitamoto1, Hiroo Munekata1, 1Dept. of Innovative and Engineered Materials, Tokyo Institute of Technology, Japan, 2Division of Electrical and Computer Engineering, Yokohama National University, Japan, 3Imaging Science and Engineering Laboratory, Tokyo Institute of Technology, Japan

DA-04 FERROMAGNETIC TRANSITION-METAL-DOPED  
15:15 TIN DIOXIDE THIN FILMS  
Nguyen Hoa Hong1, Joe Sakai2, Antoine Ruyter1, Wilfrid Prellier1, Awatef Hassini1, Virginie Brize1, 1Laboratoire LEMA, University of Tours, France, 2School of Materials Science, JAIST, Japan, 3Laboratoire CRISMAT, ENSICAEN, France
DA-05 FERROMAGNETISM IN DILUTE MAGNETIC SEMICONDUCTORS AND NEW MATERIALS FOR SPINTRONICS
Valery A. Ivanov¹, Victor Fleurov², Konstantin Kikoin³, Vladimir M. Novotortsev⁴, Tel'man G. Aminov⁵, Sergei F. Marenkin⁶, Galina G. Shabunina⁶, Ljudmila I. Koroleva⁶, Vladimir T. Kalinnikov⁷, Boris A. Aronzon⁷, Vladimir V. Rytkov⁷, Stanislav V. Gudenko⁷, N. S. Kurnakov Institute of General and Inorganic Chemistry, Russian Academy of Sciences, Russian Federation, ¹School of Physics and Astronomy, Technion, Israel Institute of Technology, ²Department of Physics, Ben-Gurion University, Israel, ³Department of Physics, M. V. Lomonosov Moscow State University, Russian Federation, ⁴I. V. Tananaev Institute of Chemistry and Technology of Rare Elements and Minerals, Russian Academy of Sciences, Russian Federation, ⁵Russian Scientific Center “Kurchatov Institute”, Russian Federation

DA-06 ABSENCE OF FERROMAGNETISM AND STRONG ORBITAL COUPLING IN CARRIER RICH Zn₁₋ₓInₓCo₀.₀⁷₅O
Xiao Lin Wang, Germanas Peleckis, Shi Xue Dou, Institute of Superconducting and Electronic Materials, University of Wollongong, Australia

Apr. 6 Room 141/142
Session DB
Current Developments in Inductive Heads & Materials
K. Tagami
TDK Corporation

DB-01 ENHANCEMENT OF MAGNETIC FLUX DENSITY IN SPUTTERED FeCoPd ALLOY AND [FeCo/Pd]ₙ SUPER-LATTICE FILMS AT ROOM TEMPERATURE
Kenji Noma, Masaaki Matsuoka, Hitoshi Kanai, Yuji Uehara, Advanced Head Technology Development Dept., Fujitsu Ltd., Japan

DB-02 EXPERIMENTAL EVIDENCE FOR GYROMAGNETIC DAMPING IN MAGNETIC HEADS DETERMINED BY IMPEDANCE MEASUREMENTS UP TO 9 GHz
Ahmet Kaya¹, James A. Bain², ¹Data Storage Systems Center, Physics Dept., Carnegie Mellon University, United States of America, ²Data Storage Systems Center, Dept. of Electronics and Comp. Eng., Carnegie Mellon University, United States of America
DB-03 WRITE HEAD ANALYSIS BY USING PARALLEL
MICROMAGNETIC-FEM
Ken-ichi Takano, El-Amine Salhi, Masanori Sakai, Moris Dovc, Headway Technologies, United States of America

DB-04 POLE-TIP SIZE EFFECT ON PERPENDICULAR
RECORDING HEAD REMANENCE
Yuchen Zhou, Jian-Gang Zhu, Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, United States of America

*DB-05 CPP-GMR READER AND WRAPAROUND SHIELD
WRITER FOR PERPENDICULAR RECORDING
Kazuhiro Nakamoto, Hiroyuki Hoshiya, Tomohiro Okada, Hiroyuki Katada, Masahiko Hatatani, Katsumi Hoshino, Nobuo Yoshida, Isao Nunokawa, Kimitoshi Etoh, Katsuro Watanabe, Storage Technology Research Center, Hitachi, Ltd., Japan

Apr. 6 Room 234
Session DC
Magnetic Nanoparticles in Biomagnetism
K. Noda
The Institute of Physical and Chemical Research (RIKEN)

DC-01 DETECTION OF CYSTIC FIBROSIS RELATED DNA
TARGETS USING AC FIELD FOCUSING OF MAGNETIC LABELS AND SPIN-VALVE SENSORS
Hugo A. Ferreira1, Daniel L. Graham1, Nuno Feliciano1, Luka A. Clarke2, Margarida D. Amaral2, Paulo P. Freitas1, INESC - Microsystems and Nanotechnologies, Portugal. 1Chemistry and Biochemistry Department, Faculty of Sciences, University of Lisbon, Portugal

DC-02 FUNCTIONALIZATION OF MICRO-HALL EFFECT SENSORS FOR BIOMEDICAL APPLICATIONS UTILIZING SUPERPARAMAGNETIC BEADS
Adam Lapicki1, Hideaki Sanbonsugi2, Takuya Yamamura2, Nobuhiro Matsushita2, Masanori Abe2, Hiroki Narimatsu3, Hiroshi Handa4, Adarsh Sandhu1, Quantum Nanoelectronics Res. Center, Tokyo Inst. of Technology, Japan, 1Dept. of Physical Electronics, Tokyo Inst. of Technology, Japan, 2Dept. of Electrical Engineering, Tokyo Inst. of Technology, Japan, 3Grad. School of Bioscience and Biotechnology, Tokyo Inst. of Technology, Japan

DC-03 EXPEDITING MAGNETIC SEPARATION BY USING Ni WIRES FOR ROBOT-MANIPULATED BIO-SENSING SYSTEM
Ryuuiichi Shimazu1, Masaru Tada1, Nobuhiro Matsushita1, Hiroshi Handa2, Masanori Abe1, Dept. of Physical Electronics, Tokyo Institute of Technology, Japan, Dept. of Biological Information, Tokyo Institute of Technology, Japan
DC-04 DEVELOPMENT OF MAGNETIC DROPLET-
15:15 HANDLING SYSTEM FOR MICROFLUIDIC
BIOCHEMICAL ANALYSIS
H. Ito¹, R. Kato¹, K. Takayanagi², M. Shikida², K. Sato², H.
Honda¹, ¹Dept. of Biotechnology, Nagoya University, Japan,
²Dept. of Micro-Nano Systems Engineering, Nagoya University,
Japan

DC-05 SURFACE MODIFICATION OF
15:30 SUPERPARAMAGNETIC IRON OXIDE
NANOPARTICLES FOR CLINICAL APPLICATIONS
Kyoungja Woo, Jang Won Hong, Nano-Materials Research
Center, Korea Institute of Science and Technology, Republic of
Korea

DC-06 MAGNETIC HOLLOW SILICA NANOTUBES FOR
15:45 BIO-APPLICATIONS
Peng Gao¹, Daniela Caruntu¹, Lei Shao¹, Ming Hui Yu¹, Jian
Feng Chen¹, Charles J. O’Connor¹, Weili L. Zhou¹, ¹Advanced
Materials Research Institute, University of New Orleans, United
States of America, ¹Research Center of the Ministry of
Education for High Gravity Engineering and Technology,
Beijing University of Chemical Technology, China

Apr. 6 Room 224

Session DD
Applications of Soft Magnetic Materials ⚫

H. Chiriac
National Institute of Research and Development for
Technical Physics, Romania

DD-01 APPLICATION FOR ELECTRIC RESISTANCE
14:30 ELEMENT OF GRANULAR FILMS
Hideya Yamadera, Toyota Central Research & Development
Laboratories, Inc., Japan

DD-02 EVALUATION OF INDUCED ELECTRIC CURRENTS
14:45 IN STRIP-WOUND AMORPHOUS CORES
Oriano Bottauscio¹, Valeria Chiado², Valeria Piat², Mario Chiampi³,
Marco Codegone², Alessandra Manzin¹, ¹IEN Galileo Ferraris,
Torino, Italy, ²Dept. Matematica, Politecnico di Torino, Italy,
³Dept. Ingegneria Elettrica, Politecnico di Torino, Italy

DD-03 INVESTIGATION OF GMI IN CoSiB AND NiFe TRI-
15:00 LAYER THIN FILM STRUCTURES
Amruta V. Borge, Kevin R. Coffey, Advanced Materials
Processing and Analysis Center, University of Central Florida,
United States of America
DD-04 APPLICATION OF FeCoB HIGH-Hk HETERO
15:15 AMORPHOUS THIN FILM TO RF INTEGRATED INDUCTOR
Masahiro Yamaguchi¹, Ki Hyeon Kim¹, Takashi Kuribara¹, Tadahiro Fukushima¹, Makoto Munakata¹, Masaaki Yagi¹, ¹Dept. of Electrical and Communication Engineering, Tohoku University, Japan, ²Energy Electronics Lab., Sojo University, Japan

DD-05 MAGNETIC REFRIGERATOR WITH ROTATING POROUS HEAT EXCHANGER
15:30 Peter W. Egolf, Andrej Kitanovski, Osmann Sari, University of Applied Sciences of Western Switzerland, Switzerland

DD-06 INFLUENCE OF SOFT MAGNETIC MATERIALS ON THE DESIGN AND PERFORMANCE OF TUBULAR PERMANENT MAGNET MACHINES
15:45 Jia Bin Wang, David Howe, Dept. of Electronic & Electrical Engineering, University of Sheffield, United Kingdom

Apr. 6 Room 131/132
Session DE
New Phenomena & Applications
Y.K. Kim
Korea University

*DE-01 DISCOVERY OF A NEW MAGNETIC FLUID: 14:30 BMIM[FeCl₄] IONIC LIQUID
Hiro-o Hamaguchi, Department of Chemistry, School of Science, The University of Tokyo, Japan

DE-02 MAGNETICALLY DEFINED DOMAIN ISOLATION FOR STUDIES OF NUCLEATION AND GROWTH COERCIVITIES
15:00 Philipp Herget¹, Brian Knight¹, James A. Bain¹, T. E. Schlesinger¹, Hiroyuki Awano², ¹Data Storage Systems Center, Carnegie Mellon University, United States of America, ²Development and Technology Division, Hitachi-Maxell, Ltd., Japan
DE-03 AN ENERGY-BASED MODEL FOR DYNAMIC 
15:15 HYSTERESIS AND EXTRA-LOSSES
O. Maloberti1, V. Mazauric1, G. Meunier2, A. Kedous-Lebouc2, O. Geoffroy1, Y. Rebiere1, 'Schneider Electric Corporate Reserch, France, 'Laboratoire d’Electrotechnique de Grenoble(CNRS), France, 'Laboratoire Louis Neele(CNRS), France

DE-04 COUNTING INTRINSIC LOCALIZED MODES IN AN 
15:30 ANTFERROMAGNET
Masayuki Sato, Albert J. Sievers, Laboratory of Atomic and Solid State Physics, Cornell University, United States of America

DE-05 STABILIZATION OF MAGNET CURRENT USING 
15:45 JOSEPHSON VOLTAGE STANDARD
Kyu-Tae Kim, Mun-Seog Kim, Po Gyu Park, Electricity and Magnetism Group, Korea Research Institute of Standards and Science, Republic of Korea

Apr. 6 Room 133/134
Session DF
Micromagnetic Simulations
M.E. Schabes
Hitachi Global Storage Technologies

DF-01 MULTISCALE CALCULATIONS OF 
14:30 MAGNETIZATION REVERSAL IN SOFT/HARD 
MAGNETIC BILAYER
Felipe Garcia-Sanchez1, Oksana Chubykalo-Fesenko1, Oleg Mryasov1, Roy W. Chantrell1, 'Instituto de Ciencia de Materiales de Madrid, Spain, 'Seagate Research, Pittsburgh, United States of America, 'University of York, United Kingdom

DF-02 PHASE SHIFT OF SPIN WAVES TRAVELLING 
14:45 THROUGH A 180° BLOCH DOMAIN WALL
Christian Bayer1, Helmut Schultheiss1, Burkard Hillebrands1, Robert L. Stamps1, ‘Fachbereich Physik and Forschungsschwerpunkt MINAS, Technische Universitaet Kaiserslautern, Germany, 'School of Physics, University of Western Australia, Australia

DF-03 VORTEX-ANTIVORTEX PAIR DRIVEN 
15:00 MAGNETIZATION DYNAMICS
Ki-Suk Lee, Byoung-Woo Kang, Sang-Koog Kim, Nanospintronics Laboratory, School of Materials Science and Engineering, Seoul National University, Republic of Korea
DF-04  FINITE ELEMENT MICROMAGNETIC SIMULATION
15:15  OF SWITCH DYNAMICS OF PERPENDICULAR MEDIA
UNDER TILTED WRITE FIELD
H. H. Long¹, J. T. Li¹, J. P. Wang², Z. J. Liu¹, 'Data Storage
Institute, National University of Singapore, Singapore, 'Dept. of
Electrical and Computer Engineering, University of Minnesta,
United States of America

DF-05  INFLUENCE OF EDDY CURRENT ON
15:30  MAGNETIZATION PROCESSES IN SUB-MICRON
PERMALLOY STRUCTURES
Gino Hrkac¹, Thomas Schreffl², Otmar Ertl¹, Markus Kirschner¹,
Dieter Suess¹, Josef Fidler¹, 'Solid State Physics, Technical
University of Vienna, Austria, 'Dept. of Engineering Materials,
University of Sheffield, United Kingdom

DF-06  ANALYTICAL STUDY OF TRANSIENTS LEADING TO
15:45  SELF-OSCILLATIONS IN SPIN- TORQUE-DRIVEN
MAGNETIZATION DYNAMICS
Claudio Serpico¹, Roberto Bonin², Massimiliano d’Aquino¹,
Giorgio Bertotti¹, Isaak Mayergoyz³, 'Dept. of Electrical Eng.,
University of Naples, Napoli, Italy, 'Politecnico di Torino,
Torino, Italy, 'IEN galileo ferraris, Torino, Italy, 'DECE
University of Maryland, College Park, MD, United States of
America

Apr. 6  Shirotori Hall
Session DZ
16:10  Plenary Session

Apr. 7  Reception Hall
Session EA
MRAMs
Y. Saito
Corporate R&D Center, Toshiba Corporation

EA-01  ORTHOGONAL SHAPE/INTRINSIC ANISOTROPY
9:30  TOGGLE- MRAM
Sheng Yuan Wang, Hideo Fujiwara, MINT Center and
Department of Physics and Astronomy, University of Alabama,
United States of America
DEVELOPMENT OF MAGNETIC TUNNEL JUNCTION FOR TOGGLE-MRAM

PRECESSION-DOMINATED REVERSAL OF SYNTHETIC ANTIFERROMAGNETS AND SYNTHETIC FERRIMAGNETS
Cedric Maufront¹, Joo-Von Kim², Thibaut Devolder², Richard Fournel¹, Claude Chappert², ¹STMicroelectronics, France, ²Institut d’Electronique Fondamentale, CNRS/Univ. Paris-Sud, France

PRECESSIONAL MAGNETIZATION REVERSAL IN A MAGNETIC MEMORY CELL
H. W. Schumacher¹, C. Chappert², R. C. Sousa³, P. P. Freitas³, ¹Physikalisch-Technische Bundesanstalt, Germany, ²Institut d’Electronique Fondamentale, UMR 8622, CNRS, Universite Paris Sud, France, ³Instituto de Engenharia de Sistemas e Computadores, Portugal

EDGE DOMAIN DEPENDENT PINNING EFFECT BY THE STRAY FIELD IN THE PATTERNED MAGNETIC TUNNEL JUNCTION
Naoharu Shimomura¹, Tatsuya Kishi², Masatoshi Yoshikawa¹, Eiji Kitagawa¹, Yoshiaki Asao¹, Hiromitsu Hada², Hiroaki Yoda¹, Shuichi Tahara², ¹Corporate Research & Development Center, Toshiba Corp., Japan, ²System Devices Laboratories, NEC Corp., Japan

A NEW SWITCHING ARCHITECTURE FOR MRAM: LOCAL FIELD SWITCHING
Injun Hwang¹, Wanjun Park¹, Y. J. Cho¹, K. W. Kim¹, Y. M. Jang¹, W. C. Jeong¹, J. H. Oh¹, J. E. Lee¹, Hong Seog Kim¹, T. W. Kim¹, ¹Samsung Advanced Institute of Technology, Republic of korea, ²Semiconductor R&D Division, Samsung Electronics, Republic of korea, ³Division of Information Technology, PaiChai University, Republic of korea

FLUX-CLOSED MRAM WITH ULTRA-LOW SWITCHING CURRENT
Yuan Kai Zheng¹, Kebin B. Li¹, Jin Jun Qiu¹, Li Hua An¹, Ping Luo¹, Z. B. Guo¹, Hu Chang Han¹, Yi Hong Wu¹, ¹Data Storage Institute, Singapore, ²Department of Electrical and Computer Engineering, National University of Singapore, Singapore

FABRICATION OF A VERTICAL MRAM DEVICE
Matthew T. Moneck, Jian-Gang Zhu, Dept. of Electrical and Computer Engineering, Carnegie Mellon University, United States of America
EA-09 HIGH QUALITY MAGNETIC TUNNEL JUNCTIONS
11:30 FOR MRAM USING REACTIVELY SPUTTERED AlO3 BARRIERS
Takaaki Tsunoda1, Daniele Mauri2, 'ANELVA Corporation, United States of America, 2Hitachi Global Storage Technologies, Inc., United States of America

EA-10 STUDY OF INTERMEDIATE MAGNETIZATION
11:45 STATES IN DEEP SUBMICROMETER MRAM CELLS
Tai Min1, Po-Kang Wang1, Maa-Min Chen1, Cheng Horng1, Xi Zeng Shi1, Yimin Guo1, Liubo Hong1, Otto Voegeli1, Qiang Chen1, Son Le, 'Headway Technologies, Inc, United States of America, 'Applied Spintronics, Inc., United States of America

EA-11 THERMALLY ASSISTED SWITCHING OF
12:00 EXCHANGE COUPLED BI-LAYER WITH DIFFERENT ORDERING TEMPERATURE
Yousuke Isowaki, Yukio Nozaki, Kimihide Matsuyama, Dept. of Electronics, Kyushu University, Japan

EA-12 CURIE POINT WRITING ON MICROFABRICATED
12:15 TbFe FILMS BY APPLYING A PULSE CURRENT
Takumu Masubuchi1, Takeshi Kato1, Shigeru Tsunashima1, Satoshi Iwata2, 'Dept. of Electronics, Nagoya University, Japan, 2CCRAST, Nagoya University, Japan

Apr. 7 Room 141/142
Session EB
FePt Media and Materials
S.H. Lim
Korea University

EB-01 TOWARD SELF ASSEMBLY OF L10-FePt NANO
9:30 PARTICLES BY SPUTTERING
Nobuhiro Katayama, Tomoaki Maekawa, Shuki Yamamoto, Xiao Xi Liu, Akimitsu Morisako, Mitsunori Matsimoto, Dept. of Information Engineering, Shinshu University, Japan

EB-02 FABRICATION AND CHARACTERIZATION OF L10
9:45 FePt NANOPARTICLES
Rumyana V. Petrova1, R.R.Vanfleet2, D.Richardson2, B.Yao1, K.R.Coffey1, 'University of Central Florida, United States of America, 'Department of Physics, Brigham Young University, United States of America

EB-03 HALL EFFECT STUDY OF SOFT MAGNETIC
10:00 PROPERTIES OF THIN FILMS (FeCoB, NiFe) STACKED ON FePt THIN FILMS WITH PERPENDICULAR MAGNETIC ANISOTROPY
Sarbanoo Das, Tomoya Hatorii, Sukeyumi Ito, Taku Kitagawa, Shigeki Nakagawa, Dept. of Physical Electronics, Tokyo Institute of Technology, Japan
EB-04  EFFECT OF BORON ADDITION ON THE ORDERING PROCESS IN THE FePt THIN FILM
Chan-Gyu Lee, Byeong-Seon Lee, Y. Shimada, O. Kitakami, S. Okamoto, T. Miyazaki, School of Nano Advanced Materials Engineering, Changwon National University, Republic of Korea, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan

EB-05  FePt PERPENDICULAR RECORDING MEDIA WITH Ag LAYER INSERTED
J.S. Chen, Y.Z. Zhou, B.C. Lim, J. Zhang, G. M. Chow, Data Storage Institute, Singapore, Department of Materials Science, National University of Singapore, Singapore

EB-06  GROWTH OF PERPENDICULAR FePt THIN FILMS AT LOW TEMPERATURE
Chih-Huang Lai, Yun-Chung Wu, Chao-Chien Chiang, Department of Materials Science and Engineering, National Tsing Hua University, Taiwan

EB-07  Fe(100) FORMATION IN Fe/Pt BILAYERS TO ATTAIN (001) ORIENTATION OF FePt ORDERED ALLOY THIN FILMS IN AS-DEPOSITED STATE
Taku Kitagawa, Taro Kamiki, Shigeki Nakagawa, Dept. of Physical Electronics, Tokyo Institute of Technology, Japan

EB-08  MAGNETIC PATTERNING OF FePt THIN FILMS USING ION IMPLANTATION
Tsutomu Aoyama, Isamu Sato, Shunji Ishio, TDK Corporation, Japan, Akita University, Japan

EB-09  REDUCTION OF ORDERING TEMPERATURE IN SUBSTITUTED FePtNi NANOPARTICLES FORMED BY CHEMICAL SYNTHESIS
Hongli Wang, Yunhe Huang, Yong Zhang, Karl K. Unruh, George C. Hadjipanayis, Dieter Weller, T. Simopoulos, Department of Physics & Astronomy, University of Delaware, United States of America, Seagate Technology, United States of America, IMS, NCSR DEMOKRITOS, Greece

EB-10  RECORDING PERFORMANCE OF GRANULAR-TYPE FePt-MgO PERPENDICULAR MEDIA
T. Suzuki, Z. Zhang, J. Yin, A. Singh, ISML, Toyota Technological Institute, Japan, HGST, Japan

EB-11  THERMAL STABILITY OF GRANULAR-TYPE FePt-MgO PERPENDICULAR RECORDING MEDIA WITH SOFT UNDERLAYERS
Amarendra K. Singh, Jin Hua Yin, Takao Suzuki, ISML, Toyota Technological Institute, Japan

EB-12  OXIDATION INDUCED ALLOY COMPOSITION AND MAGNETIC PROPERTY CHANGE IN FePt THIN FILM
Jun Yuan, Peiwen Wu, Xuerang Hu, Jun Qian, Department of Materials Science and Engineering, Tsinghua University, China
Session EC
Ferrites

M-J. Tung
Industrial Technology Research Institute, Taiwan

Y-K. Hong
University of Idaho

EC-01 FeO₄⁺films for GHz Conducted Noise
9:30 Suppressors Deposited by High Speed (>100 nm/min) Spin Spray Ferrite Plating
Masaru Tada, Jin Miyasaka, Nobuhiro Matsushita, Masanori Abe, Dept. of Physical Electronics, Tokyo Institute of Technology, Japan

EC-02 Synthesis of Low Temperature Sintered 9:45 Ferroelectric-Ferromagnetic Composite Materials
Hui Zhong, Huai Wu Zhang, Hai Tao Zhou, Li Jun Jia, School of microelectronics and solid-state electronics, University of electronic science and technology of China, China

EC-03 Sol-Gel Fabricated CoFe₂O₄/SiO₂ 10:00 Nanocomposites: Synthesis and Magnetic Properties
Jana Vejpravova¹, Vladimir Sechovsky¹, Jiri Plocek², Daniel Niznansky³, Alzbeta Huntlova¹, J-L Rehspringer⁴, "Charles University in Prague, Faculty of Mathematics And Physics, Department of Electronic Structures, Czech Republic, "Charles University in Prague, Faculty of Natural Sciences, Department of Inorganic Chemistry, Czech Republic, "Institute of Inorganic Chemistry - ASCR, Czech Republic, "IPCMS, Groupe des Matériaux Inorganiques, France

EC-04 Magnetic Properties of Fe/(NiZnCu)Fe₂O₄ 10:15 Composite Films Prepared by Aerosol Deposition Method
Satoshi Sugimoto¹, Kazuaki Haga¹, Masahiro Nakata¹, Toshio Kagotani¹, Koichiro Inomata¹, Jun Akedo², "Dept. of Materials Science, Graduate School of Engineering, Tohoku University, Japan, "Institute of Advanced Industrial Science and Technology (AIST), Japan

EC-05 Complex Permittivity and Permeability of 10:30 Hexaferrite and Carbonyl Iron Powders Using Rectangular Waveguide Technique from 8.0-40.0 GHz
Adil Bahadoor, Yong Wang, Mohammed Afsar, ECE Department, Tufts University, United States of America
EC-06 COMPLEX PERMITTIVITY AND PERMEABILITY
10:45 MEASUREMENTS OF FERRIMAGNETS AT MILLIMETER WAVES WITH HIGH POWER SOURCES
Mohammed N. Afsar, Konstantin A. Korolev, Lakshmi Subramanian, Igor I. Tkachov, *Department of Electrical and Computer Engineering, Tufts University, United States of America*

EC-07 ELECTRO-MAGNETIC PROPERTIES OF A NEW FERRITE-CERAMIC LOW TEMPERATURE CO-CALCINED (LTCC) COMPOSITE MATERIALS
11:00 H.W. Zhang, H. Zhong, B.Y. Liu, Y.L. Jing, Y.Y. Liu, *School of Microelectronic and Solid-state Electronic, University of Electronic Science and Technology of China, China, 1Department of physics & Astronomy, University of Delaware, United States of America*

EC-08 ELECTROMAGNETIC PROPERTIES OF Mn-Zn FERRITE-EPOXY NANOCOMPOSITES

EC-09 MAGNETIC BEHAVIOUR OF NANOCOMPOSITES CONTAINING SELF-ASSEMBLED MAGNETITE PARTICLES DISPERSED IN A PARAFFIN WAX MATRIX
11:30 Chun-Rong Lin, Ti-Wen Sung, Ray-Kuang Chiang, *Dept. of Mechanical Engineering, Southern Taiwan University of Technology, Taiwan, Dept. of Chemical Engineering, Far East College, Taiwan*

EC-10 FMR STUDY ON SPIN-SPRAYED Ni-Zn-Co FERRITE FILMS WITH HIGH PERMEABILITY USABLE FOR GHz NOISE SUPPRESSORS
11:45 Koichi Kondo, Tatsuya Chiba, Shigeyoshi Yoshida, Satoshi Okamoto, Yutaka Shimada, Nobuhiro Matsushita, Masanori Abe, *NEC Tokin Corporation, Japan, Tohoku University, Tokyo Institute of Technology, Japan*

EC-11 MICROWAVE FERROMAGNETIC RESONANCE OF COBALT AND NICKEL SUBSTITUTED U-TYPE HEXAFERRITES
12:00 Mohammed N. Afsar, Darja Lisjak, Adil Bahadoor, Yong Wang, *Tufts University, ECE Department, United States of America, Jozef Stefan Institute, Advanced Materials Department, Jamova 39, Slovenia*

EC-12 INFLUENCE OF HIGH VALENCE CATIONS ON SOFT SPINEL PROPERTIES
12:15 A. D. P. Rao, S.B. Raju, *Department of Nuclear Physics, Andhra University, India, Department of Physics, Andhra University, India*
ED-01 THERMALLY INDUCED VORTEX NUCLEATION IN PERMALLOY ELEMENTS
9:30
Rok Dittrich¹, Thomas Schrefl¹, Dieter Suess², Markus Kirschner⁴, Josef Fidler⁵, 'University of Sheffield, United Kingdom, 'TU Vienna, Austria

ED-02 MICROSTRUCTURES AND MAGNETIC PROPERTIES
9:45
OF THE FIB IRRADIATED Co/Pd MULTILAYER FILMS
Edi Suharyadi, Shinji Natsume, Takeshi Kato, Shigeru Tsunashima, Satoshi Iwata, Department of Electronics, Graduate School of Engineering, Nagoya University, Japan

ED-03 DETERMINATION OF MAGNETIC VORTEX CHIRALITY USING LATERAL SPIN VALVE GEOMETRY
10:00
Yoshichika Otani¹, Takashi Kimura², Jaroslav Hamrle², 'ISSP, Univ. of Tokyo, Japan, 'Riken FRS, Japan

ED-04 NANOPATTERNING MAGNETIC THIN FILMS BY Ga ION IRRADIATION
10:15
D. R. McGrouther¹, Y. Wang¹, J. N. Chapman¹, S. McVitie¹, J. Ferro², 'Department of Physics & Astronomy, University of Glasgow, United Kingdom, 'LPS, Université Paris-Sud, France

ED-05 MAGNETIZATION REVERSAL OF CIRCULAR NANOSCALE FERROMAGNETIC ELEMENTS WITH MODIFIED SHAPES
10:30
Hao Hu¹, Hua Wang², Molly R. McCartney¹, David J. Smith¹, 'Dept. of Physics and Astronomy, Arizona State University, United States of America, 'Dept. of Chemical and Materials Engineering, Arizona State University, United States of America, 'Center for Solid State Science, Arizona State University, United States of America

ED-06 FLUX CLOSURE CONFIGURATION IN FERROMAGNETIC DIAMOND-SHAPED NANOMAGNETS
10:45
Sarjoosing Goolaup¹, Navab Singh¹, Adekunle Olusola Adeyeye¹, 'Information Storage Materials Laboratory, Department of Electrical and Computer Engineering, National University of Singapore, Singapore, 'Institute of Microelectronics, Singapore
ED-07 GEOMETRY-DEPENDENT HEAD-TO-HEAD
11:00 DOMAIN WALL PHASE DIAGRAM AND DOMAIN
WALL WIDTHS IN FERROMAGNETIC RING
STRUCTURES
Markus Laufenberg¹, Mathias Klaeui³, R. Dunin - Borowski², Carlos A. F. Vaz¹, J. A. C. Bland¹, Laura J. Heyderman¹, Frithjof Nolting¹, Ernst Bauer¹, Salia Cherifi⁶, Ulrich Ruediger¹, ‘FB
Physik, Universitaet Konstanz, Germany, ‘Materials Sciences
Department, University of Cambridge, United Kingdom,
‘Physics Department, University of Cambridge, United
Kingdom, ‘Paul Scherrer Institut, Villigen, Switzerland, ‘Physics
Department, Arizona State University, United States of
America, ‘ELETTRA, Trieste, Italy

ED-08 SiO₂ SUBSTRATE HAVING SELF ORGANIZED NANO
11:15 SCALE PORES AND Co DOT ARRAY ON IT AND
COERCIVITY ENHANCEMENT IN RE-TM FILM
Akiyoshi Itoh¹, Arata Tsukamoto¹, K. Morisaki¹, K. Namba¹, H.
Sato¹, Y. Itoh¹, Joe Ohtsuki¹, Chi Won Ahn¹, ‘Dept. of
Electronics and Computer Science, Nihon University, Japan,
‘Dept. of Materials and Applied Chemistry, Nihon University,
Japan, ‘Dept. of Nanoscience, Delft University of Technology,
Netherlands

ED-09 SHAPE INDUCED ANISOTROPY IN HYBRID ANTI-
11:30 DOT ARRAYS FROM GUIDED SELF-ASSEMBLY
TEMPLATES
Alexander A. Zhukov¹, Michael E. Kiziroglou³, Alexander V.
Goncharov³, Richard Boardman¹, Mohamed A. Ghanem¹, Valentyn Novosad¹, Goran Karapetrov², Xiaoli Li², Hans Fangohr³, Cornelis H. de Groot⁵, Philip N. Bartlett⁵, Peter de
Groot⁵, ‘School of Physics and Astronomy, University of
Southampton, United Kingdom, ‘School of Electronics and
Computer Science, University of Southampton, United
Kingdom, ‘School of Engineering Sciences, University of
Southampton, United Kingdom, ‘School of Chemistry,
University of Southampton, United Kingdom, ‘School of Materials
Science Division, Argonne National Laboratory, United States of
America

ED-10 NANOFABRICATION AS A PROBE OF ANISOTROPY
11:45 DISTRIBUTION IN Co/Pd MULTILAYERS
Guo Han Hu, Thomas Thomson, Bruce D. Terris, Hitachi GST,
San Jose Research Center, United States of America

ED-11 FABRICATION OF MAGNETORESISTIVE SENSORS
12:00 USING SELF ASSEMLED NANOSPHERE MASK
Lalit Kumar Verma, Vivian Ng, Information Storage Materials
Laboratory, Electrical and Computer Engineering Department,
National University of Singapore, Singapore

ED-12 ABSENCE OF WEAK ELECTRON LOCALIZATION IN
12:15 FERROMAGNETIC Co-NANOWIRES
Mario Brands, Axel Carl, Guenter Dumpich, Universitaet
Duisburg-Essen, Experimentalphysik, AG Farle, Germany
Session EE
Rare Earth-Transition Metal Magnets and Processing

O. Gutfleisch
IFW Dresden
S.K. Chen
Feng Chia University

*EE-01 IMPROVED PERPENDICULAR ANISOTROPY AND
9:30 PERMANENT MAGNET PROPERTIES IN Co-DOPED
Nd-Fe-B FILMS MULTILAYERED WITH Ta
Minoru Uehara¹, Norio Gennai², Makoto Fujiwara², Takeo
Tanaka², ¹NEOMAX Co., Ltd., Japan, ²Osaka Sangyo University,
Japan

EE-02 Sm(Co,Cu)/Fe EXCHANGE SPRING MULTILAYER
10:00 FILMS WITH HIGH ENERGY PRODUCT
J. Zhang, Y.K. Takahashi, R. Gopal, K. Hono, National
Institute for Material Science, Japan

EE-03 PLD-MADE ANISOTROPIC Nd-Fe-B THICK FILM
10:15 MAGNETS
Masaki Nakano¹, Shuichi Sato¹, Hirotohi², Fumitoshi
Yamashita², ¹Dept. of Electrical and Electronic Engineering,
Nagasaki University, Japan, ²Matsushita Electric Industrial Co.,
Japan

EE-04 EFFECT OF DEPOSITION IN THE PRESENCE OF
10:30 MAGNETIC FIELD ON THE MAGNETIC PROPERTIES
OF CVD COBALT
Nirmalendu Deo¹, Micheal F. Bain¹, John H. Montgomery¹,
Brian L. Kelly², Harold S. Gamble¹, ¹School of Electrical and
Electronic Engineering, The Queen’s University of Belfast,
United Kingdom, ²Seagate Technology R&D Division,
London, United Kingdom

EE-05 RE-Fe-B POWDER COATING FOR IMPROVEMENTS
10:45 IN CORROSION RESISTANCE, FLUX AGING LOSS
AND MECHANICAL STRENGTH OF BONDED
MAGNETS
Peter C. Guschl, Peter Campbell, Magnequench, Singapore

EE-06 DEVELOPMENT OF ANISOTROPIC BONDED
11:00 MAGNET WITH HEAT RESISTANCE
Norihiko Hamada, Kenji Noguchi, Chisato Mishima, Yoshinobu
Honkura, Electronic & Magnetic Product Div., Aichi Steel
Corporation, Japan

EE-07 BONDED THIN CYLINDER MAGNET USING Sm-Fe-
11:15 N ANISOTROPIC POWDER
Kenji Ohmori, Shinichi Hayashi, Takashi Sato, Ichikawa
Research Laboratory, Sumitomo Metal Mining Co.,Ltd., Japan
EE-08 ANGULAR DEPENDENCE OF THE 
11:30 DEMAGNETIZATION STABILITY OF SINTERED Nd-Fe-B MAGNETS 
Matthias Katter, Permanent Magnets, Vacuumschmelze GmbH & Co. KG, Germany 

EE-09 HIGH-COERCIVE Nd-Fe-B SINTERED MAGNETS 
11:45 DIFFUSED WITH Dy OR Tb METAL AND THEIR APPLICATIONS 
Ken-ichi Machida1, Shunji Suzuki1, Takashi Kawasaki1, Teruaki Kitamori1, Kazuya Nakamura1, Yukiharu Shimizu1, 1‘Center for Advanced Science and Innovation, Osaka University, Japan, 2Motor Production Group, Namiki Precision Jewels Co., Ltd., Japan 

EE-10 COERCIVITY STUDY OF HYBRID MAGNET 
12:00 CONSISTING OF R-LEAN AND R-RICH PHASES 
Hae-Woong Kwon1, George C. Hadjipanayis2, 1Sch. of Mat. Sci. and Eng., Pukyong National University, Republic of Korea, 2Dept. of Phys. and Astro., University of Delaware, United States of America 

EE-11 MAGNETIC PROPERTIES OF EXTREMELY SMALL 
12:15 Nd-Fe-B SINTERED MAGNET 
Hajime Nakamura, Koichi Hirota, Takehisa Minowa, Masakatsu Honshima, Magnetic Materials Research Center, Shin-etsu Chemical Co., Japan 

Apr. 7 Room 133/134 Session EF Magnetic Sensors I 
C.G. Kim Chungnam National University 

EF-01 RESONANT CIRCUITS FOR HYPERTHERMIA 
9:30 EXCITED BY RF MAGNETIC FIELD OF MRI 
Megumi Morita1, Takeshi Inoue1, Tsutomu Yamada1, Yasushi Takemura1, Toru Niwa1, Tomio Inoue1, 1Yokohama National University, Japan, 2Kanagawa Prefectural Cancer Center, Japan, 3Yokohama City University, Japan 

EF-02 HIGH SENSITIVITY INDIUM ANTIMONIDE THIN 
9:45 FILM MICRO-HALL SENSOR ARRAYS FOR SIMULTANEOUS MULTIPLE DETECTION OF MAGNETIC BEADS FOR BIOMEDICAL APPLICATIONS 
Kiyoshi Togawa1, Hideaki Sanbonsugi1, Adam Lapicki2, Masanori Abe2, Adarsh Sandhu2, 1Dept. of Electrical and Electronics, Tokyo Institute of Technology, Japan, 2Dept. of Physical Electronics, Tokyo Institute of Technology, Japan, 3Quantum Nanoelectronics Research Center, Tokyo Institute of Technology, Japan
EF-03 CURRENT-INDUCED MAGNETIC FIELD
10:00 DETECTION AROUND FINE CURRENT PATHS BY MAGNETIC FORCE MICROSCOPY
Daisuke Saida1, Tomohiko Edura2, Ken Tsutsui2, Yasuo Wada2, Takiji Takahashi1, 1Institute of Industrial Science, University of Tokyo, Japan, 2Nanotechnology Research Laboratory, Waseda University, Japan

EF-04 IMPROVEMENT OF MAGNETOMECHANICAL
10:15 PROPERTIES OF COBALT FERRITE BY MAGNETIC ANNEAL
Chester C. H. Lo1, Andy P. Ring2, John E. Snyder2, David C. Jiles3, 1Center for Nondestructive Evaluation, Iowa State University, United States of America, 2Materials and Engineering Physics Program, Ames Laboratory, U. S. Dept. of Energy, United States of America, 3Materials Science and Engineering Department, Iowa State University, United States of America

EF-05 3D FIELD RECONSTRUCTION FOR
10:30 NONDESTRUCTIVE DEFECT DETECTION
Iliana Marinova1, Valentin Mateev1, Hisashi Endo2, Seiji Hayano1, Yoshifuru Saito2, 1Department of Electrical Apparatus, Technical University of Sofia, Bulgaria, 2Institute of Fluid Science, Tohoku University, Japan, 3College of Engineering, Hosei University, Japan

EF-06 MAGNETOMECHANICAL EFFECTS UNDER
10:45 APPLIED STRESSES AND UNLOADED CONDITIONS BY A PROBE WITH INDIRECT PICKUP COIL
Tong Liu, Hiroaki Kikuchi, Katsuuyuki Ara, Yasuhiro Kamada, Masaya Sato, Seiki Takahashi, Faculty of Engineering, Iwate University, Japan

EF-07 NOVEL PLANAR ELECTROMAGNETIC SENSORS
11:00 CHARACTERIZATION AND COMPARATIVE EVALUATION
Chinthaka P. Gooneratne1, Subhas C. Mukhopadhyay1, Sotoshi Yamada2, 1Massey University, New Zealand, 2Kanazawa University, Japan

EF-08 MAGNETIC VECTOR FIELD SENSOR USING
11:15 MAGNETOELECTRIC THIN FILM COMPOSITES
Eckhard Quandt1, Simon Stein1, Manfred Wuttig2, 1Center of advanced european studies and research (caesar), Bonn, Germany, 2Dept. of Material Science and Engineering, University of Maryland, College Park, MD, United States of America

EF-09 A HIGH PERFORMANCE ORTHOGONAL
11:30 FLUXGATE MAGNETOMETER BASED ON THE FUNDAMENTAL MODE OF OPERATION
Ichiro Sasada, Takashi Usui, Dept. Applied Science for Electronics and Materials, Kyushu University, Japan
EF-10 MICROFLUXGATES PERFORMANCES
11:45 IMPROVEMENT IN MICROTECHNOLOGY
Helene Joisten¹, Bernard Guilhamat¹, Marcel Audoin¹, Jean-Michel Leger¹, Robert Cuchet¹, Gerard Barrois¹, Pierre Gaud¹, Didier Bloch¹, ¹DIHS/LCFM LETI/CEA-Grenoble, France, ¹DCIS LETI/CEA-Grenoble, France

EF-11 HIGH SENSITIVE AND HEAT-RESISTIVE
12:00 MAGNETIC DISPLACEMENT SENSOR USING MAGNETOSTRICTIVE/PIEZOELECTRIC LAMINATE COMPOSITE
Toshiyuki Ueno, Toshiro Higuchi, Dept of Precision Machinery Eng., the Univ. of Tokyo, Japan

EF-12 NEW ABSOLUTE ROTOR-POSITION SENSORS FOR
12:15 INVERTER-DRIVEN MOTORS
Li Zhi Sun, Jing Shang, Ji Bin Zou, Harbin Institute of Technology, China

Apr. 7 Event Hall
8:30-12:00 Session EP
Advanced Coding and Recording Channels
H. Mutoh
Fujitsu Ltd.

EP-01 REDUCED COMPLEXITY SIGNAL DETECTION AND TURBO DECODING FOR MULTITRACK MAGNETIC RECORDING CHANNELS
Naveen Mysore, Jan Bajcsy, Dept. of Electrical and Computer Engineering, McGill University, Canada

EP-02 CITI CODE BASED ON PRI EQUALIZED LEVEL FOR PERPENDICULAR RECORDING
Yoshitake Kurihara¹, Mohammed Zaki Ahmed¹, Hisashi Osawa¹, Yoshihiro Okamoto¹, ¹Nihama National College of Technology, Japan, ¹Centre for Research in Information Storage Technology, University of Plymouth, United Kingdom, ¹Faculty of Engineering, Ehime University, Japan

EP-03 NOISE-PREDICTIVE TURBO EQUALIZATION FOR PARTIAL-RESPONSE CHANNELS
Sharon Aviran, Paul H. Siegel, Jack K. Wolf, CMRR and ECE Dept., University of California, San Diego, United States of America

EP-04 PERFORMANCE OF BCJR-DFE BASED DETECTORS OVER RECORDING CHANNELS USING PATTERN-DEPENDENT NOISE PREDICTION
Nitin Nangare¹, Xue Shi Yang², Erozan Kurtas², Krishna R. Narayanan¹, ¹Dept. of Electrical Engineering, Texas A&M University, United States of America, ²Seagate Technology, United States of America
EP-05 DECODING FOR MAGNETIC RECORDING MEDIA WITH OVERLAPPING TRACKS
Naveen Singla, Joseph A. O’Sullivan, Clayton T. Miller, Ronald S. Indeck, Department of Electrical and Systems Engineering, Washington University in St. Louis, United States of America

EP-06 PERFORMANCE EVALUATION OF LDPC CODES FOR PATTERNED MEDIA
Ioannis Ntoaks¹, Paul W. Nutter¹, Barry K. Middleton¹, C. J. Tjhaï², Mohammed Zaki Ahmed¹, 'School of Computer Science, The University of Manchester, United Kingdom, ¹School of Computing, Communications and Electronics, University of Plymouth, United Kingdom

EP-07 RATES AND EMPIRICAL PROPERTIES OF GOOD CODES FOR PARTIAL RESPONSE CHANNELS
Shao Hua Yang, Bruce Wilson, Hitachi Global Storage Technologies San Jose Research Center, United States of America

EP-08 PARTITION-AND-SHIFT LDPC CODES FOR HIGH DENSITY MAGNETIC RECORDING
Jin Lu, Jose’ Moura, Data Storage Systems Center, Dept. of Electrical & Computer Engineering, Carnegie Mellon University, United States of America

EP-09 INTEGRATED INTERLEAVING ECC AND HIGH DIMENSIONAL PARITY CODES
Hiroshi Kamabe, Hironori Katou, Dept. of Information Science, Gifu University, Japan

EP-10 UNIFORM LATIN SQUARE INTERLEAVING FOR CORRECTING TWO-DIMENSIONAL BURST ERRORS
Keitarou Kondou, Makoto Noda, Core Technology Development Group, Micro Systems Network Company, Sony Corporation, Japan

EP-11 DETECTION OF MEDIA DEFECTS IN PERPENDICULAR RECORDING
Wei Jun Tan¹, J. R. Cruz², 'Storage Division, Agere Systems, United States of America, ²The University of Oklahoma, School of Electrical and Computer Engineering, United States of America

EP-12 ON LDPC CODES SATISFYING THE (0, k) CONSTRAINT
Sharareh Babvey¹, Steven W. McLaughlin², 'Dept. of Computer Science, Georgia State University, United States of America, ²School of Electrical and Computer engineering, Georgia Institute of Technology, United States of America
EP-13 A STUDY OF OBSERVATION OF NOISE RELATED TO DECISION ERROR IN PRML SYSTEM
Yoshihiro Okamoto¹, Yasuaki Nakamura¹, Hisashi Osawa¹, Hiroaki Muraoka¹, Yoshihisa Nakamura¹, ¹Faculty of Engineering, Ehime University, Japan, ²Research Institute of Electrical Communication, Tohoku University, Japan

EP-14 ON A METHOD FOR CHARACTERIZING READ SENSOR NONLINEARITY USING READ-BACK SIGNALS
Bruce A. Wilson, Hitachi Global Storage Technologies, United States of America

Apr. 7 Event Hall
8:30-12:00 Session EQ
Current Induced Switching II
S. Nakamura
Corporate R&D center, Toshiba Corporation

EQ-01 CURRENT INDUCED OSCILLATION OF A SINGLE MAGNETIC DOMAIN WALL
Eiji Saitoh¹, Mitsunaga Nozue¹, Hideki Miyajima¹, Takehiro Yamaoka¹, ¹Dept. of Phys. Keio Univ., Hyoshi, Yokohama, Japan, ²SII NanoTechnology, Inc, Japan

EQ-02 CRITICAL PARAMETERS FOR CURRENT-INDUCED DOMAIN WALL MOTION
Mathias Klaeui¹, Pierre-Olivier Jubert², Rolf Allenspach², Carlos Vaz¹, Giancarlo Faini¹, Laurent Vila¹, Ulrich Ruegeler¹, ¹FB Physik, Universitaet Konstanz, Germany, ²IBM Research, Zurich Research Laboratory, Switzerland, ³Cavendish Laboratory, University of Cambridge, United Kingdom, ⁴LPN-CNRS, France

EQ-03 CURRENT DRIVEN DOMAIN WALL STUDY IN U-SHAPE PERMALLOY WIRE
Jai-Lin Tsai¹, K-W Lin¹, Y-D Yao², S-F Lee², Y Liou², ¹Department of Materials Engineering, National Chung Hsing University, Taiwan, ²Institute of Physics, Academia Sinica, Taiwan

EQ-04 DOMAIN WALL MAGNETORESISTANCE IN PERMALLOY HALF-RING WIRES
C. Yu¹, S. F. Lee¹, E. W. Huang¹, K. W. Cheng¹, D. C. Chen¹, Y. Liou¹, Y. D. Yao², C. R.Chang², ¹Institute of Physics, Academia Sinica, Taiwan, ²Dept. of Physics, National Taiwan University, Taiwan
EQ-05 CURRENT INDUCED MAGNETIZATION SWITCHING IN MAGNETIC TUNNEL JUNCTION WITH MgO (001) TUNNEL BARRIER
Hitoshi Kubota¹, Akio Fukushima¹, Yuichi Ootani¹, Shinji Yuasa¹, Koji Ando¹, Hiroki Maehara¹, Koji Tsunekawa¹, David D. Djayaprawira¹, Naoki Watanabe¹, Yoshishige Suzuki¹, "National Institute of Advanced Industrial Science and Technology (AIST), Japan, ²Toho University, Japan, ³Anelva Corporation, Japan, ⁴Graduate School of Engineering Science, Osaka University, Japan

EQ-06 REDUCTION OF THE SWITCHING SPEED IN CURRENT-INDUCED MAGNETIZATION REVERSAL DUE TO DOMAIN STATES ON APPLYING NANO-SECOND CURRENT PULSES
Yoshishige Suzuki¹, Ashwin Tulapurkar¹, Kojiro Yagami¹, Akio Fukushima¹, Thibaut Devolder¹, P Crozat¹, Claude Chappert¹, Shinji Yuasa¹, "Graduate School of Engineering Science, Osaka University, Japan, "National Institute of Advanced Industrial Science and Technology (AIST), Japan, ³SSNC, Semiconductor Technology Development Group, SONY Corp., Japan, ⁴Institut d'Electronique Fondamentale, CNRS UMR 8622, Batiment 220, Universite Paris Sud, France

EQ-07 ANALYTICAL INVESTIGATION OF SPIN TRANSFER DYNAMICS USING A PERPENDICULAR-TO-PLANE POLARIZER
Kyung-Jin Lee, Olivier Redon, Bernard Dieny, SPINTEC, URA CEA-CNRS, France

EQ-08 TUNNELING CURRENT-INDUCED BUTTERFLY-SHAPED DOMAINS AND MAGNETIZATION SWITCHING IN DOUBLE-BARRIER MAGNETIC TUNNEL JUNCTIONS
Sufen¹, Jing Zhao¹, Zhong Ming Zeng¹, Xiu Feng Han¹, Yasuo Ando², Terunobu², "State Key Laboratory of Magnetism, Institute of Physics, Chinese Academy of Sciences, China, ²Dept. of Appl. Phys., Graduate School of Engineering, Tohoku University, Japan, Japan

EQ-09 MICROMAGNETIC SIMULATION ON DYNAMICS OF SPIN TRANSFER TORQUE MAGNETIZATION REVERSAL
Kenchi Ito, Hitachi Cambridge Laboratory, Hitachi Europe, Ltd., United Kingdom
ER-01 FABRICATION AND STUDY OF Ni_{75}Fe_{25}-SiO_{2} GRANULAR FILMS FOR HIGH FREQUENCY APPLICATION
Shi Hui Ge¹, Xiao Lin Yang¹, Kwang Youn Kim¹, Li Xi¹, Xiao Ming Kou¹, Dongsheng Yao¹, Binsheng Li¹, Xinwei Wang¹, Y. Kitamoto
Tokyo Institute of Technology

ER-02 THE MAGNETOCALORIC EFFECT IN AMORPHOUS Fe_{59-Mn,x}Zr_{10} (x=4,6,8,10) ALLOYS
Seong-Gi Min¹, Kyeong-Sup Kim¹, Seong-Cho Yu², Veeturi Srinivas², Dept. of Physics, Chungbuk Nat’l University, Republic of Korea, Dept. of Physics, Indian Institute of Technology, India

ER-03 RESISTIVITY AND CORE SIZE DEPENDENCIES OF EDDY CURRENT LOSS FOR Fe-Si COMPRESSED CORES
Takanobu Saito, Satoshi Takemoto, Takahiko Iriyama, R&D Lab, Daido Steel Co., Ltd., Japan

ER-04 ANNEALING CONDITIONS AND HIGH MAGNETIC INDUCTION IN THIN-GAUGED 3% Si-Fe ALLOY STRIPS
Sang Beom Kim¹, Kyung Min Park¹, Seong Soo Cho¹, Dong Il Lee¹, Nam Hoe Heo¹, Advanced Technology Center, Korea Electric Power Research Institute, Republic of Korea, Power Transmission Technology Group, Korea Electric Power Research Institute, Republic of Korea

ER-05 FeHIN AND FeHINo SOFT MAGNETIC FILMS FOR RF APPLICATIONS
Sandrine Couderc¹, Bernard Viala², Pascal Ancey¹, Guillaume Bouche¹, STMicroelectronics, France, CEA-DRT-Leti, Grenoble, France

ER-06 MAGNETIC PROPERTIES OF Fe_{3}O_{4} NANOSTRUCTURES
Seung Pil Ko, Joon-Young Soh, Young Keun Kim, Division of Materials Science and Engineering, Korea University, Republic of Korea
ER-07 2-D MAGNETIC ROTATIONAL LOSS OF ELECTRICAL STEEL AT HIGH MAGNETIC FLUX DENSITY
Keishiro Mori, Shunji Yanase, Yasuo Okazaki, Shuichiro Hashi,
Dept. of Electrical & Electronics, Gifu University, Japan

ER-08 TRANSPORT AND MAGNETIC PROPERTIES OF ENCAPSULATED Ni-NiO/ZrO₂ NANOSTRUCTURES
Bibhuti B. Nayak¹, Satish Vitta¹, A. K. Nigam², D. Bahadur³,
¹Department of Metallurgical Engineering and Materials Science, Indian Institute of Technology Bombay, India,
²Department of Condensed Matter Physics & Materials Science, Tata Institute of Fundamental Research Mumbai, India,
³Department of Electrical & Electronics, Gifu University, Japan

ER-09 MAGNETIC PROPERTIES OF COBALT NANO DOTS FABRICATED BY A NEW LASER IRRADIATION METHOD: ENHANCED ANISOTROPY AND SUPERPARAMAGNETISM
Jung Yup Yang, Kap Soo Yoon, Young Ho Do, Jong Hyun Lee, Chae Ok Kim, Jin Pyo Hong,
Dept. of Physics, Hanyang University, Republic of Korea

ER-10 AN ITERATIVE METHOD TO OBTAIN NON-UNIFORM FIELD DISTRIBUTION IN MAGNETIC SUBSTRATES
Ali Reza V. Farahani, Adalbert Konrad,
Dept. of E.C.E., University of Toronto, Canada

Apr. 7 Event Hall
8:30-12:00 Session ES
Clusters and Particles III
J.P. Wang
University of Minnesota

ES-01 SYNTHESIS AND MAGNETIC CHARACTERIZATION OF ZnFe₂O₄ NANOSTRUCTURES IN AAO TEMPLATE
Jin-Seung Jung¹, Y.-K. Jung¹, E.-M. Kim¹, S.-H. Min¹, J.-H. Jun¹, Leszek Malkinski¹, Yuri Barnakov¹, L. Spinu¹,
¹Department of Chemistry, Kangnung National University, Republic of Korea,
²Department of Condensed Matter Physics & Materials Science, Tata Institute of Fundamental Research Mumbai, India,
³Department of Electrical & Electronics, Gifu University, Japan

ES-02 SYNTHESIS AND CHARACTERIZATION OF CORE-SHELL Ag@Fe₂O₃ NANOPARTICLES
Chih-Huang Lai, Tsung-Feng Wu,
Dept. of Materials Science and Engineering, National Tsing Hua University, Taiwan
ES-03 INTERGRANULAR TUNNELING MAGNETORESISTANCE OF MECHANICALLY ALLOYED (Cr-M)O2 POWDER COMPACTS
Masakiyo Tsunoda1, Tetsuya Sato1, Qi Wu Zhang2, Balachandran Jeyadevan1, Migaku Takahashi1, 1Dept. of Electronic Engineering, Tohoku University, Japan, 2Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan, Dept. of Environmental Studies, Tohoku University, Japan, 3New Industry Creation Hatchery Center, Tohoku University, Japan

ES-04 SUPERPARAMAGNETIC BEHAVIOUR OF ANTIFERROMAGNETIC CuO NANOPARTICLES
Narsinga Rao Gade1, Y. D. Yao1, J. W. Chen2, 1Institute of Physics, Academia Sinica, Taiwan, 2Department of Physics, National Taiwan University, Taiwan

ES-05 FERROMAGNETIC, TRANSPARENT AND CONDUCTING ITO-Fe-CLUSTER COMPOSITE FILMS
Dong Liang Peng, Kenji Sumiyama, Noriyuki Nozawa, Takehiko Hihara, Department of Materials Science and Engineering, Nagoya Institute of Technology, Japan

ES-06 PERCOLATION THRESHOLD AND TUNNELING MAGNETORESISTANCE IN Ag/Ni NANOCOMPACTS
S. Y. Wu, M. T. Liao, P. J. Huang, F. C. Tsao, M. K. Chung, C. C. Yang, W. -H. Li, Dep. of Physics, National Central University, Taiwan

ES-07 FABRICATION OF Fe-Ce-O GRANULAR FILMS BY METAL-OXIDE CO-ELECTRODEPOSITION
Naoyuki Fujita1, Masanobu Izaki1, Mitsuteru Inoue1, 1Dept. of Electrical Engineering, Nara National College of Technology, Japan, 2Osaka Municipal Technical Research Institute, Japan, 3Dept. of Electrical and Electronic Engineering, Toyohashi University of Technology, Japan

ES-08 MAGNETISM OF Fe@C20, Fe@C20H20, AND Fe2@C30
Chulsu Jo, Jae Il Lee, Dept. of Physics, Inha University, Republic of Korea

ES-09 MAGNETIC PROPERTIES OF CoSi CLUSTERS
Chulsu Jo1, Dong Chul Kim2, Jae Il Lee1, 1Dept. of Physics, Inha University, Republic of Korea, 2School of Electrical Engineering, Hally University, Republic of Korea
ET-01 OPTIMIZATION ALGORITHM FOR TRANSFORMER ADMITTANCE CURVES
Edvin Shehu¹, Adalbert Konrad¹, Luis Marti¹, ‘Dept. of E.C.E., University of Toronto, Canada, ¹Hydro One Networks Inc., Canada

ET-02 AN IMPROVED METHOD FOR VIRTUAL AIR GAP LENGTH COMPUTATION
Adalbert Konrad¹, Jean F. Brudny², ‘Dept. of E.C.E., University of Toronto, Canada, ¹Elec. Eng. Dept., University of Artois, France

ET-03 EVALUATION OF HEAT CONDUCTIVITY OF THERMOSENSITIVE FERRITE AS TEMPERATURE DEPENDENCE DEVICE
Yasuyuki Kakubari¹, Fumihiro Sato¹, Hidetoshi Matsuki¹, Tadakuni Sato¹, ¹Graduate School of Engineering, Tohoku University, Japan, ¹NEC Tokin Corporation, Japan

ET-04 CURRENT CONTROLLABILITY OF THE LOW-VOLTAGE 10 kA INVERTER POWERS SOURCE
Yoshiaki Takasaki¹, Toshikatsu Sonoda¹, ‘College of Computer Engineering, Fukuoka Institute of Technology, Japan, ¹School of Humanity-Oriented Science and Engineering, Kinki University, Japan

ET-05 IMPROVEMENT OF ZONE CONTROL INDUCTION HEATING EQUIPMENT FOR HIGH-SPEED PROCESSING OF SEMICONDUCTOR
Daisuke Miyagi¹, Aisha Saith¹, Norio Takahashi¹, Naoki Uchida², Kazuhiro Ozaki², ‘Dept. of Electrical and Electronic Eng., Okayama University, Japan, ¹Advanced machinery and Systems Dept. Mitsui Engineering & Shipbuilding Co., Ltd., Japan

ET-06 THREE-DIMENSIONAL RELUCTANCE NETWORK ANALYSIS CONSIDERING AN IRON LOSS CHARACTERISTIC FOR AN EIE-CORE VARIABLE INDUCTOR
Kenji Nakamura¹, Shuichi Hayakawa¹, Sigeaki Akatsuka², Takashi Ohinata², Kazuo Minawaz², Osamu Ichinokura¹, ¹Graduate School of Engineering, Tohoku University, Japan, ¹Tohoku Electric Power Co., Inc., Japan
ET-07 WINDING LOSS MECHANISM ANALYSIS AND THE DESIGN FOR A NEW STRUCTURE HIGH-FREQUENCY GAPPED INDUCTOR
Xing Kui Mao1, Wei Chen2, 1College of Electrical Engineering & Automation, Fuzhou University, China, 2Delta Power Electronics Center, Shanghai, China

ET-08 EVALUATION OF EXPERIMENTAL METHODS FOR DETERMINING MAGNETICALLY NONLINEAR CHARACTERISTICS OF ELECTROMAGNETIC DEVICES
Gorazd Stumberger, Mostjan Polajzer, Bojan Stumberger, Matej Toman, Drago Dolinar, Faculty of Electrical Engineering and Computer Science, University of Maribor, Slovenia

ET-09 DESIGNING OF SUITABLE CONSTRUCTION OF HIGH-FREQUENCY INDUCTION HEATING COIL BY USING FINITE ELEMENT METHOD
Alexander K. Boadi, Hiroyasu Shimoji, Takashi Todaka, Masato Enokizono, Department of electrical and electronic engineering, Oita university, Japan

ET-10 INFLUENCE OF HYSTERETIC BEHAVIOUR IN FERRORESONANT LCR CIRCUITS
Oriano Bottauscio1, Mario Chiampi2, 1IEN Galileo Ferraris, Torino, Italy, 2Dept. Ingegneria Elettrica, Politecnico di Torino, Italy

ET-11 COMBINED SYSTEM OF AC AND DC ELECTROMAGNETIC FIELD FOR STABILIZED FLOW IN CONTINUOUS CASTING
Ryu Hirayama, Keisuke Fujisaki, Environment & Process Technology Center, Nippon Steel Corporation, Japan

ET-12 INTEGRATED DESIGN FOR A HIGH SPEED PERMANENT MAGNET AXIAL FLUX GENERATOR
Patrick C.K. Luk1, Tareq S. El-Hasan2, 1Dept. of Aerospace, Power and Sensors, United Kingdom, 2KADDB, Jordan

Apr. 7 Event Hall
8:30-12:00 Session EU
Integrated Passives and Devices II
M. Yamaguchi
Tohoku University

Y. Zhan
HiTeC-Dimes, Delft University of Technology

EU-01 DESIGN OF INDUCTOR OPERATING IN GHz RANGES
Minsoo Choi, Joohyun Hong, Jong-Ryoul Kim, Dept. of Material Engineering Science, Hanyang University, Republic of Korea
EU-02 INVESTIGATION OF ANOMALOUS LOSSES IN FERROMAGNETIC SPIRAL INDUCTORS USING THICK COPPER TECHNOLOGY
Bernard Viala, Anne Sophie Royet, Sandrine Couderc, 'CEA-DRT-LETI Grenoble France, France, 'STMicroelectronics Crolles France, France

EU-03 RF INTEGRATED INDUCTORS WITH VARIOUS SLIT PATTERNS USING CoFeBN SOFT MAGNETIC FILM
Masahiro Yamaguchi, Ki Hyeon Kim, Takashi Kuribara, Tadahiro Fukushima, Inyoung Kim, Jongryoul Kim, 'Dept. of Electrical and Communication Engineering, Tohoku University, Japan, 'Metallurgy and Materials Engineering Department, Hanyang University, Republic of Korea

EU-04 ON A TRANSMISSION LINE WITH PERIODICALLY LOADED GYRATOR
Kensuke Okubo, Makoto Tsutsumi, 'Dept. of Communication Engineering, Okayama Prefectural University, Japan, 'Faculty of Engineering, Fukui University of Technology, Japan

EU-05 AN INTEGRATED LTCC INDUCTOR
Hee-Jun Kim, Chan-Young Kim, Jong-Ryoul Kim, 'School of Electrical and Computer Eng., Republic of Korea, 'Department of Metallurgical and Materials Eng., Republic of Korea

EU-06 A THIN FILM SPIRAL MICROSTRIP TRANSMISSION-LINE USING CoZrNb SOFT MAGNETIC THIN FILM FOR A QUARTER WAVELENGTH TRANSFORMER
Hirotaka Suzuki, Namie Sugiyama, Toshiro Sato, Kiyohito Yamasawa, Yoshimasa Miura, Yuko Miyake, Masanori Akie, Yuji Uehara, 'Faculty of Engineering, Shinshu University, Japan, 'Fujitsu Ltd., Japan

EU-07 A COPLANAR-COUPLED-LINE COMMON-MODE FILTER USING CoZrNb SOFT MAGNETIC THIN FILM FOR GHz FREQUENCY BAND
Yuuki Sudo, Katsuhiro Watanabe, Toshiro Sato, Kiyohito Yamasawa, Yoshimasa Miura, Yuko Miyake, Masanori Akie, Yuji Uehara, 'Faculty of Engineering, Shinshu University, Japan, 'Fujitsu Ltd., Japan

EU-08 CONTROLLING ELECTROMAGNETIC WAVE ABSORPTION CHARACTERISTICS BY CHANGING MAGNETIC POWDER MIXING RATIOS FOR POWDER-TYPE MAGNETIC WOOD
Hideo Oka, Minekazu Terui, Hiroshi Osada, Fukumori Izumida, Yasuji Namizaki, 'Dept. of Electrical & Electronic Engineering, Iwate University, Japan, 'Iwate Industrial Research Institute, Japan
EU-09 CONDUCTION NOISE ATTENUATION BY IRON PARTICLES-RUBBER COMPOSITES ATTACHED ON MICROSTRIP LINES
Sun-Tae Kim1, Han-Sin Cho2, Sung-Soo Kim3, 1Department of Materials Engineering, Chungbuk National University, Republic of Korea, 2Ja Wha Electronics Cooperation, Republic of Korea

EU-10 GHz RANGE ABSORPTION PROPERTIES OF Fe/Y2O3, FeCo/Y2O3, AND Fe/Fe,B/Y2O3 NANOCOMPOSITES
Ken-ichi Machida1, Jiu Rong Liu1, Masahiro Itoh1, 1Center for Advanced Science and Innovation, Osaka University, Japan

EU-11 OPERATING MECHANISM OF RF ELECTROMAGNETIC NOISE SUPPRESSION SHEETS
Kaori Maruta1, Masahiro Yamaguchi1, Hiroshi Ono1, 1Tohoku University, Japan, 2NEC Tokin Co., Japan

EU-12 NOISE SUPPRESSOR BY USING NANOGRAINULAR Co-Fe-Al-O MULTILAYER FILM WITH DIFFERENT THICKNESS
Jae Cheon Sohn1, Dong Jin Byun1, Sang Ho Lim1, Suk Hee Han1, Masahiro Yamaguchi1, 1Department of Materials Science and Engineering, Korea University, Seoul, Republic of Korea, 2Nano Device Research Center, Korea Institute of Science and Technology, Republic of Korea, 3Electrical and Communication Engineering, Tohoku University, Sendai, Japan

EU-13 A FABRICATION OF DC-DC CONVERTER USING LTCC NiZnCu FERRITE THICK FILMS
Ki Woong Moon1, Seung Hee Hong1, Hee Jun Kim2, Jongryoul Kim1, 1Dept. of Materials Engineering Science, Republic of Korea, 2School of Electrical and Computer Engineering, Republic of Korea

EU-14 A WIDEBAND COMMON-MODE NOISE FILTER WITH A Mn-Zn FERRITE AND Cu/POLYIMIDE TAPE WOUND COIL FOR SWITCHING POWER SUPPLIES USED IN ELECTRONIC MEASURING INSTRUMENTS
Koichi Yanagisawa1, Fuchon Zhang1, Toshiro Sato1, Kiyohito Yamasawa1, Yoshimasa Miura2, 1R&D Dept., HIOKI Electric Corp., Japan, 2Faculty of Engineering, Shinshu University, Japan

EU-15 4-PORT PACKAGE ANALYSIS AND MEASUREMENTS INCLUDING INDUCTIVE AND CAPACITIVE COUPLING BETWEEN LINES AT GHz FREQUENCIES
Adalbert Konrad1, Shinji Tanabe2, Junichi Abe2, 1University of Toronto, Canada, 2Mitsubishi Electric Corporation, Japan
EU-16 TUNABLE WIDEBAND MICROWAVE BAND-STOP AND BAND-PASS FILTERS USING YIG/GGG-GaAs LAYER STRUCTURES

EU-17 AN EFFICIENT NONLINEAR FREQUENCY MULTIPLICATION MECHANISM IN FERRITE LOADED WAVEGUIDE STRUCTURES
Martha Pardavi-Horvath', Galina S. Makeeva', Oleg A. Golovano', 1Department of Electrical and Computer Engineering, The George Washington University, United States of America, 2Penza State University, Russian Federation, 3Penza Military Institute of Artillery, Russian Federation

Apr. 7 Event Hall
8:30-12:00 Session EV
Biomagnetism and Applications I
K. Iramina
University of Tokyo

EV-01 THE REJECTION OF MAGNETIC NOISE FROM THE WIRE USING INDEPENDENT COMPONENT ANALYSIS FOR MAGNETOCARDIOGRAM
Koichiro Kobayashi', Yoshinori Uchikawa', Takayuki Simizu', Kenji Nakai', Masato Yoshizawa', 1Dept. of Welfare Engineering, Iwate University, Japan, 2Dept. of Electronics and Computer Engineering, Tokyo Denki University, Japan, 3Laboratory Medicine, Iwate Medical University, Japan, 4Frontier Materials and Functional Engineering, Iwate University, Japan

EV-02 COMPARISON OF CURRENT DISTRIBUTION BASED ON TISSUE IN-HOMOGENEITY IN MAGNETIC STIMULATION FOR TREATMENT OF URINARY INCONTINENCE
Masato Odagaki, Kazutaka Suga, Tadashi Sasaki, Hidehiro Hosaka, Graduate school of Science and Engineering, Tokyo Denki University, Japan

EV-03 QUANTITATIVE MEASUREMENT OF CREATINE CONTENT IN SKELETAL MUSCLE USING 1H-MRS
Takako Saotome', Masaki Sekino', Fumio Eto', Shoogo Ueno', 1Department of Biomedical Engineering , Graduate School of Medicine, University of Tokyo, Japan, 2Department of Rehabilitation Medicine, Graduate School of Medicine, University of Tokyo, Japan
EV-04 STRESS FIBER CONTRIBUTES TO RAT SCHWANN CELL ORIENTATION UNDER MAGNETIC FIELD
Yawara Eguchi, Shoogo Ueno, Dept. of Biomedical Engineering, Univ. of Tokyo, Japan

EV-05 MAPPING OF STRAIN IN BIOLOGICAL TISSUES USING MAGNETIC RESONANCE
Masaki Sekino, Akihisa Kaneko, Shoogo Ueno, Department of Biomedical Engineering, Graduate School of Medicine, University of Tokyo, Japan

EV-06 SHORT-TERM EPISODIC MEMORY ENCODING IN THE HUMAN BRAIN: A MAGNETOENCEPHALOGRAPHY AND ELECTROENCEPHALOGRAPHY STUDY.
Klevest Gjini, Takashi Maeno, Keiji Iramina, Shoogo Ueno, Dept. of Biomedical Engineering, University of Tokyo, Japan

EV-07 THE CURRENT SOURCE ESTIMATION OF THE EVENT RELATED FIELD DERIVED FROM VISUAL ATTENTION TO THE HEMI-SPACE.
Takashi Maeno1, Klevest Gjini2, Keiji Iramina1, Fumio Eto1, Shoogo Ueno1, 1Dept. of Biomedical Engineering, Graduate School of Medicine, University of Tokyo, Japan, 2Dept. of Rehabilitation, University of Tokyo Hospital, Japan

EV-08 MEASUREMNT OF AUDITORY EVOKED MAGNETIC FIELED OF MICE WITH HIGH SPATIAL RESOLUTION
Keiji Iramina, Shoogo Ueno, Dept. of Biomedical Engineering, Graduate School of Medicine, University of Tokyo, Japan

EV-09 BIODISTRIBUTION OF CHITOSAN BASED NANO MAGNETITE SUSPENSION FOR TARGETED HYPERTHERMIA
Dong-Hyun Kim1, Se Ho Lee1, Kwang-Mahn Kim1, Kyoung-Nam Kim1, In-Bo Shim1, Yong-Keun Lee1, 1Brain Korea 21 Project for Medical Science, Yonsei University, Republic of Korea, 2Department of Electronic Physics, Kookmin University, Republic of Korea

EV-10 THERMOTHERAPY WITH METALLIC STENT DEPEND ON EXTERNAL EXCITATION
Hodaka Shoji1, Yoshihiro Ozu1, Fumihiro Sato1, Hidetoshi Matsuki1, Yoshihiro Nihei1, Yoshimochi Kurokawa2, Tadakuni Sato1, 1Graduate School of Enng., Tohoku Univ., Japan, 2Graduate School of Medicine, Tohoku Univ., Japan, 3NEC Tokin Corporation, Japan
EV-11 THE EXAMINATION OF THE EXCITATION CONDITION FOR THE HIGH TEMPERATURE MAGNETIC HYPERTHERMIA
Yukiko Sawaya', Nobutake Suzuki', Fumihiro Sato', Hidetoshi Matsuki', Tadakuni Sato', 'Graduate School of Tohoku University, Japan, 'NEC Tokin Corporation, Japan

EV-12 EXAMINATION OF CIRCUIT PARAMETER FOR STABLE HIGH EFFICIENCY TETS FOR THE ARTIFICIAL HEARTS
Shinsuke Arai', Hidekazu Miura', Fumihiro Satou', Hidetoshi Matsuki', Tadakuni Sato', 'Dept. of Electrical and Communication Engineering, Tohoku University, Japan, 'NEC Tokin Corporation, Japan

EV-13 BASIC EVALUATION OF SIGNAL TRANSMISSION COIL IN TRANSCUTANEOUS MAGNETIC TELEMETRY SYSTEM FOR ARTIFICIAL HEART
Tetsuya Takura', Hirokazu Ishiai', Fumihiro Sato', Hidetoshi Matsuki', Tadakuni Sato', 'Dept. of Electrical and Communication Engineering, Tohoku University, Japan, 'NEC Tokin Corporation, Japan

April 7 Event Hall
8:30-12:00 Session EW
Biomagnetism and Applications II
K. Tsukada
Okayama University

EW-01 EVALUATE DAMAGE IN DNA MOLECULES RESULTING BY VERY-LOW-FREQUENCY MAGNETIC FIELDS USING BACTERIAL GENE EXPRESSION SYSTEM FOR MUTATION REPAIRING SYSTEM
Akira Igarashi', Koichiro Kobayashi', Hidetoshi Matsuki', Ginro Endo', Akira Haga', 'Faculty of Engineering, Iwate University, Japan, 'Graduate School of Engineering, Tohoku University, Japan, 'Faculty of Engineering, Tohoku Gakuen University, Japan

EW-02 EFFECTS ON BACTERIAL CELLS BY EXPOSURE TO VLF MAGNETIC FIELDS
Makiko Kakikawa', Satoshi Tachi', Shoushin Hashimoto', Masayoshi Iwahara', Sotoshi Yamada', 'Graduate School of Natural Science and Technology, Kanazawa University, Japan, 'Institute of Nature and Environmental Technology, Kanazawa University, Japan
EW-03 EFFECTS OF MAGNETIC STIMULATION ON TUMORS AND IMMUNE FUNCTIONS
Sachiko Yamaguchi, Mari Ogite-Ikeda, Masaki Sekino, Shoogo Ueno, Department of Biomedical Engineering, Graduate School of Medicine, University of Tokyo, Japan

EW-04 FIREFLY LUCIFERIN-LUCIFERASE LUMINESCENCE BY MILLIGAUSS ULTRA-LOW FREQUENCY PULSED MAGNETIC FIELD APPLIED PURE WATER WITHOUT ATP
Masanori Fukushima1, Takiji Kataoka2, Norikazu Sugiyama2, Kaneo Mohri1, ‘Translational Research Center, Kyoto University Hospital, Japan, ‘System Division, Hamamatsu Photonics K.K., Japan, ‘Graduate School of Electronics, Nagoya University, Japan

EW-05 POWER DEPOSITION INSIDE A PHANTOM FOR TESTING OF MRI HEATING
Arslan Amjad, R. Kamondetdacha, Alexander Kildishev, Sung-Min Park, John Nyenhuis, School of Electrical and Computer Engineering, Purdue University, United States of America

EW-06 THE EFFECTS OF REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION ON THE INJURED NEURONS IN RATS

EW-07 MEASUREMENTS OF THE SPIN-SPIN RELAXATION TIME AND THE DEGREE OF ORIENTATION OF MAGNETICALLY ORIENTED COLLAGEN GELS
Michihiro Takeuchi, Masaki Sekino, Norio Iriguchi, Shoogo Ueno, ‘Department of Biomedical Engineering Graduate School of Medicine University of Tokyo, Japan, ‘Center for Multimedia and Information Technologies University of Kamamoto, Japan

EW-08 AUTOMATIC COMPENSATION OF EARTH MAGNETIC FIELD AND CALIBRATION SYSTEM OF MAGNETOMETERS BELOW 1 mT
Po Gyu Park1, V. Ya. Shifrin2, Young Gyun Kim1, Mun-Seog Kim1, Kyu-Tae Kim1, ‘Electromagnetic Metrology, Korean Research Institute of Standards and Science (KRISS), Republic of Korea, ‘Magnetic Measurements, Mendeleyev Institute for Metrology (VNIM), Russian Federation

EW-09 DEVELOPMENT OF REALTIME AND HIGHLY ACCURATE WIRELESS MOTION CAPTURE SYSTEM UTILIZING SOFT FERRITE MAGNETIC CORE
Shuichiro Hashi1, Yuuki Tokunaga1, Shin Yabukami2, Masaharu Toyoda1, Kazushi Ishiyama1, Yasuo Okazaki1, Ken-ichi Arai2, ‘Dept. of Materials Science & Technology, Gifu University, Japan, ‘Research Institute of Electrical Communication, Tohoku University, Japan
EW-10 A NOVEL PORTABLE MATERIAL CHARACTERIZATION SYSTEM USING AC MAGNETIZATION PROBE
Hisashi Endo1, Mitsuharu Shiwa2, Toshihiko Abe1, Tetsuya Uchimoto1, Toshiyuki Takagi1, Institute of Fluid Science, Tohoku University, Japan, 2JAPEIC, Japan

EW-11 ANALYTICAL APPROACH FOR FAST COMPUTATION OF MAGNETIC FLUX LEAKAGE DUE TO SURFACE DEFECTS
Yevgen Melikhov, Seong-Jae Lee, David C. Jiles, Rick Lopez1, Lisa Brasche, Center for Aviation Systems Reliability, Iowa State University, United States of America

EW-12 MAGNETIC CHARACTERISTICS OF ARCHITECTURAL MATERIALS FOR NON-MAGNETIC BUILDINGS
Kazuo Kato1, Keita Yamazaki1, Koichiro Kobayashi2, Akihiko Chiba1, Research and Development Institute, Takenaka Corporation, Japan, Dept. of Welfare Engineering, Iwate University, Japan

EW-13 GENERATION AND CONFINEMENT OF UNIFORM MAGNETIC FIELDS WITH DISTRIBUTIONS OF SURFACE CURRENTS
Manlio G. Abele, New York University, United States of America

Apr. 7 Event Hall
8:30-12:00 Session EX
Domains & Interdisciplinary Topics
H. Miyajima
Keio University

EX-01 BULK DOMAIN ANALYSIS IN IRON (111) CRYSTALS
Rudolf Schaefer, Sabine Schinnerling, Inst. for Metallic Materials, IFW Dresden, Germany

EX-02 DOMAIN EVOLUTION IN PERMALLOY STRUCTURES UNDER THE INFLUENCE OF MAGNETIC FIELD BY CURRENT APPLICATION
Vivian Ng, Kyaw Oo Aung, Adekunle Olusola Adeyeye, Information Storage Materials Laboratory, Electrical and Computer Engineering Department, National University of Singapore, Singapore

EX-03 SURFACE MAGNETIC RIPPLES INDUCED BY A LOCAL STRAY FIELD FROM A SCANNING MAGNETIC TIP
Hsin-I Wu1, Ji-Shiuan Chen1, Yaun-Ron Ma1, Yuang Liou2, Yeong-Der Yao2, Dept. Physics, National Dong Hwa University, Taiwan, Institute of Physics, Academia Sinica, Taiwan
EX-04 LOW-FFIELD MAGNETIC EFFECT IN Pr$_{1-x}$Pb$_x$MnO$_3$ (0.1<x<0.5) PEROVSKITES
Manh-Huong Phan$^1$, Seong-Cho Yu$^1$, Nguyen Duc Tho$^2$, Nguyen Chau$^3$, 1Department of Aerospace Engineering, Bristol University, United Kingdom, 2Department of Physics, Chungbuk National University, Republic of Korea, 3Center for Materials Science, National University of Hanoi, Hanoi, Viet Nam

EX-05 A NEW SIMULTANEOUS METHOD OF HALL AND MAGNETORESISTANCE MEASUREMENTS AT LOW AND HIGH MAGNETIC FIELD ON LIQUID AND AMORPHOUS METALS, AND SEMICONDUCTORS
Masami Ogita$^1$, Takanori Ito$^1$, Mohd Hafezzullah$^1$, Hiroyuki Nonoyama$^1$, Masaaki Isai$^1$, Iwao Mogi$^2$, Satoshi Awaji$^2$, Kuniyoshi Yokoo$^3$, 1Fac. of Eng., Shizuoka University, Japan, 2IMR, Tohoku University, Japan, 3RIEC, Tohoku University, Japan

EX-06 NUMERICAL MODELING FOR ACTIVE MAGNETIC REGENERATIVE REFRIGERATION
Farid Allab, Afef Kedous-Lebouc, Jean Marc Fournier, Jean Paul Yonnet, Laboratoire d’Electrotechnique de Grenoble, France

EX-07 MAGNETIZATION OF COUPLED AND NON-COUPLED SUPERCONDUCTING FILAMENTS WITH DEPENDENCE OF CURRENT DENSITY ON APPLIED FIELD
Thitipong Satiramatekul, Frederic Bouillault, LGEP, CNRS UMR 8507, SUPELEC, Paris 6 and Paris 11 Universities, France

EX-08 MAGNETORHEOLOGICAL CHARACTERIZATION OF CARBONYL IRON-ORGANOCLAY SUSPENSIONS
Sung Tack Lim$^1$, Hyoun Jung Choi$^1$, Myung S. Jhon$^1$, 1Dept. of Polymer Sci. and Eng., Inha University, Republic of Korea, 2Dept. of Chem. Eng., Carnegie Mellon University, United States of America

EX-09 HYSTERESIS IN JOSEPHSON CURRENT BY MAGNETIC FLUX QUANTUM
Norimichi Watanabe, Akiyoshi Nakayama, Susumu Abe, Kunimori Aizawa, Faculty of Engineering, Kanagawa University, Japan

EX-10 OBSERVATION OF CORRELATION BETWEEN H-R LOOP AND DOMAIN SWITCHING OF MTJ CELLS EMPLOYING MAGNETIC FORCE MICROSCOPE(MFM)
Jin Hee Heo$^1$, Seung Bae Park$^1$, Taewon Kim$^1$, Il Sub Chung$^1$, 1School of Information and Communications Engineering, Republic of Korea, 2Samsung Advanced Institute of Technology, Republic of Korea
EX-11 MAGNETOCALORIC PROPERTIES OF MnSn₅₋ₓGaₓ ALLOYS
F. Q. Zhao¹, W. Dagula², O. Tegus², E. Bruck², K. H. J. Buschow², ¹Department of Physics, Inner Mongolia Normal University, China, ²Van der Waals-Zeeman Instituut, Universiteit van Amsterdam, Netherlands

Apr. 7 Reception Hall

Session FA

Physics of Spin Injection
J. Inoue
Nagoya University

FA-01 SPIN WAVE INSTABILITY BY SPIN-POLARIZED CURRENT INJECTION
14:30
Yoshinobu Nakatanai¹, Andre Thiaville², Jacques Miltat², ¹Dept. of Computer-Science, University of Electro-Communications, Japan, ²CNRS & Universite Paris-sud, Lab. Physique des solides, France

FA-02 withdrawn
14:45

FA-03 SPIN INJECTION FROM THE HEUSLER ALLOY Co₂MnGe INTO Al₀.₁Ga₀.₉As/GaAs HETEROSTRUCTURES
15:00
Xu Ying Dong¹, Xiao Hua Lou¹, Christopher Adelmann¹, Jonathan Strand², Amanda K. Petford-Long¹, Paul A. Crowell², Chris J. Palmstrom¹, ¹Dept. of Chemical Engineering and Materials Science, University of Minnesota, United States of America, ²School of Physics and Astronomy, University of Minnesota, United States of America, ³Dept. of Materials, University of Oxford, United Kingdom

FA-04 ELECTRODEPOSITION OF Ni-Si SCHOTTKY BARRIERS
15:15
Michail E. Kiziroglou¹, Alexander A. Zhukov², Mamdouh Abdelsalam¹, Xiao Li Li¹, Peter A. J. de Groot¹, Philip N. Bartlett¹, Cornelis H. de Groot¹, ¹School of Electronics and Computer Science, University of Southampton, Southampton, United Kingdom, ²School of Physics and Astronomy, University of Southampton, Southampton, United Kingdom, ³School of Chemistry, University of Southampton, Southampton, United Kingdom
FA-05 PROBING SPIN-POLARIZED TUNNELING AT HIGH 15:30 BIAS AND TEMPERATURE WITH A MAGNETIC TUNNEL TRANSISTOR
Byong Guk Park, Tamalika Banerjee, Byoung-Chul Min, Johnny G.M. Sanderink, Cock Lodder, Ronnie Jansen, SMI, MESA Institute for Nanotechnology, University of Twente, Netherlands

FA-06 SPIN-FILTERING OF NON-EQUILIBRIUM HOLES IN 15:45 A SEMICONDUCTOR-FERROMAGNET HYBRID STRUCTURE
E. Haq, T. Banerjee, M. H. Siekman, J. C. Lodder, R. Jansen, MESA Institute for Nanotechnology, University of Twente, Netherlands

FA-07 FABRICATION OF THREE TERMINAL DEVICES 16:00 USING DOUBLE BARRIER MAGNETIC TUNNEL JUNCTIONS
Taro Nagahama¹, Yoshishige Suzuki¹, Shinji Yuasa¹, 'National Institute of Advanced industrial Science and Technology (AIST), Japan, 'Graduate School of Engineering Science, Osaka University, Japan

FA-08 SUB-MICRO SIZE SPIN-VALVE TRANSISTOR 16:15
Ying-Wen Huang¹, Chi-Kuen Lo², Yeong-Der Yao³, Der-Ray Huang¹, Jin-Hua Huang¹, 'Department of Material science & Engineering, National Tsing Hua Univ., Taiwan, 'Lab. For spintronics, OES, Industrial Technology Research Institute, Taiwan, 'Institute of Physics, Academia Sinica, Taipei, Taiwan, 'OES, Industrial Technology Research Institute, Hsin Chu, Taiwan

FA-09 THE OPTIMUM MAGNETO-CURRENT OF 16:30 COLLECTOR IN A SILICON BASE SPIN VALVE TRANSISTOR
Lan-Chin Hsieh¹, Ying-Wen Huang², Chi-Kuen Lo², Yeong-Der Yao², Der Ray Huang¹, 'Lab. For spintronics, OES, Industrial Technology Research Institute, Taiwan, 'Department of Material science & Engineering, National Tsing Hua Univ, Taiwan, 'Institute of Physics, Academia Sinica, Taiwan

FA-10 SINGLE SPIN-FET FOR PROGRAMMABLE LOGIC 16:45 GATES
Tan Seng Ghee¹, Mansoor B.A. Jalil², Bala Kumar², Ghee Hwee Lai², Teo Kie Leong³, Thomas Liew³, Chong Tow Chong³, 'Data Storage Institute, Singapore, 'ECE Dept., National University of Singapore, Singapore

FA-11 SPIN-DEPENDENT EFFECTS IN ULTRATHIN 17:00 TRILAYER M/N/M FILM STRUCTURES
Takao Suzuki¹, Yevgen Pogoryelov², 'ISML, Toyota Technological Institute, Japan, 'Institute for Magnetism, NAS of Ukraine, Ukraine
FA-12 1f/ NOISE IN SPIN TRANSISTORS
17:15 Y. T. Hwang1, M. C. Lin2, Y. W. Huang2, C. K. Lo2, Y. D. Yao1, H. L. Huang3, *Opto-Electronics & Systems Labs, Industrial Technology Research Institute, Hsinchu, Taiwan, 2Dep. of Photonics & Institute of Electro-Optical Engineering, National ChiaoTung University, Hsinchu, Taiwan, 3Dep. of Physics, National Taiwan University, Taipei, Taiwan

Apr. 7 Room 141/142
Session FB
Sensors, Mostly CPP I
D. Wang
Non Volatile Electronics

FB-01 NOVEL SYNTHETIC FERRIMAGNET PINNED LAYERS WITH SPIN BLOCKING LAYERS FOR METALLIC CPP SPIN VALVES REQUIRING HIGH PINNING-FIELD AND OUTPUT
Keiichi Nagasaka, Hirotaka Oshima, Arata Jogo, Takahiro Ibushuki, Yutaka Shimizu, Atsushi Tanaka, Advanced Magnetic Recording Laboratory, Fujitsu Laboratories, Ltd., Japan

FB-02 NARROW TRACK WIDTH CPP SPIN-VALVE GMR HEADS UTILIZING HALF-METALLICITY MATERIALS
Masamichi Saito, Naoya Hasegawa, Yosuke Ide, Tomohiro Yamashita, Yasuo Hayakawa, Yoshihiro Nishiyama, Masahiko Ishizone, Shuji Yanagi, Kazumasa Nishimura, Akira Takahashi, ALPS Electric. Co., Ltd., Magnetic Devices Division, Japan

FB-03 CPP-GMR WITH OXIDIZED Co-Fe LAYER ON VARIOUS LOWER-ELECTRODE MATERIALS
Katsumi Hoshino, Hiroyuki Hoshiya, Hiroyuki Katada, Nobuo Yoshida, Katsuro Watanabe, Kazuhiro Nakamoto, Storage Research Center, Hitachi Ltd., Japan

*FB-04 ANGULAR DEPENDENCE OF SPIN-TORQUE CRITICAL CURRENTS FOR CPP-GMR READ HEADS
Neil Smith, Jordan A. Katine, Matthew J. Carey, Jeff R. Childress, Hitachi Global Storage Technologies, United States of America

*FB-05 CoFeB/MgO/CoFeB MAGNETIC TUNNEL JUNCTIONS WITH HIGH TMR RATIO AND LOW JUNCTION RESISTANCE
Koji Tsunekawa1, Motonobu Nagai1, Hiroki Maehara1, Shinji Yamagata1, David D. Djayaprawira1, Naoki Watanabe1, Shinji Yuasa1, Yoshishige Suzuki1, Koji Ando1, *Anelva corporation, Japan, *National Institute of Advanced Industrial Science and Technology (AIST), Japan, *Graduate School of Engineering Science, Osaka University, Japan
FB-06  LOW-FREQUENCY NOISE ANALYSIS OF TMR HEADS
Shunji Saruki, Hiroshi Kiyono, Kazumasa Fukuda, Tetsuya Kuwashima, Nozomu Hachisuka, Kenji Inage, Takeo Kagami, Takumi Uesugi, Satoshi Miura, Kazuhiro Barada, Head Business Group, TDK Corporation, Japan

FB-07  withdrawn

FB-08  CURRENT INDUCED NOISE IN CPP AND CCP/CPP SPIN VALVE READ HEADS
Jimmy Zhu, Xiao Chun Zhu, Data Storage Systems Center, Carnegie Mellon University, United States of America

FB-09  AN MR FILM HEAD MINIMUM FEATURE PERSPECTIVE ON FUTURE AREAL DENSITY GROWTH RATES
Robert E. Fontana Jr., San Jose Research Center, Hitachi GST, United States of America

FB-10  ROOM TEMPERATURE NOL EXCHANGE BIASING SUPERIMPOSED ON AFM EXCHANGE BIAS IN SPECULAR SPIN-VALUES
Masaaki Doi1, Masato Izumi2, Hiroaki Endo1, Hiromi Niu Fuke2, Hitoshi Iwasaki1, Naoya Hasegawa1, Masashi Sahashi1, Dept. Electronic Engineering, Tohoku University, Japan, 1Dept. Corporate R&D, Toshiba Corporation, Japan, 2ALPS Electric Corporation, Japan

Apr. 7  Room 234
Session FC
Biomagnetism

Y. Uchikawa
Tokyo Denki University

J.A. Nyenhuis
School of Electrical and Computer Engineering, Purdue University

*FC-01  EVENT-RELATED TIME-FREQUENCY ANALYSIS OF THE SPONTANEOUS MEG ACTIVITIES DURING 3-D OBJECT PERCEPTION
Sunao Iwaki1, Giorgio Bonmassar2, John W. Belliveau2, 1National Institute of Advanced Industrial Science and Technology, Japan, 2NMR Center, Massachusetts General Hospital, United States of America
FC-02 MAGNETENCEPHALOGRAPHIC MEASUREMENT  
15:00 DURING TWO TYPES OF MENTAL ROTATIONS OF THREE-DIMENSIONAL OBJECTS  
Hiroaki Kawamichi¹, Hiroaki Kawamichi², Yoshiaki Kikuchi³, Shogo Ueno¹, 'Graduate School of Medicine, University of Tokyo, Japan, ²Systems Development Laboratory, Hitachi Ltd., Japan, ³Tokyo Metropolitan University of Health Sciences, Japan

FC-03 NEUROMAGNETIC RESPONSE OF BILATERAL  
15:15 SOMATOSENSORY AREA TO STIMULUS REPETITION FREQUENCIES WITH A 3-D MEG MEASUREMENT  
Yoshinori Uchikawa, Bong-Soo Kim, Dept. of Electronic and Computer Engineering, Tokyo Denki University, Japan

FC-04 SPATIAL ANALYSIS OF THE THREE DIMENSIONAL  
15:30 COMPONENTS OF A MAGNETOCARDIOGRAM  
Keiji Tsukada¹, Toshihiko Kiwa¹, Kuniomi Ogata¹, Tsuyoshi Miyashita¹, Akihiko Kandori¹, 'Okayama University, Japan, ¹Central Research Lab, Hitachi Ltd., Japan

FC-05 MAGNETIC NOISE DUE TO ENVIRONMENTAL  
15:45 VIBRATION IN MAGNETICALLY-SHIELDED ROOM  
Takayuki Abe¹, Keita Yamazaki¹, Norio Fujimaki², Satoshi Miyashita³, Koichiro Kobayashi³, Koji Fujitaka³, Kazuhiro Muramatsu³, 'Research & Development Institute, Takenaka Corporation, Japan, ¹National Institute of Information and Communications Technology, Japan, ²Dept. of Welfare Eng., Iwate University, Japan, ³Dept. of Electrical and Electronic Eng., Okayama University, Japan

FC-06 MRI SAFETY: RF-INDUCED HEATING NEAR  
16:00 STRAIGHT WIRES  
John A. Nyenhuis, Sung-Min Park, Rungkiet Kamondetdacha, Arslan Amjad, ECE Purdue University, United States of America

FC-07 MAGNETIC RESONANCE IMAGING OF  
16:15 ELECTRICAL CONDUCTIVITY IN THE HUMAN BRAIN  
Masaki Sekino¹, Yusuke Inoue¹, Shogo Ueno¹, 'Department of Biomedical Engineering, Graduate School of Medicine, University of Tokyo, Japan, ¹Department of Radiology, Institute of Medical Science, University of Tokyo, Japan
FC-08  AN ELECTROMAGNETIC HEARING AID USING 16:30 COILS TO VIBRATE THE OSSICLES: EVALUATION OF EXCITATION FORCE AND DISTORTION
Shinji Hamanishi, Takuji Koike, Hidetoshi Matsuki, Toshimitsu Kobayashi, Hiroshi Wada, 'Dept. of Bioengineering and Robotics, Tohoku University, Japan, 'Dept. of Mechanical Engineering and Intelligent Systems, The University of Electro-Communications, Japan, 'Dept. of Electrical and Communication Engineering, Tohoku University, Japan, 'Dept. of Otorhinolaryngology - Head and Neck Surgery, Tohoku University, Japan

FC-09  NOVEL SUPERPARAMAGNETIC CORE-SHELL 16:45 NANOPARTICLES FOR MAGNETIC TARGETED DRUG DELIVERY AND HYPERTHERMERA TREATMENT
Palash Gangopadhyay, Thierry Verbiest, Sebastien Gallet, Edith Franz, Andre Persoons, Laboratory for Molecular and Nano Materials, Department of Chemistry, Katholieke University of Leuven, Belgium

FC-10  MAGNETIC ACTUATOR FOR CAPSULE ENDSCOPE 17:00 NAVIGATION SYSTEM
Atsushi Chiba, Masahiko Sendoh, Kazushi Ishiyama, Ken-ichi Arai, RIEC, Tohoku University, Japan

FC-11  FOCUSED MAGNETIC NAVIGATION USING 17:15 OPTIMIZED MAGNETS FOR MEDICAL THERAPIES
Francis M. Creighton, Rogers C Ritter, Peter Werp, Stereotaxis Inc, United States of America

Apr. 7 Room 224

Session FD
Magnetic Sensors II
L.V. Panina
School of Computing, Communication and Electronics, University of Plymouth

FD-01  A NEW MAGNETORESISTIVE ANGULAR SENSOR 14:30 WITH ULTRA-LOW OFFSET
Stefan Butzmann, Reinhard Buchhold, 'Institute for Electronic Circuits and Measurement, Ruhr-Universitaet Bochum, Germany, 'Philips Semiconductors GmbH, Hamburg, Germany

FD-02  ANGLE SENSOR USING SPIN VALVE WITH SAF 14:45 STRUCTURE
Dexin Wang, Jay Brown, Tim Hazelton, Jim M. Daughton, NVE Corporation, United States of America
FD-03 LARGE MAGNETORESISTANCE AT ROOM
15:00 TEMPERATURE IN SEMICONDUCTING POLYMER
SANDWICH DEVICES
Markus Wohlgenannt1, Thomas L. Francis2, Omer Mermer3, Govi Veeraraghavan1, 1Department of Physics and Astronomy, The University of Iowa, United States of America, 2Department of Electrical and Computer Engineering, The University of Iowa, United States of America

FD-04 MODELING OF GMR LINEAR ISOLATOR
15:15 UTILIZING SPIN VALVES
Seung-young Park, Soonchul Jo, School of Electronic Engineering, Soongsil University, Republic of Korea

FD-05 GEOMETRY OPTIMIZATION OF TMR CURRENT
15:30 SENSORS FOR ON-CHIP IC TESTING
Kim Le Phan, Hans Boeve, Frederik Vanhelmont, Ton Ikkink, Philips Research, Royal Philips Electronics, Netherlands

FD-06 MAGNETOIMPEDANCE (MI) IN NARROW FeNi/Au
15:45 MULTILAYER FILM SYSTEMS
David de Cos1, Nicholas Fry2, Larissa V. Panina2, Inaki Orue1, Alfredo Garcia-Arribas1, Jose Manuel Barandiaran1, 1Departamento de Electricidad y Electronica, Universidad del Pais Vasco, Spain, 2School of Computing, Communications and Electronics, University of Plymouth, United Kingdom

FD-07 HIGH FREQUENCY MAGNETIC FIELD DETECTION
16:00 BY UHF CARRIER TYPE THIN FILM SENSOR
Kenji Tan1, Masahiro Yamaguchi1, Kiyoshi Yamakawa1, 1Akita Research Institute of Advanced Technology, Japan, 2Dept. of Electrical and Communication Engineering, Tohoku University, Japan

FD-08 MICROSCOPIC MAGNETIC AND HIGH FREQUENCY
16:15 PROPERTIES OF A STRESS SENSOR USING FeCoBSi
MAGNETOSTRICTIVE THIN FILMS
Michael Frommberger1, Stefan Glasmachers1, Clemens Schmutz1, Jeffrey McCord1, Eckhard Quandt1, 1smart materials group, research center caesar, Bonn, Germany, 2Institute for metallic materials, Leibniz Institute IFW Dresden, Germany

FD-09 DEVELOPMENT OF A JAW-POSITION MEASURING
16:30 SYSTEM USING MAGNETO-IMPEDANCE (MI) SENSOR
Ryuji Masaki1, Katsuhiko Tsuchida1, Hitoshi Aoyama1, Yoshinobu Honkura1, Toyohiko Hayashi1, Yoshihito Fuji1, Shoji Kohno1, 1Aichi Steel Corporation, Japan, 2Department of Biocybernetics, Faculty of Engineering, Niigata University, Japan, 3Division of Removable Prosthodontics, Graduate School of Medical and Dental Sciences, Niigata University, Japan
FD-10 DOUBLE-CORE GMI CURRENT SENSOR  
16:45 Michal Malatek¹, Pavel Ripka¹, Ludek Kraus², 'Faculty of Electrical Eng., Czech Technical University in Prague, Czech Republic, 'Institute of Physics,Czech Academy of Science, Czech Republic

FD-11 EFFECT OF TENSILE STRESSES ON GMI OF Co-RICH AMORPHOUS MICROWIRES.  
17:00 Carlos Garcia¹, Arcady Zhukov¹, Juan M. Blanco¹, Valentina Zhukova², Mihail Ipatov³, Julain Gonzalez³, 'Dpto de Fisica Aplicada I, EUPDS, UPV/EHU, Plaza Europa 1, San Sebastian, Spain, 'TAMag Iberica” S.L., Parque Tecnologico de Miramon, Spain, 'Dpto de Fisica de Materiales, Fac. Quimica, UPV/EHU, San Sebastian, 1072, 20080, Spain

FD-12 A NEW FREQUENCY-MODULATION-TYPE MI  
17:15 SENSOR  
Z.M. Wu¹, X.L. Yang¹, J.X. Yang¹, Z.J. Zhao¹, L.P. Liu¹, 'Dept. of Physics, East China Normal University, China

Apr. 7 Room 131/132  
Session FE  
Intermetallic and Other Hard Magnetic Materials  
G.C. Hadjipanayis  
University of Delaware  
W. C. Chang  
National Chung Cheng University

FE-01 A COMPARISON OF HIGHLY COERCIVE FePt FILMS PREPARED BY PULSED LASER DEPOSITION AND ELECTRODEPOSITION  
14:30 Sebastian Fahler, Martin Weisheit, Karin Leistner, Heike Schlorb, Jurgen Thomas, Ludwig Schultz, IFW Dresden, Germany

FE-02 FABRICATION OF L1₀-FePt THIN FILMS BY LAPI  
14:45 Kyohei Aimuta¹, Kazuhiro Nishimura¹, Shuichiro Hashi², Mitsuteru Inoue¹, 'Dept. of Electrical and Electronic Eng., Toyohashi University of Technology, Japan, 'Dept. of Materials Science and Technology, Gifu University, Japan

FE-03 HIGH COERCIVITY IN FePt-BASED BULK MAGNETS  
15:00 Raghavan Gopalan, Andreas A. Kuendig, Masato Ohnuma, Kazuhiro Hono, National Institute for Materials Science, Japan
FE-04 ELECTRODEPOSITED Co-Ni-Re-W-P THICK ARRAY
15:15 OF HIGH VERTICAL MAGNETIC ANISOTROPY
Ng Wei Beng¹, Akio Takada², Kanzo Okada¹, ‘Singapore Research Laboratory, Sony Electronics (Singapore) Pte. Ltd., Singapore, ¹MR Device Department, Magnetic Products Division, Device Solutions Company, Micro Systems and Network Company, Sony Corporation, Japan

FE-05 MAGNETIC AND STRUCTURAL PROPERTIES OF La-
15:30 SUBSTITUTED FERRITES
Michaela Kuepferling, Roland Groessinger, Guenter Wiesinger, Martin Pieper, Michael Reissner, Dept. of Solid State Physics, Vienna University of Technology, Austria

FE-06 HIGH-COERCIVITY Co-FERRITE THIN FILMS ON
15:45 SiO₂ (100) SUBSTRATE PREPARED BY SPUTTERING AND PLD
Jian Hua Yin, Jun Ding, Bing Hai Liu, Yong Chao Wang, Jia Bao Yi, Department of Materials Science, National University of Singapore, Singapore

FE-07 HIGH REMANENCE, EPITAXIAL SmCo₁₅ THIN FILMS
16:00 A. Singh¹, V. Neu², R. Tamm², S. Fachler¹, W. Skrotzki², L. Schultz¹, B. Holzapfel¹, ‘IFW Dresden, Germany, ²Institut fuer Kristallographie und Festkoerperphysik, Germany

FE-08 BULK MAGNETIC HARDENING IN Cu-ADDED
16:15 (SmCo₁₅₋ₓ(Sm₂Co₁₇)ₓ CAST ALLOYS
Alexander Gabay, Yong Zhang, Melania Marinescu, Kyriakos Christodoulides, George C. Hadjipanayis, Dept. of Physics and Astronomy, University of Delaware, United States of America

FE-09 EFFECT OF Cu SUBSTITUTION ON THE
16:30 STRUCTURAL AND MAGNETIC PROPERTIES OF DyCo₁−xCu.
Debjan Banerjee¹, K.G. Suresh¹, A.K. Nigam², ‘Department Of Physics, IIT Bombay, Mumbai, India, ²Tata Institute Of Fundamental Research, Mumbai, India

FE-10 Nd-Fe-B THICK FILMS PREPARED BY SCREEN
16:45 PRINTING
Thanasssis K. Speliotis¹, Dimitris Niarchos¹, Polycarpous Falaras¹, Dimitris Tsouklidis¹, John G. Pepin¹, ‘NCSR “Demokritos” Institute of Materials Science, Greece, ²DuPont Electronic Technologies, Research Triangle Park North Carolina, United States of America

FE-11 HEAT RESISTANT PLASTIC MAGNETS
17:00 Michiya Kume, Masaki Hayashi, Muneco Yamamoto, Kuniyasu Kawamura, Kohei Ihara, Nichia Corporation, Japan
FE-12 CORROSION KINETICS OF SPARK PLASMA
17:15 SINTERING Nd-Fe-B MAGNETS IN DIFFERENT ELECTROLYTES
Ming Yue, School of Materials Science, Beijing University of Technology, China

Apr. 7 Room 133/134
Session FF
Clusters and Particles IV
J.C. Lodder
SMI, MESA, University of Twente
O. Kitakami
Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

FF-01 INFLUENCE OF THE INTERFACE ON THE MAGNETIC MOMENT OF Co CLUSTERS IN A Cu MATRIX
14:30 Ana Garcia Prieto1, M. Luisa Fdez-Gubieda1, Jesus Chaboy2, M. Angeles Laguna-Marco1, Takayuki Muro1, Tetsuya Nakamura1, Departamento de Electricidad y Electronica, Universidad del Pais Vasco, Spain, ICMA, CSIC-Universidad de Zaragoza, Spain, CITIMAC, Universidad de Cantabria, Spain, JASRI-SPring-8, Japan

FF-02 LARGE COERCIVITY IN Mn3O4 NANOCRYSTALLITES
14:45 Ping Zhan Si1, Ekkes Bruck2, Zhi Dong Zhang1, Chul Jin Choi3, Wei Shan Zhang1, O. Tegus5, K. H. J. Buschow2, Inst. of Metal Res. Chinese Acad. of Sci., China, Van der Waals-Zeeman Inst. Univ. of Amsterdam, Netherlands, Korea Inst. of Machinery and Materials, Republic of Korea

FF-03 MAGNETIC STRUCTURE AND ANISOTROPY OF FCC-IRON NANOCLUSTERS TRAPPED IN CARBON NANOTUBE
15:00 Mutsuhiro Shima1, Saroj K. Nayak1, Pulickel M. Ajayan1, Saburo Nasu2, Dept. of Materials Science and Engineering, Rensselaer Polytechnic Institute, United States of America, Dept. of Physical Science, Osaka University, Japan

FF-04 TETRAHEDRAL MAGNETIC CLUSTER EMBEDDED IN METALLIC MATRIX: ELECTRON CORRELATION EFFECTS
15:15 Eduardo Cruz-Silva, Emilio Munoz-Sandoval, Mauricio Terrones, Florentino Lopez-Urias, Instituto Potosino de Investigacion Cientifica y Tecnologica A.C., Mexico
FF-05  AB INITIO CALCULATION FOR MAGNETISM OF Pd
15:30  NANOPARTICLES
Masahiko Nawate1, Hiroshi Tanaka1, Norihiko Nishimura1, Shigeo Honda1, 'Dept. of Electronics and Control Systems, Shimane University, Japan, 2Dept. of Material Science, Shimane University, Japan

FF-06  FABRICATION OF CORE-SHELL TYPE MAGNETIC
15:45  NANOPARTICLES BY A NANOCLUSTER DEPOSITION
TECHNIQUE
Jian Min Bai, Jian-Ping Wang, MINT Center & Department of Electrical and Computer Engineering, University of Minnesota, United States of America

FF-07  EXCHANGE ANISOTROPY IN Fe-MnF2
16:00  NANOGRAIN FILMS
Takao Furubayashi, Hiroaki Mamiya, National Institute for Materials Science, Japan

FF-08  CONTROL AND SELECTION OF THE MAGNETIC
16:15  ANISOTROPY OF COBALT NANOWIRES
Michael Darques1, Armando Encinas2, Luc Piraux1, Pascale Guillemaud1, Adriana Popa1, Ursula Ebels1, 'Universite Catholique de Louvain, Unite PCPM, Belgium, 2Instituto de Fisica, Universidad autonoma de San Luis Potosi, Mexico, 3CEA-DRFMC, France

FF-09  DEVELOPMENT OF COERCIVITY IN Fe(Pt0.7Ni0.3)/C
16:30  MULTILAYERS
M. Zhoud1, M. J. Bonder1, Y. Huang1, Y. Zhang1, G. C. Hadjipanayis1, D. Weller2, 'Dept. of Physics, Univ of Delaware, United States of America, 2Seagate Technology, United States of America

FF-10  MAGNETORESISTANCE ANALYSIS OF NANOSCALE
16:45  MAGNETIC CORRELATION IN COSPUTTERED
Fe(nnm)-Ag FILMS
Paolo Allia1, Marco Coisson2, Paola Tiberto2, Franco Vinai2, Diego Biseri1, Federico Spizzo1, 'Dept. of Physics, Politecnico di Torino, Italy, 2Materials Dept., IEN Galileo Ferraris, Italy, 3Dept. of Physics, Universita’ di Ferrara, Italy

FF-11  ANOMALOUS MAGNETIC BEHAVIOR IN Ni-Ag
17:00  NANOPARTICLES
Aparna Roy1, Sankar Ram2, Srinivas1, Chandrasekhar-Rao Turumella1, 'Dept. of Physics, Indian Institute of Technology, Kharagpur, India, 2Material Science Center, Indian Institute of Technology, Kharagpur, India, 3TPPED, Bhabha Atomic Research Center, Bombay, India

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EFFECT OF PARTICLE SIZE ON ELECTRICAL AND MAGNETOTRANSPORT PROPERTIES OF MANGANITE NANOPARTICLES

C. Krishnamoorthy, R. Nirmala, K. Sethupathi, V. Sankaranarayanan, S. K. Malik, *Dept. of Physics, Indian Institute of Technology Madras, India, *Dept. of Condensed Matter Physics and Material Science, Tata Institute of Fundamental Research, India

Apr. 7 Event Hall
13:30-17:00 Session FP
Perpendicular Recording Media II (SUL)

N. Honda
Akita Research Institute of Advanced Technology

EFFECT OF INTERFACE ROUGHNESS ON EXCHANGE COUPLING IN SYNTHETIC ANTIFERROMAGNETIC MULTILAYERS
Mrugesh Desai, Arkajyoti Misra, William D. Doyle, *MINT Center, University of Alabama, United States of America, *Department of ECE, University of Minnesota, United States of America

Fe-Co-B SOFT MAGNETIC UNDERLAYER WITH RADially ORIented HIGH ANISOTROPY FIELD FOR PERPENDICULAR MAGNETIC RECORDING DISK
Sukefumi Ito, Shigeki Nakagawa, Dept. of Physical Electronics, Tokyo Institute of Technology, Japan

CONTROL OF IN-PLANE MAGNETIC ANISOTROPY FIELD OF Fe-Co-B/[Ni-Fe/Si] ON DISK SUBSTRATE
Sok Hyun Kong, Kyung Hwan Kim, Shigeki Nakagawa, *Venture Business Laboratory, Kagoshima University, Japan, *Dept. of Electric and Information Engineering, Kyungwon University, Republic of Korea, *Dept. of Physical Electronics, Tokyo Institute of Technology, Japan

NOBLE DEVELOPMENT OF Al/NiP SUBSTRATE WITH SOFT MAGNETIC UNDERLAYER: FORMATION OF NANO-CRYSTALLINE AND (111) ORIENTATION OF PLATED NiFe FILM
FP-05 EFFECT OF FILM THICKNESS OF ELECTROLESSLY DEPOSITED CoNiFeB SOFT MAGNETIC UNDERLAYER ON ITS MAGNETIC PROPERTIES
Atsushi Sugiyama¹, Ken Adachi¹, Mariko Sakagami¹, Masahiro Yoshino¹, Jun Kawaji¹, Toru Asahi¹, Toshihiro Tsumori¹, Tetsuya Osaka¹, 'Graduate School of Science and Engineering, Waseda University, Japan, 2Shin-Etsu Chemical Co., Ltd., Japan

FP-06 EFFECTS OF RESIDUAL STRESS AND SURFACE MORPHOLOGY OF SUL ON MAGNETIC PROPERTIES AND GRAIN ISOLATION IN CoCrPtO PERPENDICULAR RECORDING MEDIA
Dac Hoon Hong, Sang Hwan Park, Taek Dong Lee, Dept. of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Republic of Korea

FP-07 THE ROLE OF SOFT UNDERLAYER PERMEABILITY IN WIDE AREA TRACK ERASURE IN HIGH-DENSITY PERPENDICULAR RECORDING

FP-08 INFLUENCE OF MEDIA BACKGROUND ON WRITE/READ PERFORMANCE IN PERPENDICULAR MEDIA WITH AN ANTIFERROMAGNETIC LAYER
Hwan-Soo Lee¹, James A. Bain¹, Sooyoul Hong¹, Hyung J. Lee¹, ¹Data Storage Systems Center, Carnegie Mellon University, United States of America, ²Storage System Division, Samsung Information Systems America, United States of America

FP-09 WIDE BAND ERASURE CAUSED BY SUL DOMAIN WALL IN PERPENDICULAR RECORDING MEDIA
Yasutaka Nishida, Reiko Arai, Kiwamu Tanahashi, Atsushi Nakamura, Ikuya Tagawa, Storage Technology Research Center, Hitachi, Ltd., Japan

FP-10 SPIKE NOISE IN SOFT UNDERLAYER FOR PERPENDICULAR RECORDING AND ITS IMPACT ON ERROR RATE
Min Xiao, Bruce A. Wilson, Kentaro Takano, Yoshihiro Ikeda, Hoa Do, Hal Rosen, Hitachi GST, San Jose Research, United States of America
FQ-01 EFFECTS OF READER DISTORTION ON NONLINEAR TRANSITION SHIFT MEASUREMENTS
A. Prabhakar¹, A. Thangaraj², M. Manikam³, E. Louis⁴,
¹Electrical Engg., Indian Institute of Technology, Madras, India,
²Western Digital Corporation, Bang-pa In, Thailand

FQ-02 GAP DEPENDENCE OF THE SHIELDED POLE HEADS
Mike Mallary, Adam F. Torabi, Mourad Benakli, Advanced Technology, Maxtor Corporation, United States of America

FQ-03 READING PROCESS OF MR HEAD INVESTIGATED WITH MICROMAGNETIC MODEL
H.Ono, K.Yoshida, M.Sakurai, Kogakuin University, Japan

FQ-04 HARMONIC ANALYSIS METHOD FOR GAP WIDTH EVALUATION
Yipin Zhou¹, Bo Liu¹, Lewei Li², 'Data Storage Institute of Singapore, Singapore, 'Dept. of Electrical and Computer Engineering, National University of Singapore, Singapore

FQ-05 WRITE-FIELD GRADIENT EFFECT ON TRANSITION WIDTH IN PERPENDICULAR RECORDING MEDIA
Masafumi Mochizuki, Miki Hara, Atsushi Nakamura, Masukazu Igarashi, Storage Technology Research Center, Hitachi Ltd., Japan

FQ-06 MICROMAGNETIC STUDY OF THE CORRELATION BETWEEN HEAD FIELD GRADIENT AND JITTER IN PERPENDICULAR RECORDING
Jason S. Goldberg, Hong Zhou, Pierre Asselin, Research Division, Seagate Technology, United States of America

FQ-07 EFFECT OF QUARTIC ANISOTROPY TERM ON READ/WRITE PROPERTIES OF PERPENDICULAR RECORDING MEDIA
Yoshinobu Nakatani¹, Nobuo Hayashi¹, Yasutaro Uesaka², Hiroshi Fukushima¹, 'Dept. of Computer-Science, University of Electro-Communications, Japan, 'Dept. of Electrical and Electronics Engineering, Nihon University, Japan, 'Individual Capacity, Japan
FQ-08 SIMULATION STUDY OF NONLINEAR TRANSITION SHIFT IN PERPENDICULAR MAGNETIC RECORDING MEDIA  
Naoki Honda, Takanori Kiya, Kazuhiro Ouchi, Akita Research Institute of Advanced Technology, Japan

FQ-09 OVERWRITE AND ADJACENT TRACK ERASURE IN PERPENDICULAR RECORDING  
Jimmy Zhu, Data Storage Systems Center, Carnegie Mellon University, United States of America

FQ-10 EFFECTS OF MEDIA ORIENTATION ON NOISE, TRACK WIDTH AND THERMAL STABILITY  
Alexander Taratprom, Klaas B. Klaassen, Ernesto Marinero, San Jose Research Center, Hitachi Global Storage Technologies, United States of America

FQ-11 MINIMUM VOLUME OF TILTED AND COMPOSITE MEDIA CONSIDERING MAGNETO-STATIC INTERACTIONS  
Akihiko Takeo1, H. Neal Bertram1, ‘Core Technology Center, Toshiba Corporation, Japan, 2CMRR, University of California, San Diego, United States of America

FQ-12 MAGNETIC REVERSAL FIELD MAP COMBINED WITH MEDIUM NOISE IMAGE IN PERPENDICULAR RECORDING MEDIA  
Shunji Ishio1, Jian Min Bai2, Hitoshi Saito1, ‘Department of Materials Science and Engineering, Akita University, Japan, 1MINT&Department of Electrical and Computer Engineering, University of Minnesota, United States of America

FQ-13 INFLUENCE OF THERMAL AGITATION ON READBACK WAVEFORMS IN PERPENDICULAR MAGNETIC RECORDING  
Mitsuhiro Hashimoto, Toshiya Suzuki, Kenji Miura, Hiroaki Muraoka, Hajime Aoi, Yoshihisa Nakamura, RIEC, Tohoku University, Japan

Apr. 7          Event Hall
13:30-17:00          Session FR
Patterned Media and FePt Media

T. Thomson  
Hitachi Global Storage Technologies

FR-01 EXPERIMENTAL AND MICROMAGNETICS STUDIES ON MAGNETISM OF Ni NANOWIRE ARRAYS PREPARED WITH MAGNETIC FIELD INDUCTION  
Feng Tian, Dan Wei, Jing Zhu, Dept. of MS&E, Tsinghua University, China
FR-02 FABRICATION OF HEAD-FLYABLE NANOHOLE PATTERNED MEDIA AND DYNAMIC WRITE/READ MEASUREMENT WITH GMR HEAD
Hideyuki Kikuchi1, Hiroshi Nakao1, Kenji Yasui1, Kazuyuki Nishio1, Takeshi Morikawa1, Kouji Matsumoto1, Hideki Masuda1, Kenichi Itoh1, 1Yamagata Fujitsu Ltd., Japan, 2Tokyo Metropolitan University, Japan, 3Kanagawa Academy of Science and Technology, Japan, 4Fujitsu Laboratories Ltd., Japan

FR-03 FABRICATION OF Co/Pt DOTS ARRAY
Chin-Chung Yu1, Yeong-Der Yao3, Kuo-Lung You2, Sung-Chieh Chou2, Yung Liou1, 1Dept. of Appl. Phys., National University of Kaohsiung, Taiwan, 2Institute of Physics, Academia Sinica, Taiwan

FR-04 PERFORMANCE EVALUATION OF DISCRETE TRACK PERPENDICULAR MEDIA FOR HIGH RECORDING DENSITY
Yoshikazu Soeno, Makoto Moriya, Akimasa Kaizu, Mitsuru Takai, Devices Development Center, TDK Corporation, Japan

FR-05 TRACKING ISSUES IN HIGH-DENSITY PATTERNED MEDIA STORAGE
Paul W. Nutter1, Ioannis Nitokas2, Barry K. Middleton2, David T. Wilton3, 1School of Computer Science, The University of Manchester, United Kingdom, 2School of Mathematics & Statistics, University of Plymouth, United Kingdom

FR-06 MODELING AND DESIGN OF DISCRETE TRACK RECORDING MEDIA
Eric Roddick, Davie Wachenschwanz, Komag, Inc., United States of America

FR-07 PERPENDICULAR ANISOTROPY OF MBE-GROWN FePt GRANULAR FILMS
Satoshi Iwata1, Tomoya Itoh2, Takeshi Kato2, Shigeru Tsunashima2, 1CCRST, Nagoya University, Japan, 2Dept. of Electronics, Nagoya University, Japan

FR-08 FePt ORDERED ALLOY THIN FILM PREPARED BY 30 SECONDS ANNEALING WITH Fe-O UNDER-LAYER
Akira Yano, Tetsunori Koda, Satoshi Matsunuma, Hitachi Maxell, LTD., Japan

FR-09 GROWTH AND CHARACTERIZATION OF EPITAXIAL FePt FILMS
Francesca Casoli, Franca Albertini, Luigi Pareti, Simone Fabbrici, Lucia Nasi, Claudio Bocchi, Roberta Ciprian, IMEM-CNR, Italy
FS-01 INVESTIGATION OF TRIBOLOGICAL AND READ-WRITE PERFORMANCE OF TEXTURED SLIDERS
Li Zhi Su, Saurabh Deoras, Akihiko Takeo, Frank E. Talke
'Center for Magnetic Recording Research, University of California, San Diego, United States of America, 'Core Technology Center, Toshiba Corporation, Japan

FS-02 THE EFFECTS OF SURFACE TEXTURE ON THE SLIDER STEADY STATE FLYING CHARACTERISTICS OF PICO SLIDERS
Jia Dong Zhang, Li Zhi Su, Frank E. Talke
'Center for Magnetic Recording Research, University of California, San Diego, United States of America

FS-03 THE ADHESION BETWEEN SLIDER AND DISK AT LOW FLY HEIGHTS
George W. Tyndall, Larry E. Bailey, Jr., Curtis W. Frank
'Samsung Information Systems America, United States of America, 'Dept. of Chemical Engineering, Stanford University, United States of America, 'Hitachi Global Storage Technologies, United States of America

FS-04 THERMAL STUDY OF NANOMETER SPACED HEAD-DISK SYSTEMS
Hui Li, Bo Liu, Tow-Chong Chong, Data Storage Institute, Singapore

FS-05 NITROGENATED AMORPHOUS CARBON FILMS PREPARED BY UNBALANCED MAGNETRON SPUTTERING FOR HIGH RECORDING DESITY MEDIA
Jin Rong Shi, S.N. Piramanayagam, Data Storage Institute, Singapore, Singapore

FS-06 IMPROVING THE CORROSION RESISTANCE OF METAL-EVAPORATED TAPE USING DICARBOXY ACID AS A LUBRICANT
Tomoe Iwano, Ken Kobayashi, Advanced Tape Storage Development Dept., Recording Media Company, Sony Corporation, Japan

FS-07 ABSOLUTE HEAD MEDIA SPACING MEASUREMENT IN-SITU
Zhi-Min Yuan, Bo Liu, Data Storage Institute, Singapore
FS-08 LOAD/UNLOAD PROCESSES FOR SUB-5-nm FLYING HEIGHT SLIDERS
Ee-Ling Kek¹, Yan Sheng Ma¹, Sujeet Kumar Sinha², Bo Liu¹, ¹Data Storage Institute, Singapore, ²Department of Mechanical Engineering, National University of Singapore, Singapore

FS-09 FLYING-HEIGHT REDUCTION OF MAGNETIC HEAD SLIDER DUE TO THERMAL PROTRUSION
Masayuki Kurita¹, Jun Guo Xu¹, Mikio Tokuyama¹, Kazuhiro Nakamoto¹, Shozo Saegusa², Youji Maruyama¹, Storage Technology Research Center, Hitachi, Ltd., Japan, ²Hitachi Global Storage Technologies Japan, Ltd., Japan

FS-10 MOLECULAR DYNAMICS SIMULATION FOR ANALYSIS OF SURFACE MORPHOLOGY OF LUBRICANT FILMS WITH FUNCTIONAL ENDCOMONS
Susumu Ogata¹, Yasunaga Mitsuya², Hedong Zhang³, Kenji Fukuzawa³, Dept. of Electronic-Mechanical Engineering, Graduate School of Engineering, Nagoya University, Japan, ²Dept. of Micro and Nano System Engineering, Graduate School of Engineering, Nagoya University, Japan

FS-11 INVESTIGATION ON WEAR AND RECESSION OF THE GMR HEAD IN HECAL-SCAN TAPE SYSTEM
Kikuji Kawakami, Yoshiteru Kamatani, Masayuki Kondo, Tadashi Ozue, Seiichi Onodera, ATS Development Dept., MEM Div., MSNC-RM-company, SONY co., Japan

FS-12 VOLTAGE PULSING FOR LOCALIZED CLEARANCE MEASUREMENT
Maik Duwensee¹, Bernhard Knigge², Peter Baumgart¹, Frank E. Talke¹, ¹University of California, San Diego, United States of America, ²Hitachi Global Storage Technologies, San Jose, United States of America

FS-13 EFFECT OF SLIDER LUBRICANT PICKUP ON STABILITY AT THE HEAD-DISK INTERFACE
Rohit P. Ambekar¹, David B. Bogy², ¹Computer Mechanics Lab., UC Berkeley, United States of America, ²Dept. of Mechanical Engineering, UC Berkeley, United States of America

FS-14 THICKNESS AND ADHESION FORCE DISTRIBUTIONS IN SPREADING REGION OF MOLECULARLY THIN LUBRICANT FILMS ON MAGNETIC DISKS
Hedong Zhang¹, Yasunaga Mitsuya², Eiji Nakai², Keiko Goto³, Kenji Fukuzawa¹, Dept. of Micro-Nano System Engineering, Nagoya University, Japan, ²Sanyo Electric Co., Japan, ³NGB Corporation, Japan
FS-15 HEAD-DISK INTERFACE MODELING WITH LATTICE BOLTZMANN METHOD
Woo Tae Kim1, Yong Zhou1, Ilya Staroselsky1, Hudong Chen1, Myung S. Jhon1, 1Department of Chemical Engineering and Data Storage Systems Center, Carnegie Mellon University, United States of America, 2Exa Corporation, United States of America

FS-16 FLYING HEIGHT-ATTITUDE TESTER: A NOVEL TECHNIQUE FOR SLIDER-LUBE-DISK INTERACTION STUDY
Yan Sheng Ma, Bo Liu, Jiang Zhou, Data Storage Institute, Singapore

FS-17 POLE-TIP PROTRUSION EFFECT ON HEAD-DISK INTERFACE AT LOW FLYING CLEARANCE
Zhong-Qing Gong, Jia Jay Liu, MMC Technology, United States of America

FS-18 RECENT FINDINGS CONCERNING WATER CONDENSATION ON PFPE LUBRICATED MAGNETIC RECORDING DISKS
George W. Tyndall1, Robert J. Waltman1, Margaret E. Best2, 1Samsung Information Systems America, United States of America, 2Hitachi Global Storage Technology, United States of America

FS-19 NUMERICAL INVESTIGATION OF FRACTURE OF SMALL FORM FACTOR GLASS DISKS AS A FUNCTION OF SHOCK LEVEL
Jian Feng Xu, Yutaka Okazaki, Frank E. Talke1, 1CMRR, University of California at San Diego, United States of America, 2Sony Corporation, Japan

Apr. 7 Event Hall
13:30-17:00 Session FT Magnetic Actuators
T. Mizuno
Shinshu University
S. Yamada
Kanazawa University

FT-01 DYNAMIC DRIVE ANALYSIS THROUGH BASE SPEED DETERMINATION FOR OPTIMUM CONTROL BOUNDARY IN PMLSM WITH SELF LOAD
Won Bum Jang, Seok Myeong Jang, Dae Joon You, Dept. of Electrical Engineering, Chungnam National University, Republic of Korea
FT-02 A SET OF EXPERIMENTS AND TEST RIG TO FULLY CHARACTERIZE LINEAR PM OSCILLATORY MACHINES
Lucian Tutelea¹, Myung Chin Kim², Tae-Heoung Kim², Ju Lee², Ion Boldea¹, ¹University of Politehnica Timisoara, Romania, ²Hanyang University, Republic of Korea

FT-03 CHARACTERISTIC CALCULATION OF FLUX CONCENTRATION TYPED LOA
Ki-Bong Jang, Tae Heoung Kim, Seung-Bin Lim, Ju Lee, Department of Electrical Engineering, Hanyang University, Republic of Korea

FT-04 DESIGN AND EXPERIMENTAL VERIFICATION OF LINEAR SYNCHRONOUS RELUCTANCE MOTOR
Seok Myeong Jang, Ji Hoon Park, Jeong Ki Kwon, Jang Young Choi, Han Wook Cho, Won Bum Jang, Dept. of Electrical Engineering, Chungnam National University, Republic of Korea

FT-05 RELUCTANCE NETWORK METHOD BASED DYNAMIC MODEL OF RADIAL ACTIVE MAGNETIC BEARINGS
Riku Pollanen, Janne Nerg, Olli Pyrhonen, Dept. of Electrical Engineering, Lappeenranta University of Technology, Finland

FT-06 ANALYSIS OF FLAT-TYPE VIBRATION MOTOR FOR MOBILE PHONE
Sung Hong Won, Ju Lee, Dept. of Electric Eng., Hanyang University, Republic of Korea

FT-07 EVALUATION OF THE NORMAL FORCE OF A PLANAR ACTUATOR
Marilia Amaral da Silveira, Aly Ferreira Flores Filho, Roberto Petry Homrich, Federal University of Rio Grande do Sul, Brazil

FT-08 TURNING PERFORMANCE OF FISH-TYPE MICROROBOT DRIVEN BY EXTERNAL MAGNETIC FIELD
Masahiro Tomie, Atsushi Takiguchi, Takashi Honda, Jiro Yamasaki, Dept. of Applied Science for Integrated System Eng., Kyushu Institute of Technology, Japan

FT-09 MICROPUMP WITH MAGNETIC MICROMACHINE
Shin Ichi Hisatomi, Aya Yamazaki, Masahiko Sendoh, Shigeto Agatsuma, Kazushi Ishiyama, Ken-ichi Arai, Research Institute of Electrical Communication, Tohoku University, Japan

FT-10 FABRICATION OF SPIRAL TYPE MAGNETIC MICROMACHINE FOR TRAILING A WIRE
Kenji Kikuchi, Aya Yamazaki, Masahiko Sendoh, Kazushi Ishiyama, Ken-ichi Arai, Tohoku University, Japan
FT-11 WIRELESS MAGNETIC MICRO-MACHINE OF PLANAR STRUCTURE WITH MAGNETIC THIN FILM
Aya Yamazaki, Masahiko Sendoh, Kazushi Ishiyama, Ken-ichi Arai, Research Institute of Electrical Communication, Tohoku University, Japan

FT-12 WIRELESS-TYPE MAGNETIC MICRO-ACTUATOR CapABLE OF MOVEMENT IN A PIPE
Hiroyuki Yaguchi, Katsuo Turumoto, Tohoku Gakuin University, Japan

FT-13 A 64 kHz LANGEVIN SANDWICH TRANSDUCER FABRICATED USING GIANT MAGNETOSTRICTIVE COMPOSITES
Chung Sheung Yung, Ching Yin Lo, Siu Wing Or, Department of Applied Physics, The Hong Kong Polytechnic University, China

FT-14 DESIGN AND IMPLEMENTATION OF A NOVEL 6-DOF PLANAR MAGLEV POSITIONING SYSTEM
Yi-Chih Lai, Jia-Yush Yen, Dept. of Mechanical Engineering, National Taiwan University, Taiwan

Apr. 7 Event Hall
13:30-17:00 Session FU
Magnetoresistive Oxides & Halfmetallic Materials
H. Kubota
National institute of advanced industrial science and technology

FU-01 FABRICATION OF HEUSLER-TYPE Co$_2$MnAl EPITAXIAL FILMS BY USING SPUTTERING METHOD
Yuya Sakuraba$^1$, Jun Nakata$^1$, Mikihiko Oogane$^1$, Hitoshi Kubota$^2$, Yasuo Ando$^1$, Hiroaki Kato$^1$, Akimasa Sakuma$^1$, Terunobu Miyazaki$^1$, $^1$Department of Applied Physics, Graduate School of Engineering, Tohoku University, Japan, $^2$NanoElectronics Research Institute, AIST, Japan

FU-02 THE CHARACTERISTICS OF MAGNETIC TUNNEL JUNCTIONS USING THE Co$_2$MnSi HEUSLER ALLOY DEPENDING ON A COMPOSITIONAL VARIATION
Keewon Kim$^1$, Tae-Wan Kim$^1$, Soon-Ju Kwon$^1$, $^1$Department of Materials Science and Engineering, POSTECH, Republic of Korea, $^2$Devices Lab. Samsung Advanced Institute of Technology (SAIT), Republic of Korea
FU-10 CURRENT-INDUCED ELECTRORESISTANCE IN CMR MATERIALS $\text{La}_{1-x}\text{Ba}_x\text{MnO}_3$  
Feng-Xia1, Feng-Xia Hu2, Ju Gao3, Zhi-He Wang1, ‘Department of Physics, The University of Hong Kong, China, ‘Department of Physics, Capital Normal University, China, ‘Department of Physics, Nanjing University, China

FU-11 VARIATION OF TRANSPORT PROPERTY IN MAGNETORESISTIVE POLYCRYSTALLINE $\text{La}_{1-y}\text{Ln}_y\text{Pb}_x\text{MnO}_3$. (Ln=Pr, Nd, Gd, Dy, Sm and Y)  
San-Lin Young, Dep. of Electrical Eng., Hsiuping Institute of Technology, Taiwan

FU-12 INFRARED-ACTIVE PHONONS OF HoMn$_{1-x}$CoO$_3$ (x= 0-0.8)  
Feng Gao, Xiao Lin Wang, M. Farhoudi, Roger A. Lweis, Shi Xue Dou, Institute for Superconducting & Electronic Materials, University of Wollongong, Australia

FU-13 ENHANCEMENT OF FERROMAGNETIC INTERACTIONS IN MULTIFERRIC (Tb$_{0.5}$Na$_{0.5}$)MnO$_3$ SYSTEM  
T. S. Chan1, R. S. Liu2, Y. H. Lien?, C. Y. Huang2, J. G. Lin’, J. M. Chen’, ‘Department of Chemistry and Center for Nano Storage Research, Taiwan, ‘Taiwan Spin Research Center, National Chung Cheng University, Taiwan, ‘Center for Condensed Matter Sciences, National Taiwan University, Taiwan, ‘National Synchrotron Radiation Research Center, Taiwan

FU-14 STRUCTURAL AND MAGNETIC PROPERTIES OF $\text{La}_{1-x}\text{Sr}_x\text{CoO}_3$  
Kwon Kuk. Yu’, Jung Soo. Park1, Hea Ryon Bae1, Jea Yong. Kim1, Young Pak Lee1, Youn Seoung Lee2, Ji Hoon Kang’, ‘Quantum Photonic Science Research Center and Department of Physics, Hanyang University, Republic of Korea, ‘Division of information Communication and Computer Engineering, Hanbat National University, Republic of Korea, ‘Samsung Electronics Co., Ltd. Process Development Team Memory Division, Republic of Korea

FU-15 EPR AND RESISTIVITY STUDY OF Pr$_{0.7}$Ba$_{0.3}$MnO$_3$ MANGANITES  
A. N. Ulyanov1, H. D. Quang1, N. E. Pismenova2, S. C. Yu’, ‘Department of Physics, Chungbuk National University, Republic of Korea, ‘Donetsk Physico-Technical Institute of National Academy of Sciences, Ukraine

FU-16 EFFECTS OF VANADIUM DOPING ON THE MAGNETIC PROPERTIES OF $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$  
KyungHunn Han, Sang Yoon Park, Kwon Kuk Yu, Jung Soo Park, Young Pak Lee, Quantum Photonic Science Research Center and Department of Physics, Hanyang University, Republic of Korea
FU-17 MAGNETOCALORIC PROPERTIES OF \( \text{La}_{1-x}\text{Pb}_x\text{MnO}_3 \) (\( x = 0.1, 0.2, 0.3 \)) COMPOUNDS
Seong-Gi Min, Kyeong-Sup Kim, Seong-Cho Yu, Hang-Suk, Seoung-Won Lee, ‘Depr. of Physics, Chungbuk Nat’l University, Republic of Korea, ‘Korea Institute of Energy research, Republic of Korea, ‘Dept. of Metallurgy of Engineering, Chungnam Nat’l University, Republic of Korea

FU-18 INFLUENCE OF A-SITE SUBSTITUTION ON THE EPR PARAMETERS OF \( \text{La}_{1-x}\text{A}_x\text{MnO}_3 \) (\( \text{A} = \text{Sr, Ba} \)) COMPOUNDS
T. L. Phan, N. V. Khiem, J. Zidanic, N. X. Phuc, S. C. Yu, ‘Department of Physics, Chungbuk National University, Republic of Korea, ‘Department of Natural Science, Hongduc University, Thanhhoa, Viet Nam, ‘Institute of Materials Science, Academy of Science and Technology of Vietnam, Hanoi, Viet Nam

FU-19 MAGNETORESISTANCE AND MAGNETOCALORIC EFFECTS IN \( \text{La}_{0.7}\text{Sr}_{0.3}\text{Mn}_{0.8}\text{Ti}_{0.2}\text{O}_3 \)
N. V. Khiem, L. V. Bau, T. L. Phan, N. V. Dai, N. X. Phuc, S. C. Yu, ‘Department of Natural Science, Hongduc University, Viet Nam, ‘Department of Physics, Chungbuk National University, Republic of Korea, ‘Institute of Materials Science, VAST, Viet Nam

Apr. 7 Event Hall
13:30-17:00 Session FV Ferrites and Other Materials

A. Morisako
Shinshu University

FV-01 MECHANICAL AND MAGNETIC PROPERTIES OF MULTILAYER FERRITE
Juji Kato, Rei Hanamura, Masayuki Inagaki, Yoshio Matsuo, R&D, FDK Corporation, Japan

FV-02 ANALYSIS OF POWER LOSS IN Ni-Cu-Zn FERRITES
Etsuo Otsuki, Jeong-Su Kim, R & D Center, Samwha electronics co.,LTD, Republic of Korea

FV-03 ACCURATE DETERMINATION OF DIELECTRIC PROPERTIES FOR Mn-Zn TOROIDS
Daming Zhang, Chek Fok Foo, Nanyang Technological University, Singapore

FV-04 EFFECTS OF \( \text{P}_2\text{O}_5 \) ADDITION ON MANGANESE ZINC FERRITES
Hua Su, Huai Wu Zhang, Xiao Li Tang, Xubo Dai, Dept. of Micro-Electronics and Solid-Electronics, University of Electronic Science and Technology, China
FV-05 A CALCULATION OF EXCHANGE INTERACTIONS AND ELECTRONIC STRUCTURE OF NICKEL FERRITE
Xu Zuo¹, Shao Lin Yan¹, Bernardo Barbiellini², Vincent G. Harris¹, Carmine Vittoria¹, ¹College of Information Technical Science, Nankai University, China, ²Physics Department, Northeastern University, United States of America, ³Department of Electrical and Computer Engineering, Northeastern University, United States of America

FV-06 FABRICATION TECHNIQUE FOR OVER 10 MICRONS THICK FERRITE PARTICULATE FILM AT ROOM TEMPERATURE
Shuichiro Hashi¹, Nobuo Takada¹, Kazuhiro Nishimura¹, Osamu Sakurada¹, Shunji Yanase¹, Yasuo Okazaki¹, Mitsuteru Inoue², ¹Dept. of Materials Science & Technology, Gifu University, Japan, ²Dept. of Electrical & Electronic Engineering, Toyohashi University of Technology, Japan

FV-07 EFFECT OF Cu ION ON THE FORMATION AND MAGNETIC PROPERTIES OF NANOCRYSTALLINE MAGNETITE PREPARED IN AN AQUEOUS SOLUTION
Taegyung Ko¹, Seung Han Hyun¹, Hyeon Yoon¹, Kyusuk Han¹, Jae-Hee Oh¹, ¹School of Materials Science and Engineering, Inha University, Republic of Korea, ²Hazardous Substances Research Team, Korean Basic Sciences Institute, Republic of Korea

FV-08 EFFECT OF ORGANIC MOLECULES ABSORPTION IN THE MAGNETIC PROPERTIES OF IRON OXIDE NANOPARTICLES
Dimitrios Niarchos, Panagiotis Dallas, Petridis Dimitrios, Institute Of Materials Science NRSC Demokritos, 15310 Agia Paraskevi Athens, Greece

FV-09 EVOLUTION OF MAGNETIC AND OPTICAL PROPERTIES IN SPINEL FERRITE Fe₃Co₃₋ₓO₄ THIN FILM
Kwang Joo¹, Young Ran Park¹, Geun Young Ahn¹, Chul Sung Kim¹, Jae Yun Park¹, ¹Department of Physics, Konkuk University, Republic of Korea, ²Department of Physics, Kookmin University, Republic of Korea, ³Department of Materials Science and Engineering, University of Incheon, Republic of Korea

FV-10 LOW TEMPERATURE SINTERING OF HEXAGONAL FERRITES FOR PREPARATION OF AN ULTRAHIGH FREQUENCY CHIP INDUCTOR
Osamu Kimura¹, Kazuo Shoji¹, Kouji Kikuhara¹, Hiroshi Maiwa¹, ¹Colaborative Research Center, Ashikaga Institute Of Technology, Japan, ²Dept. of Electrical and Electronic Engineering, Ashikaga Institute of Technology, Japan, ³Dept. of Materials Science and Engineering, Shonan Institute of Technology, Japan
FV-11 MOLECULAR DYNAMICS STUDY OF Bi SUBSTITUTION LIMIT IN YIG
Tae-Youb Kim1, Yohtaro Yamazaki2, Masanori Abe1, Teruyoshi Hirano1, 1Dept. of Physical Electronics, Tokyo Institute of Technology, Japan, 2Dept. of Innovative and Engineered Materials, Tokyo Institute of Technology, Japan

FV-12 INVESTIGATION OF THE MAGNETIC AFTEREFFECTS IN Ti-DOPED YIG
Carlos Torres1, Arnaldo Gonzalez Arias1, Pablo Hernandez-Gomez1, C.O. Kim1, K. Hisatake1, D. J. Kim1, 1Dpto. Electricidad y Electronica, Universidad de Valladolid, Spain, 1Dpto. Fisica Aplicada, Universidad de La Habana, Cuba, 1Research Center for advanced Magnetic Materials, Chungnam National University, Republic of Korea

FV-13 SYNTHESIS AND MOSSBAUER STUDIES OF TbFe1-xMnxO3 NANOPARTICLES
Bok Yeon Kum, Sung Yong An, Chul Sung Kim, Dept. of Physics, Kookmin University, Republic of Korea

FV-14 STRUCTURAL AND MAGNETIC PROPERTIES OF Fe3-xCrxO4 FILMS GROWN ON MgO(001) BY MOLECULAR BEAM EPITAXY
C.C. Huang, D.S. Lee, G. Chern, Dept. of Physics, National Chung Cheng University, Taiwan

Apr. 7 Event Hall
13:30-17:00 Session FW
Patterned Nanostructures II
K. Rhie
Korea University
N. Inaba
Yamagata University

FW-01 DOMAIN WALL DEVICE OF PERMALLOY SUBMICRON HALF-RING IN SERIES WIRE
Chwen. Yu1, Y. Liou1, S.F. Lee1, E.W. Huang1, D.C. Chen1, K.W. Cheng1, Y.D. Yao1, C.R. Chang1, 1Institute of Physics, Academia Sinica, Taiwan, 1Dept. of Materials Science & Engineering, National Chiao Tung University, Taiwan, 1Dept.of Physics, National Taiwan University, Taiwan
FW-02 SHAPE EFFECTS IN THE FERROMAGNETIC RESONANCE OF NANOSIZE RECTANGULAR PERMALLOY ARRAYS
Martha Pardavi-Horvath1, Caroline A Ross2, Robert D McMichael1, 1Dept. Electrical and Comp. Engineering, George Washington University, United States of America, 2Dept. Materials Science and Engineering, Massachusetts Institute of Technology, United States of America, 3Metallurgy Division, National Inst. of Standards and Technology, United States of America

FW-03 MAGNETIZATION PROCESS OF HIGH ANISOTROPY CoPt NANOSIZED DOTS
Nobuaki Kikuchi1, Rogelio Murillo1, Cock Lodder1, Kaname Mitsuzaka2, Takehiro Shimatsu1, 1SMI, MESA, University of Twente, Netherlands, 2RIEC, Tohoku University, Japan

FW-04 MICROMAGNETICS AND GALVANOMAGNETIC EFFECT IN PERMALLOY HONEYCOMB NANO-NETWORK
Masaaki Tanaka1, Kisho Kaneko1, Eiji Saitoh1, Hideki Miyajima1, Takehiro Yamaoka1, 1Dept. of Physics, Keio University, Japan, 2SII NanoTechnology Inc., Japan

FW-05 DEMAGNETIZING FIELD EFFECT ON THE MAGNETIZATION REVERSAL PROCESS OF COBALT NANOMAGNETS
Yun Song Huang1, Navab Singh1, Adekunle O. Adeyeye1, 1Information Storage Materials Laboratory, Dept. of Electrical and Computer Engineering, National University of Singapore, Singapore, 2Institute of Microelectronics, Singapore

FW-06 MAGNETIC DOMAIN STRUCTURE OF MICRO-PATTERNED PtMn/NiFe EXCHANGE BIAS BILAYERS
K. Potzger1, L. Bischoff1, M. O. Liedke1, B. Hillebrands2, M. Rickart1, P. Freitas3, J. McCord1, J. Fassbender1, 1Forschungszentrum Rossendorf, Germany, 2Fachbereich Physik, TU Kaiserslautern, Germany, 3INESC MN, Portugal, 4Leibniz Institute for Solid State and Materials Research IFW Dresden, Germany

FW-07 MAGNETIC PROPERTIES AND DOMAIN FORMATION IN AMORPHOUS FILMS ANISOTROPY PATTERNED BY ION IRRADIATION
J. McCord1, J. Fassbender2, M. Frommerberger1, M.O. Liedke1, R. Schafer1, E. Quandt1, 1Leibniz Institute for Solid State and Materials Research - IFW Dresden, Germany, 2Institut fuer Ionenstrahlphysik und Materialforschung - FZ Rossendorf, Germany, 3Research Center CAESAR, Germany
FW-08 30nm-SCALE-FABRICATION OF MAGNETIC TUNNEL JUNCTIONS USING ELECTRON BEAM ASSISTED CVD HARD MASKS
Shinji Isogami¹, Masakiyo Tsunoda¹, Migaku Takahashi², 'Dept. of Electronic Engineering, Tohoku University, Japan, ²New Industry Creation Hatchery Center, Tohoku University, Japan

FW-09 NON-LOCAL VOLTAGE SIGNAL FOR NON-COLLINEAR MAGNETIZATION
Jaroslav Hamrle¹, Takashi Kimura¹, Yoshichika Otani¹, 'FRS, RIKEN, Japan, ²ISSP University of Tokyo, Japan

FW-10 MAGNETIC PROPERTIES IN EPITAXIAL L1₁, FePt DOT ARRAYS
Takeshi Seki¹, Toshiyuki Shima¹, Kay Yakushiji¹, Koki Takanashi¹, Guo Q. Li², Syunji Ishio², 'Institute for Materials Research, Tohoku Univ., Japan, ²Venture Business Laboratory, Akita Univ., Japan

FW-11 STUDY ON MICRO-FABRICATION PROCESSES IN CoFeB/MgO/CoFeB MAGNETIC TUNNEL JUNCTIONS
Hiroki Maehara¹, Tomoaki Osada¹, Mihoko Doi¹, David D. Djayaprawira¹, Yoshimitsu Kodaira¹, Naoki Watanabe¹, Hitoshi Kubota¹, Akio Fukushima², Shinji Yuasa², Koji Ando², 'Anelva Corporation, Japan, ²National Institute of Advanced Industrial Science and Technology (AIST), Japan

Apr. 7 Event Hall
13:30-17:00 Session FX
Shielding and Magnetic Particles
K. Yamazaki
Takenaka Corporation

FX-01 PORTABLE COMPREHENSIVE MAGNETIC SHIELDING CYLINDER FOR WEAK MAGNETIC FIELD SENSOR TESTING IN AN ISLAND FREE OF AC NOISE
Xiao Ping Li¹, Wu Chun Ng¹, Jie Fan¹, Victor Vvedensky², Alexander Getman³, 'Dept of Mechanical Engineering, National University of Singapore, Singapore, ²Kurchatov Institute, Moscow, Russian Federation, ³Faculty of Physics, Moscow State University, Russian Federation

FX-02 PROPOSAL AND THEORETICAL EVALUATION OF THE ACTIVE SHIELD WITH SELF-TUNABLE LOOP-CURRENT ARRAY
Konrad Goleman, Ichiro Sasada, Kyushu University, Japan
FX-03 THE EFFECT OF MAGNETIC SHAKING ON NON-ORIENTED SILICON STEELS
Kunihisa Tashiro, Mizuki Nagano, Takayuki Kimura, Ichiro Sasada, Kyushu University, Japan

FX-04 A LOW-COST MAGNETIC SHIELD MADE FROM NON-ORIENTED SILICON STEEL
Kunihisa Tashiro, Ichiro Sasada, Kyushu University, Japan

FX-05 ACTIVE MAGNETIC SHIELDING WITH A MAGNETIC FIELD SENSOR
Tetsuya Yamamoto, Toshikatsu Sonoda, Kiyotaka Tanaka, Kinki University, Japan

FX-06 INCREMENTAL PERMEABILITY OF MU-METAL IN LOW MAGNETIC FIELDS FOR DESIGN OF MULTI-LAYER-TYPE OF MAGNETICALLY-SHIELDED ROOMS
Keita Yamazaki1, Kazuo Kato1, Kazuhiro Muramatsu1, Akira Haga1, Koichiro Kobayashi1, Kiyotaka Kamata1, Koji Fujiwara2, Takao Yamaguchi1, 'Research & Development Institute, Takenaka Corporation, Japan, 'Dept. of Electrical and Electronic Eng., Saga Univ, Japan, 'Dept. of Electrical Eng. and Information Technology, Tohoku Gakuen University, Japan, 'Dept. of Welfare Eng., Iwate University, Japan, 'Institute of National Colleges of Technology, Japan, Japan, 'Dept. of Electrical and Electronic Eng., Okayama University, Japan, 'Daido Steel Co., Ltd., Japan

FX-07 MAGNETORHEOLOGY OF SYNTHESIZED CORE-SHELL STRUCTURED NANOPARTICLE

FX-08 DECOMPOSITION OF ORGANIC SUBSTANCES USING MAGNETIC TITANIA PHOTOCATALYST PARTICLES
Shuntaro Kurinobu1, Ken-ichi Tsutsuki2, Mitumasa Kimata1, Masahiro Hasegawa1, 'Dept. of Electronic and Electrical Engineering, Fukuyama University, Japan, 'Dept. of Environment and Information Science, Fukuyama University, Japan, 'Dept. of Chemistry and Chemical Engineering, Yamagata University, Japan

FX-09 THE SIMULATION OF FORCES ACTING ON PARTICLES AND THEIR TRAJECTORIES IN THE SURROUNDING OF THE ELLIPTIC CROSS-SECTION COLLECTOR IN MATRIX SEPARATOR
Ryszard Goleman, Faculty of Electrical Engineering and Computer Science, Lublin University of Technology, Poland
FX-10 PREPARATION OF MAGNETIC NANOPARTICLES FOR MAGNETIC FLUID HYPERTHERMIA
Takashi Atsumi¹, Balachandran Jeyadevan¹, Yoshinori Sato¹, Kazuchika Tamura¹, Setsuya Aiba², Kazuyuki Tohji¹, 'Dept. of Environmental studies, Tohoku University, Japan, ²Dept. of Dental Medicine, Hokkaido University, Japan, ³Dept. Medicine, Tohoku University, Japan

FX-11 RESPONSIVENESS OF FREE SURFACE FLOW TO M-EMS EXCITING FREQUENCY
Shoji Sato¹, Keisuke Fujisaki², 'Ohita Setubi Sekkei Corp., Japan, ²Environmental & Process Technology Center, Nippon Steel Corp., Japan

FX-12 DOWNWARD FLOW DIFFUSION AND MENISCUS FLOW BY ELECTROMAGNETIC STIRRING
Keisuke Fujisaki¹, Yasuji Tomizawa², 'Environment & Process Technology Center, Nippon Steel Corp., Japan, ²Hirohata Branch, Taihei Kogyo Corp., Japan

Apr. 7 Room 141/142
Session FZ
Town Meeting
M. Abe
Tokyo Institute of Technology

*FZ-01 NEW APPLICATIONS OF MAGNETISM
18:00 Koichi Kitazawa, Japan Science and Technology Agency, Japan
Session GA
Symposium on Spin Electronics Technology

K. Ando
National Institute of Advanced Industrial Science and Technology

Y. Otani
Institute for Solid State Physics, University of Tokyo / Frontier Research System, RIKEN (The Institute of Physical and Chemical Research)

*GA-01 COHERENT SPIN-DEPENDENT TUNNELING IN
9:30 MAGNETIC TUNNEL JUNCTIONS WITH MgO(001) TUNNEL BARRIER
Shinji Yuasa1, Hitoshi Kubota1, Akio Fukushima1, Taro Nagahama1, Toshikazu Katayama1, Yoshishige Suzuki1, Koji Ando1, 1NanoElectronics Research Institute, National Institute of Advanced Industrial Science and Technology and Technology (AIST), Japan,
1Osaka University, Japan

*GA-02 THEORY OF TUNNELING MAGNETORESISTANCE
10:00 FOR EPITAXIAL SYSTEMS
W. H. Butler1,2, X.-G. Zhang2, M. Chshiev1, S. Vutukuri1, T. C. Schulthess2, 1MINT Center, University of Alabama, United States of America, Tuscaloosa, 2Computer Science and Mathematics Division, ORNL, United States of America

*GA-03 SPIN-TRANSFER IN MAGNETIC METALLIC
10:30 NANOPILLARS
Andrew D. Kent, Department of Physics, New York University, United States of America

*GA-04 CURRENT INDUCED MAGNETIZATION REVERSAL
11:00 IN SEMICONDUCTORS
Hideo Ohno, M. Yamanouchi, D. Chiba, F. Matsukura, Tohoku University, Japan

*GA-05 THEORETICAL ASPECTS ON COHERENT
11:30 TUNNELING
Stuart S. P. Parkin, IBM, United States of America

*GA-06 SPIN DEVICES FOR INTEGRATED CIRCUITS
12:00 M. Tanaka, S. Sugahara, Department of Electronic Engineering, The University of Tokyo, Japan
Session GB
Advanced Perpendicular Recording Media

Y. Hosoe
Hitachi Ltd.

*GB-01 NEW PERPENDICULAR MEDIA BY
9:30 ENGINEERING THE THERMAL STABILITY AND WRITING CAPABILITY SEPARATELY
Jian-Ping Wang, Weikang Shen, Jian Min Bai, Nadia M. Khan, MINT Center & Electrical and Computer Engineering Department, University of Minnesota, United States of America

GB-02 MICROSTRUCTURE IMPROVEMENT OF THIN Ru
10:00 UNDERLAYER FOR CoCrPt-SiO₂ GRANULAR PERPENDICULAR MEDIA
Ryoichi Mukai, Takuya Uzumaki, Atsushi Tanaka, Advanced Magnetic Recording Laboratory, Fujitsu Laboratories Ltd., Japan

GB-03 STACKED CoCrPt:SiO₂ LAYERS FOR
10:15 PERPENDICULAR RECORDING MEDIA
S.N. Piramanayagam, Jian Zhong Shi, Hai Bao Zhao, Chee Shong Mah, Jun Zhang, Data Storage Institute, Singapore, Singapore

GB-04 Ru/Ru-OXIDE INTERLAYER FOR CoCrPtO
10:30 PERPENDICULAR RECORDING MEDIA
Unoh Kwon¹, Robert Sinclair², E.M.T. Velu², Sudhir Malhotra², Gerardo Bertero², ‘Dept. of Materials Science and Engineering, Stanford University, United States of America, ¹Komag Inc., United States of America

GB-05 CoPtCr-SiO₂ PERPENDICULAR MEDIA WITH THE
10:45 HIGH ORDER ENERGY TERM OF MAGNETIC ANISOTROPY FOR HIGH DENSITY RECORDING
Takehito Shimatsu¹, Hideo Sato¹, Tadaaki Oikawa¹, Kaname Mitsuzuka¹, Yuki Inaba¹, Hajime Aoi¹, Hiroaki Muraoaka¹, Yoshihisa Nakamura¹, Osamu Kitakami¹, Satoshi Okamoto², ¹Research Institute of Electrical Communication, Tohoku University, Japan, ²Institute of Multidisciplinary Research for Advanced Material, Tohoku University, Japan

GB-06 PERPENDICULAR RECORDING CoPtCrO
11:00 COMPOSITE MEDIA WITH PERFORMANCE ENHANCEMENT CAPPING LAYER
Gunn Choe, Min Zheng, B. Ramamurthy Acharya, E. Noel Abarra, MMC Technology, United States of America

GB-07 OPTIMIZATION OF EXCHANGE SPRING
11:15 PERPENDICULAR RECORDING MEDIA
Dieter Suess, Thomas Schreffl, Markus Kirschner, Gino Hrkac, Josef Fidler, Vienna University of Technology, Institute of Solid State Physics, Austria
GB-08 GENERALIZED deltaHC-METHOD FOR THE
11:30 DETERMINATION OF INTRINSIC SWITCHING FIELD
DISTRIBUTIONS IN PERPENDICULAR MEDIA
Andreas Berger¹, Byron Lengsfield¹, Yoshihiro Ikeda¹, Yun-Hao Xu¹, Eric E. Fullerton¹, ¹San Jose Research Center, Hitachi
Global Storage Technologies, United States of America,
¹Department of Electrical and Computer Engineering, University of Minnesota, United States of America

GB-09 REDUCTION OF GRAIN SIZE OF Co/Pd
11:45 MULTILAYERED MEDIA ON Pd SEEDS WITH
CONTROLLED MORPHOLOGY BY
ELECTROCHEMICAL PROCESS
Jun Kawaji¹, Mutsumi Tanaka¹, Koji Kimura¹, Toru Asahi¹, Takayuki Homma¹, Toshihiro Tsumori¹, Tetsuya Osaka¹,
¹Graduate school of Science and Engineering, Waseda University, Japan, ¹Shin-Etsu Chemical Co., Ltd., Japan

GB-10 MATERIAL DEVELOPMENT OF NON-
12:00 ERROMAGNETIC ELEMENT BY DIFFUSION
ANALYSES FOR CoCrPt POST-ANNEALED
PERPENDICULAR MEDIA
Norikazu Itagaki, Shin Saito, Migaku Takahashi, Dept. of
Electronic Engineering, Tohoku University, Japan

GB-11 TILTED MAGNETIZATION IN Cr/CoCrPt THIN FILM
12:15 RECORDING MEDIA
Antony Ajan, A. Inomata, W. Yamagishi, Advanced Magnetic
Recording Laboratory, Fujitsu Laboratories, Ltd., Japan

Apr. 8 Room 234
Session GC
Coding and Recording Channels
P.H. Siegel
University of California, San Diego

*GC-01 ADVANCED CHANNEL DETECTION AND
9:30 ITERATIVE DECODING FOR PERPENDICULAR
RECORDING
Weijun Tan, Haitao Xia, J. R. Cruz, The University of
Oklahoma, United States of America

GC-02 TURBO EQUALIZATION UTILIZING SOFT
10:00 DECISION FEEDBACK
Farshid Rafiee Rad, Jaekyun Moon, Dept. of Electrical and
Computer Engineering, Univ. of Minnesota, United States of
America
GC-03 BEYOND PRML: LINEAR-COMPLEXITY TURBO
10:15 EQUALIZATION USING THE SOFT-FEEDBACK EQUALIZER
Elizabeth Chesnutt¹, Renato R. Lopes², John R. Barry³, ¹Georgia Institute of Technology, United States of America, ²University of Campinas, Brazil

GC-04 SOFT-OUTPUT DETECTOR FOR PARTIAL-RESPONSE CHANNELS USING VECTOR QUANTIZATION
10:30 Brian M. Kurkoski¹, Paul H. Siegel¹, Jack K. Wolf³, ¹Dept. of Information Engineering, University of Electro-Communications, Japan, ³Center for Magnetic Recording Research and Dept. of Electrical and Computer Engineering, Univ. of California San Diego, United States of America

GC-05 A NEW PERFORMANCE EVALUATION TECHNIQUE FOR ITERATIVELY DECODED MAGNETIC RECORDING SYSTEMS
10:45 Naveen Mysore¹, Mehmet Akcakaya¹, Jan Bajcsy¹, Hisashi Kobayashi¹, ¹Dept. of Electrical and Computer Engineering, McGill University, Canada, ³Dept. of Electrical Engineering, Princeton University, United States of America

GC-06 FIELD PROGRAMMABLE GATE ARRAY-BASED INVESTIGATION OF THE ERROR FLOOR OF LOW DENSITY PARITY CHECK (LDPC) CODES FOR MAGNETIC RECORDING CHANNEL
11:00 Ling Yan Sun¹, Hongwei Song², B.V.K. Vijaya Kumar¹, Zak Keirn³, ¹ECE Department, Carnegie Mellon University, United States of America, ³Agere Systems, United States of America

GC-07 AN EFFECTIVE ERROR CORRECTION USING A COMBINATION OF ALGEBRAIC GEOMETRIC CODES AND PARITY CODES FOR HDD
11:15 Seiichi Mita¹, Hajime Matsui¹, Masaharu Kondo², ¹Toyota Technological Institute, Japan, ²Storage Technology Research Center, Hitachi, Ltd., Japan

GC-08 A NEW k-CONSTRAINT STRATEGY COMBINED WITH POST-VITERBI PROCESSING FOR PERPENDICULAR RECORDING
11:30 Jihoon Park, Jaekyun Moon, Dept. of Electrical and Computer Engineering, University of Minnesota, United States of America

GC-09 LOW-DENSITY PARITY-CHECK CODES WITH VARIABLE RATE AND RANDOMIZED CONSTRAINTS FOR ADVANCED MAGNETIC TAPE RECORDING
11:45 Zong Wang Li, Jin Xie, B.V.K. Vijaya Kumar, Data Storage Systems Center (DSSC), Carnegie Mellon University, United States of America
GC-10 ROBUSTNESS OF PER-SURVIVOR ITERATIVE RECOVERY IN PERPENDICULAR RECORDING CHANNELS
Piya Kovintavewat1, John R. Barry2, M. Fatih Erden3, Erozan M. Kurtas1, 1Faculty of Science and Technology, Nakhon Pathom Rajabhat University, Thailand, 2Dept. of Electrical and Computer Engineering, Georgia Institute of Technology, United States of America, 3Channels Dept., Seagate Technology, United States of America

GC-11 OPTIMAL TRAINING SYMBOL PLACEMENT FOR FREQUENCY ACQUISITION ON MAGNETIC RECORDING CHANNELS
Aravind R. Nayak1, John R. Barry2, Steven W. McLaughlin2, 1Agere Systems, United States of America, 2School of ECE, Georgia Institute of Technology, United States of America

Apr. 8 Room 224
Session GD
Exchange Biasing and Fast Switching I
R. Chantrell
Physics Department, York University

*GD-01 TUNNELING OF SPIN WAVES THROUGH A MAGNETIC FIELD INHOMOGENEITY
Burkard Hillebrands1, Alexandr Serga1, Alexander Andre1, Vladislav E. Demidov1, Mikhail P. Kostylev1, Sergej O. Demokritov2, Andrei N. Slavin1, 1Technische Universitaet Kaiserslautern, Germany, 2Institut fuer Angewandte Physik, Westfaelische Wilhelms-Universitaet Muenster, Germany, 1Department of Physics, Oakland University, United States of America

GD-02 MAGNETIZATION SWITCHING DYNAMICS DEPENDING ON AS-PATTERNED MAGNETIZATION STATE IN MAGNETIC THIN FILM ELEMENTS
Byoung C. Choi1, Y. K. Hong2, M. H. Park2, H. Han2, S. H. Gee2, G. W. Donohoe2, 1Dept. of Physics & Astronomy, University of Victoria, Canada, 2Dept. of Materials Science and Engineering, University of Idaho, United States of America, 1Dept. of Electrical and Computer Engineering, University of Idaho, United States of America

GD-03 INCREASED MAGNETIC DAMPING OF PERMALLOY UPON Cr IMPLANTATION
J. Fassbender1, J. McCord2, M. Weisheit3, R. Mattheis4, 1Forschungszentrum Rossendorf, Germany, 2Leibniz Institute for Solid State and Materials Research IFF Dresden, Germany, 3Institute fuer Physikalische Hochtechnologie Jena e. V., Germany
GD-04 PHENOMENOLOGICAL DAMPING MODELS AS
10:30 DRIVE TO EQUILIBRIUM
Michael Kraemer, Carl E. Patton, Department of Physics, Colorado State University, United States of America

GD-05 SMALL AND LARGE ANGLE PRECESSION IN
10:45 EXCHANGE BIASED BILAYERS
Markus C. Weber1, Hans Nembach1, Burkard Hillebrands1, Juergen Fassbender2, 1Fachbereich Physik und Forschungsschwerpunkt MINAS, Technische Universitaet Kaiserslautern, Germany, 2Institut fuer Ionenstrahlphysik und Materialforschung, Forschungszentrum Rossendorf, Germany

GD-06 FIELD DYNAMICS AND THERMAL ACTIVATION IN
11:00 EXCHANGE-BIASED Co/Pt MULTILAYERS
Jerome Moritz, Sebastiaan Van Dijken, Steven M. Watts, J.M.D. Coey, SFI Trinity Nanoscience Laboratory, Physics Department, Trinity College, Ireland

GD-07 EFFECT OF UNDERLAYER ON FORMATION OF L12 PHASE AND RESULTANT GIANT EXCHANGE ANISOTROPY IN Mn-Ir/Co-Fe BILAYERS
Masakiyo Tsunoda1, Ken-ichi Imakita1, Migaku Takahashi2, 1Dept. of Electronic Engineering, Tohoku University, Japan, 2New Industry Creation Hatchery Center, Tohoku University, Japan

GD-08 INFLUENCE OF LAYERING OF NiO/NiFe ON
11:30 EXCHANGE BIAS
Alka V. Kuanr1, B. K. Kuanr2, 1College of Applied Science for Women, Delhi University, India, 2Physics Department, University of Colorado at Colorado Springs, United States of America

GD-09 LASER ANNEALING IN EXCHANGE-BIASED FILMS
11:45 WITH OUT-OF-PLANE AND IN-PLANE MAGNETIC ANISOTROPY
S. D. Choi1, S. W. Kim1, D. H. Jin1, D. K. Yun1, M. S. Lee1, J. H. Ahn1, H. W. Joo1, K. A. Lee2, S. S. Lee2, D. G. Hwang2, 1Department of Physics, Dankook University, Republic of Korea, 2Department of Computer and Electronic Physics, Sangji University, Republic of Korea

GD-10 XMCD STUDIES OF (001) ORIENTED NiFe / Mn1-xPtx BILAYERS
12:00 EXCHANGE COUPLED BILAYERS
Toshihiko Yamato1, Taisuke Kume1, Takeshi Kato1, Tetsuya Nakamura1, Yuji Fujiwara1, Satoshi Iwata1, Shigeru Tsumashima1, 1Dept. of Electronics, Nagoya University, Japan, 2Spring-8/JASRI, Japan, 3Dept. of Physics Engineering, Mie University, Japan, 4CCRAST, Nagoya University, Japan

GD-11 ASYMMETRIC MOTION OF AN EXCHANGE-BIASED
12:15 MAGNETIC DOMAIN WALL IN MAGNETIC WIRES
J.L. Menendez1, D. Ravelosona1, C. Chappert1, R. Stamps2, 1Institut d'Electronique Fondamentale, Orsay, France, 2University of Western Australia, Australia
Nanostructured Hard Magnetic Materials

M. Katter
Materials and Fundamental Research Permanent Magnets, VACUUMSCHMELZE GmbH & Co. KG

H.K. Kwon
Pukyong National University

GE-01 COMPACTION OF NANO-STRUCTURED SmCo/Fe
9:30 MAGNETS
Madhur Sachan, Sara A. Majetich, Physics Dept., Carnegie Mellon University, United States of America

GE-02 EVOLUTION OF MAGNETIC MICROSTRUCTURE
9:45 WITH COERCIVITY IN SmCo 2:17 MAGNETS FOR HIGH TEMPERATURE APPLICATION
O. Guttleisch, K. Khlopkov, A. Yan, R. Schaefer, K.-H. Mueller, L. Schultz, IFW Dresden, Germany

GE-03 EFFECTS OF Nb ADDITION ON STRUCTURAL AND
10:00 MAGNETIC PROPERTIES OF Fe-B/Nd$_2$Fe$_{14}$B BASED NANOCOMPOSITE MAGNETS
Toshio Miyoshi, Hirokazu Kanekiya, Satoshi Hirosawa, NEOMAX Co., Ltd., Japan

GE-04 A COMPARATIVE STUDY OF THE
10:15 MICROSTRUCTURE AND MAGNETIC PROPERTIES
OF MELT-SPUN RE$_2$Fe$_{14}$B/Fe$_3$B AND RE$_2$Fe$_{14}$B/Fe,B NANOCOMPOSITES
Zhong Min Chen, David N. Brown, Bao-Min Ma, Peter Campbell, Magnequench Technology Center, Magnequench Inc., Singapore

GE-05 MAGNETIC PROPERTIES AND MICROSTRUCTURES
10:30 OF Fe-B/Pr$_2$Fe$_{14}$B-TYPE NANOCOMPOSITE MAGNETS
WITH Co AND Cr ADDITIONS
Cai-yin You, D. H. Ping, K. Hono, Materials Engineering Lab., National Institute for Materials Science, Japan

GE-06 MAGNETIC PROPERTIES OF HIGH COERCIVITY
10:45 MELT-SPUN DIDYMIUM-Fe-Co-Nb-V-Tb-B SYSTEM RIBBONS AND THEIR BONDED MAGNETS
Ko Furusawa, Hiroshi Yamamoto, School of Science & Technology, Meiji University, Japan

GE-07 MANIPULATION OF TEMPERATURE DEPENDENCE
11:00 OF COERCIVITY IN ISOTROPIC NANOCRYSTALLINE PERMANENT MAGNETS
Yasutaka Shigemoto, Satoshi Hirosawa, Research and Development Division, NEOMAX Co., Ltd., Japan
GE-08 MICROSTRUCTURE OF NANOCOMPOSITE R-Fe-B
11:15 DIE-UPSET MAGNETS (R = Pr, Nd) PRODUCED FROM MECHANICALLY MILLED POWDERS
Yong Zhang, Alexander M. Gabay, George C. Hadjipanayis, 
Dept. of Physics & Astronomy, University of Delaware, United States of America

GE-09 MAGNETOCRYSTALLINE ANISOTROPY OF
11:30 PARTIALLY ORDERED Fe-Pt NANOPARTICLES DIRECTLY SYNTHESIZED BY MICROWAVE-POLYOL METHOD
Yoshitaka Kitamoto¹, Rumiko Minami¹, Tsukasa Chikata², Shunsaku Kato³, ¹Department of Innovative and Engineered Materials, Tokyo Institute of Technology, Japan, ²Research Institute for Solvothermal Technology, Japan

GE-10 EXCHANGE-COUPLED FePt/Fe BILAYERS WITH
11:45 PERPENDICULAR MAGNETISATION
Francesca Casoli, Franca Albertini, Simone Fabbrici, Claudio Bocchi, Lucia Nasi, Roberta Ciprian, Luigi Pareti, IMEM - CNR, Italy

GE-11 MAGNETIC PROPERTIES OF Co/(CoNi)Fe₂O₄
12:00 NANOCOMPOSITE MAGNET POWDERS
Satoshi Sugimoto, Kazuaki Haga, Toshio Kagotani, Koichiro Inomata, Dept. of Materials Science, Graduate School of Engineering, Tohoku University, Japan

Apr. 8 Room 133/134
Session GF
Magneto-Optic and Other Magnetic Materials/Devices
K. Sato
Tokyo University of Agriculture and Technology

GF-01 THE FARADAY EFFECT IN THREE-DIMENSIONAL
9:30 OPAL PHOTONIC CRYSTALS
Alexander V. Baryshev¹, Tsuyoshi Kodama³, Kazuhiro Nishimura¹, Hironaga Uchida¹, Mitsuteru Inoue⁴, ¹Ioffe Physico-Technical Institute, Russian Federation, ³Toyoohashi University of Technology, ⁴CREST, Japan Science and Technology, Japan

GF-02 MAGNETO-OPTIC SPATIAL LIGHT MODULATOR
9:45 MADE BY SELECTIVE AREA GROWTH ON GARNET MASK REDUCED IN HYDROGEN ATMOSPHERE
Katsuhiro Iwasaki¹, Tetsu Yamanaka¹, Kazuma Takahashi¹, Hiromitsu Umezawa¹, Mitsuteru Inoue⁴, ¹FDK Corporation, Japan, ³Toyoohashi University of Technology, Japan, ⁴JST-CREST, Japan
GF-03 THERMAL ANNEALING OF MAGNETO-OPTICAL
10:00 (Cd, Mn)Te WAVEGUIDE FOR WIDER OPERATION
WAVELENGTH RANGE OF OPTICAL ISOLATOR
Mukul C. Debnath, Vady m Zayets, Koji Ando, Nanoelectronics
Research Institute, AIST, Japan

GF-04 PHASE TRANSITIONS IN SINGLE-CRYSTAL
10:15 TbSi2Ge1.1
Andrew P. Ring, Hattie L. Ziegler, T. Lagrasso, D. Schlagel,
John E. Snyder, David C. Jiles, 'Materials and Engineering
Physics Program, Ames Laboratory, United States of America,
'Materials Science and Engineering Department, Iowa State
University, United States of America

GF-05 LARGE MAGNETOCALORIC EFFECTS AND
10:30 LANDAU COEFFICIENTS OF ITINERANT ELECTRON
METAMAGNETIC La(Fe,Si0.1)3 COMPOUNDS
Asaya Fujita, Kazuaki Fukamichi, Dept. of Mater. Sci., Grad.
Schl of Engng, Tohoku Univ., Japan

GF-06 MAGNETIC AND MAGNETOCALORIC PROPERTIES
10:45 OF THE INTERMETALLIC COMPOUND TbN1A1
K. Malik, 'Department of Physics, I.I.T. Bombay, Mumbai,
India, 'Tata Institute of Fundamental Research, Mumbai, India

GF-07 THE INFLUENCE OF COMPOSITION CHANGE ON
11:00 STRUCTURAL AND MAGNETIC PROPERTIES OF
NON-STOICHIOMETRIC Ni-Mn-Ga ALLOYS
V. Nong, Department of Molecular and Material Sciences,
Interdisciplinary Graduate School of Engineering Sciences,
Kyushu University, Japan

GF-08 THERMAL EXPANSION AND MAGNETOSTRICTION
11:15 IN PrNiSi, COMPOUNDS
Sang-Hoon Song, John E. Snyder, Dong Mei Wu, Thomas A.
Lagrasso, Kevin W. Dennis, R. William McCallum, Yuri
Janssen, David C. Jiles, 'Dept. of Materials Science and
Engineering, Iowa State University, United States of America,
'Materials and Engineering Physics Program, Ames
Laboratory, U. S. Dept. of Energy, United States of America

GF-09 FERROMAGNETIC AND DIELECTRIC BEHAVIOR
11:30 OF Mn DOPED BaCoO3
Tomohiro Inoue, Toshiyuki Matsui, Norifumi Fujimura, Kenji
Morii, Graduate School of Engineering, Osaka Prefecture
University, Japan

GF-10 STRUCTURES, SPIN GLASS AND SPIN STATES IN
11:45 PEROVSKITE GdMnCO3, (x=0.5)
M. Mehdi Farhoudi, Xiao Lin Wang, 'Institute for
Superconducting Electronic Materials, University of
Wollongong, Australia, 'Institute for Superconducting
Electronic Materials, University of Wollongong, Australia
GF-11 EXCHANGE INTERACTION BETWEEN A FERROMAGNETIC SUBSTRATE AND ADSORBED METALLO-PORPHYRIN MOLECULES
Andreas Scheybal¹, Trond Ramsvik², Rolf Bertschinger¹, Magali Vuaroqueaux¹, Thomas A. Jung¹, 'Laboratory for Micro- and Nanostructures, Paul Scherrer Institute, Villingen, Switzerland, ²Swiss Light Source, Paul Scherrer Institute, Villingen, Switzerland, ³L2MP-CNRS, Faculte des Sciences de St Jerome, Marseille, France

GF-12 EVALUATION OF A MICRO MOTOR WITH INTEGRATED MSM MATERIAL
Matthias Hahn¹, Emmanouel Pagounis², Hans H. Gatzen¹, 'Institute for Microtechnology, Hanover University, Germany, ²AdaptaMat Ltd., Finnland

Apr. 8 Event Hall
8:30-12:00 Session GP
Magnetic Recording System II
T. Yamaguchi
Hitachi Global Storage Technologies

GP-01 ASYNCHRONOUS INTERPOLATED SERVO DETECTION ALGORITHMS
Viswanath Annampedu¹, Pervez M Aziz², 'Agere Systems, Read Channel Architecture, United States of America, ²Agere Systems, Serdes Channel Architecture, United States of America

GP-02 ACTUATED SUSPENSIONS WITH ENHANCED DYNAMICS FOR HDD
G. K. Lau¹, H. Du², 'Delft University of Technology, Netherlands, ²School of MPE, Nanyang Technology University, Singapore

GP-03 MEASUREMENT OF DYNAMIC AZIMUTH OF MOVING MEDIA IN TAPE DRIVES
V. Kartik¹, Richard H. Dee², 'Department of Mechanical Engineering, Carnegie Mellon University, United States of America, ²Storage Technology Corporation, United States of America

GP-04 ADAPTIVE IMC DESIGN FOR HDD SERVO CONTROL
Qing-Wei Jia¹, Tong-Heng Lee², Ke-Xiu Liu¹, 'Seagate Technology International, Singapore, ²National University of Singapore, Singapore

GP-05 DROPOUT COMPENSATION BY EQUALIZER SELECTION AND TIMING RECOVERY HANG-UP FOR MAGNETIC TAPE SYSTEMS
Jin Xie, B.V.K. Vijaya, DSSC, ECE Dept., Carnegie Mellon University, United States of America
GQ-01 MR ENHANCEMENT OF CPP-GMR BY CCP-NOL SPACER AND Fe3Co5 MAGNETIC LAYERS
Hitoshi Iwasaki1, Hideaki Fukuzawa1, Hiromi Yuasa1, Koichi Kubo1, Katsuhiko Koi1, Tomomi Funayama2, Masayuki Takagishi1, Yoichiro Tanaka1, 1Corporate R&D Center, Toshiba Corporation, Japan, 2Core Technology Center, Toshiba Corporation, Japan

GQ-02 IN-SITU OBSERVATION STUDY ON NANO CONSTRICION SPACER NOL FOR CPPGMR BY CONDUCTIVE AFM
Kousaku Miyake, Masato Izumi, Syouhei Kawasaki, Masaaki Doi, Nasashi Sahashi, Department of Electronic Engineering, TOHOKU University, Japan

GQ-03 DIRECT OBSERVATION OF A CURRENT-CONFINED-PATH NANO-OXIDE-LAYER STRUCTURE BY THREE-DIMENSIONAL ATOM PROBE
Hideaki Fukuzawa1, Hitoshi Iwasaki1, Yoichiro Tanaka1, Robert M. Ulfig1, David J. Larson1, 1Corporate R&D Center, Toshiba Corporation, Japan, 2Core Technology Center, Toshiba Corporation, Japan, 3Imago Scientific Instruments Corporation, United States of America

GQ-04 SPIN DEPENDENT SCATTERING EFFECT IN CPP-GMR WITH CURRENT CONFINED PATH
Hiromi Yuasa1, Hideaki Fukuzawa1, Masayuki Takagishi1, Hitoshi Iwasaki1, Yoichiro Tanaka1, 1Toshiba Corporation, 2Corporate R & D Center, Japan, 3Core Technology Center, Toshiba Corporation, Japan

GQ-05 BREAKDOWN BEHAVIOR OF CPP DEVICES WITH NANO-OXIDE CURRENT SCREENING LAYERS
S. Maat1, M.J. Carey1, J.A. Katine1, J.R. Childress1, K. Hoshino2, K. Watanabe2, H. Hoshiya2, K. Meguro2, K. Nakamoto2, 1San Jose Research Center, Hitachi Global Storage Technologies, United States of America, 2Storage Technology Research Center, Hitachi, Ltd., Japan

GQ-06 SENSING CURRENT DEPENDENCE OF PEAK ASYMMETRY IN CPP-GMR HEADS
Hiroyuki Katada, Katsumi Hoshino, Nobuo Yoshida, Kaori Suzuki, Katsuro Watanabe, Hiroyuki Hoshiya, Kazuhiro Nakamoto, Storage Technology Research Center, Hitachi, Ltd., Japan
GQ-07 LOW RESISTANCE AND ENHANCED THERMAL AND ELECTRICAL STABILITY OF THE MAGNETIC TUNNEL JUNCTION WITH A Ti-ALLOYED Al-OXIDE BARRIER
Jin-Oh1, Seong-Rae Lee1, Hyun-Joon Shin2, ‘Div. of Materials Science and Engineering, Korea University, Republic of Korea,
1Pohang Accelerator Laboratory & Department of Physics, Pohang University of Science and Technology, Republic of Korea

GQ-08 ELEMENT SPECIFIC HYSTERESIS LOOPS OF Co AND Fe IN ANNEALED CoFe/Cu MULTILAYERS
Mark S. Beal1, Tom P. A. Hase2, Sarah M. Thompson1, Brian K. Tanner1, Johannes C. Grabis2, Hartmut Zabel1, Chris H. Marrows1, ‘Dept. of Physics, University of York, United Kingdom, 1Dept of Physics, University of Durham, United Kingdom, 3Ruhr-Universitat Bochum, Germany, 4Univ Leeds, Sch Phys & Astron, EC Stoner Lab, Leeds, United Kingdom

GQ-09 REDUCTION OF A COERCIVE FIELD WITHOUT SUBSTANTIAL CURRENT SHUNT BY AN ADDITIONAL CoFeB LAYER IN GMR SPIN-VALVE
Chung Hee Nam, Beong-Ki Cho, Center for Frontier Materials, Dept. of Materials Science and Engineering, Gwangju Institute of Science and Technology (GIST), Republic of Korea

GQ-10 STUDY ON BEHAVIORS OF PINNED LAYER BY HIGH FIELD TRANSFER CURVE
Sangmun Oh1, K. Nishioka2, H. Umezaki2, H. Tanaka1, T. Seki1, S. Sasaki1, K. Furusawa1, ‘Storage Technology Research Center, Hitachi, Ltd., Japan, 2Hitachi Global Storage Technologies, Ltd., Japan

GQ-11 A STUDY OF NOISE EFFECTS DUE TO THE DIODE PROTECTION FOR SHIELD RESISTANCE MEASUREMENT OF GMR RECORDING HEADS
Apirat Siritaratiwat1, Damrong sak Tongsomporn2, Komkrit Chooruang3, Nimit Afzulpurkar1, ‘Department of Electrical Engineering, Khon Kaen University, Thailand, 1Microelectronic Program, Asian Institute of Technology, Thailand

GQ-12 PROPERTIES OF SIDE-SHIELDED READ HEADS IN LONGITUDINAL AND PERPENDICULAR RECORDING
Masahiko Hatatani, Yoshio Suzuki, Hiroyuki Katada, Nobuo Yoshida, Katsuro Watanabe, Kazuhiro Nakamoto, Storage Technology Research Center, Hitachi, Ltd., Japan
**GR-01 THE EXAMINATION OF NEWLY DEVELOPED METAL PARTICLE (MP) MEDIA FOR GREATER THAN 3Gbit/in²-RECORDING IN GMR HEAD BASED TAPE SYSTEMS**

Noboru Sekiguchi¹, Kikuki Kawakami¹, Tadashi Ozue², Minoru Yamaga¹, Seiichi Onodera², ¹Product Development Dept., CM Div., MSNC-RM-company, SONY co., Japan, ²Advanced Tape Storage Development Dept., ME Div., MSNC-RM-company, SONY co., Japan

**GR-02 DEVELOPMENT OF NANOCAP (NANO COMPOSITE ADVANCED PARTICLES) TECHNOLOGY FOR HIGH DENSITY RECORDING**

Yuji Sasaki, Naoki Usuki, Kazutaka Matsuo, Mikio Kishimoto, Development and Technology Division, Hitachi Maxell, Ltd., Japan

**GR-03 PLAYBACK PERFORMANCE OF ULTRA HIGH CAPACITY TAPE MEDIA WITH NANOSIZED SPHERICAL METAL PARTICLES (NANOCAP)**

Tetsutaro Inoue¹, Kazuhiko Nakiri¹, Hiroyuki Mitsuhashi¹, Makoto Fukumoto¹, Tsugihiro Doi¹, Yuji Sasaki², Mikio Kishimoto², ¹Advanced Tape Div., Hitachi Maxell, Japan, ²Development & Technology Div., Hitachi Maxell, Japan

**GR-04 SYNTHESIS OF NANO-SIZED SPHERICAL BARIUM FERRITE PARTICLES**

Sung-Hoon Gee¹, Yang-Ki Hong¹, Fred J. Jeffers², ¹Dept. of Materials Science and Engineering, United States of America, ²Advanced R & D, Iomega Corporation, United States of America

**GR-05 DISTRIBUTION FUNCTIONS OF TWO-DIMENSIONALLY ORIENTED MAGNETIC PARTICLES**

Osamu Kohmoto, Takashi Yamane, Junji Miyoshi, Dept. of Physics, Okayama University, Japan

**GR-06 CORRELATION OF THERMAL STABILITY AND ANISOTROPY DISTRIBUTION IN DATA STORAGE TAPES PREPARED FROM ULTRA-FINE PARTICLES**

Hiroaki Nishino, Hiroshi Yamamoto, Faculty of Science and Technology, Meiji University, Japan
GR-07 WRITABILITY ENHANCEMENT USING EXCHANGE SPRING MEDIA
Natacha Supper, Eric E. Fullerton, David T. Margulies, Andreas Moser, Hoa Do, Andreas Berger, Hitachi, GST San Jose Research Center, United States of America

GR-08 ROLE OF BOTTOM LAYER IN DOUBLE RECORDING FOR ANTI-FERROMAGNETICALLY COUPLED LONGITUDINAL MEDIA
Tokyo Li1, Daiji Hasegawa1, Shin Saito1, Hirohisa Ohyama1, Makoto Imakawa1, Migaku Takahashi2, ‘Fuji Electric Storage Device Co. Ltd., Japan, 2Dept. of Electronic Engineering, Tohoku University, Japan

GR-09 DUAL LAYER MAGNETIC RECORDING MEDIA: A PATHWAY FOR IMPROVING THE MAGNETIC AND PERFORMANCE CHARACTERISTICS OF THE STORAGE MEDIUM
Ernesto E. Marinero, Hoa Do, Eric E. Fullerton, Manfred Schabes, Alex Taratorin, Hal Rosen, Hitachi GST San Jose Research Center, United States of America

GR-10 OBLIQUE ION NANO-TEXTURING TECHNOLOGY FOR LONGITUDINAL RECORDING MEDIA
Kenji Sato, Iwao Okamoto, Yoshito Kitamoto, Shoji Ishida, Yamagata Fujitsu Ltd., Japan

GR-11 POISONING OF ORIENTATION RATIO ON NiP-COATED SUBSTRATES
Thomas E. Karis, Xing-Cai Guo, Ernesto Marinero, Bing Yen, Bruno Marchon, Hitachi GST, United States of America

GR-12 POSSIBILITY OF CoPtCr-SiO2 LONGITUDINAL FLEXIBLE DISK MEDIA
Ken-ichi Moriwaki, Kazuyuki Usuki, Makoto Nagao, Research & Development Lab., Recording Media Products Div., Fuji Photo Film Co., Ltd., Japan

Apr. 8 Event Hall
8:30-12:00 Session GS
GMR and Current Induced Instabilities II
K. Yagami
Semiconductor Technology Development Group, SSNC, Sony corp.

GS-01 THICKNESS DEPENDENCE OF INTERLAYER FRINGE FIELD COUPLING IN SUB MICRON NiFe/Cu MULTILAYERED PILLARS
Ming Zhang, Yukio Nozaki, Kimihide Matsuyama, Dept. of Electronics, Kyushu University, Japan
GS-02 INTERFACE INTERMIXING OF CoFe/IrMn AND IrMn/CoFe AND ITS INFLUENCE ON MAGNETORESISTIVE AND EXCHANGE COUPLING
Jong Soo Kim, Seong-Rae Lee, Div. of Materials Science and Engineering, Korea University, Republic of Korea

GS-03 CURRENT-PERPENDICULAR-TO-PLANE GIANT MAGNETORESISTANCE IN FePt/Au LAYERED STRUCTURES
Takeshi Seki, Seiji Mitani, Kay Yakushiji, Toshiyuki Shima, Koki Takamashi, Institute for Materials Research, Tohoku Univ., Japan

GS-04 PRESSURE DEPENDENCE OF MAGNETORESISTANCE FOR Fe/Cr MULTILAYERS
Kazufumi Suenaga1, Syuhei Higashihara1, Gendo Oomi1, Kesami Saito1, Seiji Mitani2, Koki Takamashi2, ‘Dept. of Physics, Kyushu University, Japan, 1Institute for Materials Research, Tohoku University, Japan

GS-05 CPP-GMR ENHANCEMENT IN SPIN VALVES BY A THIN Ru LAYER INSERTION
Nobuki Tezuka, Shinya Abe, Koichiro Inomata, Tohoku University, Japan

GS-06 MICROMAGNETIC ANALYSIS OF A MAGNETIC DOMAIN WALL IN A NANOCONTACT
Takashi Komine1, Tomohiro Takahashi1, Satoshi Ishii1, Ryuji Sugita1, Tetsuo Muranoi1, Yasuhiro Hasegawa2, ‘Dept. of Media and Telecomm. Eng., Ibaraki University, Japan, 1Saitama University, Japan

GS-07 GMR AND MAGNETODYNAMICS OF MnIr SPIN VALVES DEPENDING ON GROWTH ORDER OF FM AND AFM LAYERS
Chan-Gyu Lee1, V.S. Gornakov2, Bon-Heun Koo1, Keesam Shin1, ‘School of Nano Advanced Materials Engineering, Republic of Korea, 1Institute of Solid State Physics RAS, Russian Federation

GS-08 MODIFYING INTERLAYER COUPLING IN CoFe/Bi/Co TRILAYER JUNCTION BY POST-ANNEALING TREATMENTS
Jen-Hwa Hsu1, D. Sahu1, Zhi-Long Xue1, A. C. Sun2, Cheng-Hsuan Chen1, ‘Dept. of Physics, National Taiwan University, Taiwan, 2Dept. of Material Science & Engineering, National Taiwan Universirty, Taiwan, ’Center for Condense Matter Science, National Taiwan University, Taiwan
Apr. 8  
8:30-12:00 
Session GT 
Applications of Soft Magnetic Materials II 
S. Tanabe 
Advanced Technology R&D Center, Mitsubishi Electric Co. 
K. Yamada 
Saitama University 

GT-01 EFFECTS OF RF NOISE SUPPRESSION BY CARBON COATED PERMALLOY NANORODS ARRAY IN POROUS ANODIC ALUMINUM OXIDE 
Ki Hyeon Kim1, Takashi Kyotani1, Masahiro Yamaguchi1, ‘Dept. of Electrical and Communication Engineering, Tohoku University, Japan, 1Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan 

GT-02 CHARACTERISTICS OF RF NOISE SUPPRESSOR USING Fe FILLED IN CARBON NANOTUBE 
Ki Hyeon Kim1, Yung-Am Kim2, Masahiro Yamaguchi1, ‘Dept. of Electrical and Communication Engineering, Tohoku University, Japan, 1Faculty of Engineering, Shinshu University, Japan 

GT-03 APPLICATION OF Co-BASED AMORPHOUS ALLOY RIBBONS WITH VARIOUS THICKNESSES TO A NOISE FILTER 
Satake Hirotaka1, Masaki Nakamura1, Shinsuke Horikoshi1, Shiro Kambe1, Osamu Ishii1, Yoshihito Yoshizawa1, ‘Yamagata University, Japan, 1Advanced Electronics Research Laboratory Hitachi Metals Ltd., Japan 

GT-04 EXPERIMENTAL STUDY OF ELECTROMAGNETIC WAVE ABSORBING CONTROL OF COATING-TYPE MAGNETIC WOOD USING A GROOVING PROCESS 
Hideo Oka1, Yu Kataoka1, Fukumori Izumida1, ‘Dept. of Electrical & Electronic Engineering, Iwate University, Japan, 1Iwate Industrial Research Institute, Japan 

GT-05 EMBEDDED INDUCTOR USING Ni-Zn FERRITE FILM IN POLYMER SUBSTRATE 
Seok Bae, Hyung-Mi Jung, Jin-Seok Moon, Yasuhiro Mano, EMD Lab., Central Research Center, Samsung Electro-Mechanics, Republic of Korea 

GT-06 A SIMPLE PREDICTING METHOD FOR LOSSES OF ELECTRICAL STEEL SHEETS UNDER ARBITRARY INDUCTION WAVEFORM 
Shunji Yanase, Hirotaka Kimata, Yasuo Okazaki, Shuichiro Hashi, Dept. of Materials Science and Technology, Gifu University, Japan
GT-07 DEVELOPMENT OF GAPPED IRON-CORE TYPE REACTOR USING NEW ADHESIVE COATED GRAIN ORIENTED ELECTROMAGNETIC STEEL SHEETS
Minoru Kuwata1, Shuichi Nogawa1, Norio Takahashi2, Daisuke Miyagi2, Kazutoshi Takeda2, 1Nissin Electric Co.,Ltd, Japan, 2Okayama University, Japan, 3Nippon Steel corporation, Japan

GT-08 LOSSES OF SILICON STEEL SEGMENT CORES WITH SEVERAL POLE ROTORS
Hisashi Mogi1, Chikara Kaido1, 'Steel Research Lab., Nippon Steel Corp., Japan, 2Dept. of Appl. Science for Integrated System Engng., Kyushu Inst. of Tech., Japan

GT-09 CALCULATION OF THE FLUX-LINKAGE CHARACTERISTIC OF A SWITCHED RELUCTANCE MOTOR BY FLUX TUBE METHOD
Nimit K. Sheth, K. R. Rajagopal, Electrical Engineering Department, Indian Institute of Technology Delhi, New Delhi, India

GT-10 ANALYSIS OF ELECTROMAGNETIC FORCE DISTRIBUTION ON THE END WINDING FOR MOTOR RELIANCE
Ki-Chan Kim1, Kab-Jae Lee1, Ju Lee1, 'Dept. of Electrical Engineering, Hanyang University, Republic of Korea, 2Hyundai Heavy Industries Co., LTD., Republic of Korea

GT-11 EVALUATION OF EXPERIMENTAL PERMANENT MAGNET BRUSHLESS MOTOR UTILIZING NEW MAGNETIC MATERIAL FOR STATOR TEETH CORE
Yuji Enomoto1, Motoya Ito1, Haruo Koharagi1, Ryoso Masaki2, Shoji Ohisa1, Chio Ishihara1, Masahiro Mita1, 'Hitachi Research Laboratory, Hitachi,Ltd., Japan, 'Hitachi Industrial Equipment Systems Co., Ltd., Japan, 'Japan Servo Co., Ltd., Japan, 'Hitachi Powder Metals Co., Ltd., Japan, 'Hitachi Metals, Ltd., Japan

GT-12 APPLICATION OF FINE-GRAINED DOUBLY ORIENTED ELECTRICAL STEEL TO IPM SYNCHRONOUS MOTOR
Toshiro Tomida1, Naoyuki Sano1, Shigebaru Hinotani1, Koji Fujiwara1, Hidetoshi Kotera1, Noriyoshi Nishiyama1, Yasufumi Ikka1, 'Corporate R&D Labs., Simitomo Metal Ind. Ltd., Japan, 2Dept. of Electrical and Electronic Engineering, Okayama University, Japan, 3Mechanical Engineering Dept., Kyoto University, Japan, 'Home Appliance & Automotive Motor Division., Motor Company, Matsushita Electric Ind. Co., Japan

GT-13 MOTOR CORE IRON LOSS ANALYSES EVALUATING SHRINK FIT AND STAMPING EFFECT BY FINITE ELEMENT METHOD
Keisuke Fujisaki, Ryu Hirayama, Takeshi Kawachi, Shouji Satoh, Chikara Kaidou, Masao Yabumoto, Takeshi Kubota, Technical Development Bureau, Nippon Steel Corporation, Japan
Apr. 8  

Session GU  

Magnetoeelastic and Novel Magnetic Materials/Devices  

A. Fujita  

Graduate School of Engineering, Tohoku University  

GU-01 A MODEL FOR HYSTERESIS AND MAGNETOCALORIC EFFECT IN MAGNETIC FIELD DRIVEN PHASE TRANSFORMATIONS  

Vittorio Basso, Carlo P. Sasso, Martino LoBue, Giorgio Bertotti, IEN Galileo Ferraris, Torino, Italy  

GU-02 PHASE TRANSITIONS AND MAGNETIC ENTROPY CHANGE IN Mn-RICH Ni-Mn-Ga ALLOYS  

Franca Albertini, Massimo Solzi, Luigi Pareti, Antonio Paoluzi, Lara Righi, Elena Villa, Stefano Besseghini, IMEM-CNR, Italy, Dipartimento di Fisica, Universita di Parma, Italy, Dipartimento di Chimica GIAF, Universita di Parma, Italy  

GU-03 EFFECT OF BORON ON THE STABILITY, MAGNETIC AND ELECTRICAL PROPERTIES OF Y₀.5Gd₀.5Fe₂  

J. Arout Chelvane, G. Markandeyulu, Magnetism and Magnetic Materials Laboratory, Department of Physics, Indian Institute of Technology Madras, Chennai, India  

GU-04 PREPARATION OF Sm-Fe GIANT MAGNETOSTRICTIVE THIN FILMS BY DC MAGNETRON SPUTTERING  

Yoshihito Matsumura, Atsushi Kadowaki, Shingo Masuda, Keisuke Takahashi, You Tsukayama, Yoshitake Nishi, Department of Applied Science, School of Engineering, Tokai University, Japan, Department of Materials Science, School of Engineering, Tokai University, Japan  

GU-05 MAGNETOSTRICTIVE CHARACTERISTICS OF Fe-Al FILMS FORMED BY ION PLATING PROCESS  

Konosuke Muramatsu, Noriyoshi Matsuoka, Mitsuaki Takeuchi, Masahide Morita, Tempei Tanakamaru, Yoshihito Matsumura, Department of Applied Science, Graduate School of Engineering, Tokai University, Japan, Department of Applied Science, School of Engineering, Tokai University, Japan  

GU-06 AC PERMEABILITY OF FeCoGe/WC/PHENOL MAGNETOSTRICTIVE COMPOSITES  

Kwang-Ho Shin, Younghak Kim, Sang Ho Lim, Dept. of Multimedia Engineering, Kyungsung University, Republic of Korea, Dept. of Electrical Engineering, Pukyeong National University, Republic of Korea, Division of Materials Science and Engineering, Korea University, Republic of Korea
GU-07 MAGNETIC AND MAGNETOMECHANICAL PROPERTIES OF TERFENOL-D 2-2 COMPOSITES
Luis Garcia-Gancedo Garcia¹, Simon Busbridge¹, Stuart Eaton¹,
¹School of Engineering, University of Brighton, Lewes Road, Brighton, United Kingdom, ²QinetiQ, Ively Road, Farnborough, United Kingdom

GU-08 DYNAMIC MAGNOETOELASTIC PROPERTIES OF EPOXY-BONDED TERFENOL-D PARTICULATE COMPOSITES WITH A PREFERRED [112] CRYSTALLOGRAPHIC ORIENTATION
Siu Wing Or¹, Gregory P. Carman¹, ¹Department of Applied Physics, The Hong Kong Polytechnic University, China, ²Mechanical and Aerospace Engineering Department, University of California, Los Angeles, United States of America

GU-09 INFLUENCE OF GEOMETRIC FACTORS ON THE POLARITY OF A REMANENT MAGNETIZATION
Ivan J. Garshelis¹, Stijn P. L. Tollens², ¹Magna, Inc./MagCanica, Inc., United States of America, ²MagCanica, Inc., United States of America

GU-10 SPIN DYNAMICS AT LEVEL CROSSING IN Fe₉ AND Cr₉ MOLECULAR RINGS PROBED BY NMR
Edoardo Micotti¹, Alessandro Lascialfari¹, Ferdinando Borsa¹, Claude Berthier³, Mladen Horvatic³, Marc Henry Julien³, Andrea Caneschi³, Dante Gatteschi³, ¹Department of Physics “A.Volta” and INFM, Pavia University, Italy, ²Grenoble High Magnetic Field Laboratory, CNRS and MPI-FKF, France, ³Lab. de Spectrometrie Physique, Univ. J.Fourier Grenoble, France, ¹Department of Chemistry and INSTM, Florence University, Italy

GU-11 GIANT M-E EFFECT OF MULTIFERROIC BaTiO₃-LaMnO₃ CERAMIC COMPOSITES
Kenichiro Ban, Takeshi Shundo, Nobuaki Nishimura, Manabu Gomi, Dept. of Materials Science and Engineering, Nagoya Institute of Technology, Japan

GU-12 MAGNETIC ENTROPY CHANGE IN MnₓFe₁.₁P₁₋ₓGeₓ COMPOUNDS
W. Dagula¹, O.Tegus¼, B. Fuquan¹, L. Zhang¹, P.Z. Si², M. Zhang¹, W.S. Zhang¹, E. Bruck³, F.R. de Boer³, K.H.J. Buschow¹, ¹Van der Waals-Zeeman Instituut, Universiteit van Amsterdam, Netherlands, ²Department of physics, Inner Mongolia Normal University, China

GU-13 CONTROL OF LARGE MAGNETOCALORIC EFFECTS AND HYSTERESIS OF La₁₋₀.₃Ce₀.₃(Fe₈₆Si₁₄)₁₅ COMPOUNDS
Shun Fujieda, Asaya Fujita, Kazuaki Fukamichi, Graduate School of Engineering Tohoku University, Japan
GU-14 MAGNETOCALORIC EFFECT IN $\text{LaFe}_{11.8-x}\text{Co}_x\text{Si}_{1.2}$ MELT-SPUN RIBBONS
Aru Yan, Karl-Hartmut Mueller, Oliver Guttleisch, Leibniz Institute of Solid State and Materials Research Dresden, Germany

GU-15 MAGNETOCALORIC EFFECTS AND MAGNETIC PROPERTIES IN INTERMETALLIC COMPOUNDS $\text{La(Fe}_{1-x-y}\text{Co}_x\text{Si}_y)_3$.
Akiko T. Saito, Hideyuki Tsuji, Tadahiko Kobayashi, Corporate R&D Center, Toshiba Corporation, Japan

GU-16 HEAT CAPACITY AND X-RAY ABSORPTION STUDIES ON THE INTERMETALLIC COMPOUND $\text{YbMn}_2\text{Sb}_3$.
R. Nirmala¹, A. V. Morozkin², H.-D. Kim³, J.-Y. Kim³, B.-G. Park⁴, S.-J. Oh⁵, S. K. Malik¹, ¹Tata Institute of Fundamental Research, India, ²Department of Chemistry, Moscow Lomonosov State University, Russian Federation, ³Pohang Accelerator Laboratory, Pohang University of Science and Technology, Republic of Korea, ⁴Department of Physics, University of Science and Technology, Republic of Korea, ⁵School of Physics and Center for Strongly Correlated Materials Research, Seoul National University, Republic of Korea

Apr. 8 Event Hall
8:30-12:00 Session GV
Magnetic Measurement

J. Yamasaki
Kyushu Inst. Tech.

GV-01 A MODEL FOR QUANTITATIVE EVALUATION OF THE MAGNETIC FIELD CAUSED BY EDDY CURRENT INTERACTION WITH A FLAW IN CONDUCTOR PLATES
Hossein Bayani, Ichiro Sasada, Dept. of Applied Science for Electronics and Materials, Kyushu University, Japan

GV-02 IMPROVED MEASUREMENT WITH 2D ROTATING FLUXES CONSIDERING EFFECT OF MAGNETIZATION
Jin Jiang Zhong, Jian Guo Zhu, You Guang Guo, Zhi Wei Lin, Faculty of Engineering, University of Technology, Sydney, Australia

GV-03 FUSION OF ELECTROMAGNETIC INSPECTION METHODS FOR EVALUATION OF STRESS LOADED STEEL SAMPLES
Tomasz Chady¹, Ryszard Sikora¹, Grzegorz Psuj¹, Masto Enokizono², Takashi Todaka², ¹Department of Electrical Engineering, Technical University of Szczecin, Poland, ²Faculty of Engineering, Oita University, Japan
GV-04 FIELD IMPROVEMENT OF FINE MAGNETIC POLE PITCH FABRICATED ON PRINTED CIRCUIT BOARD USING A DUAL LAYER STRUCTURE
Kuo-Chi Chiu¹, Der-Ray Huang², Han-Ping D. Shieh³, ¹Department of Photonics and Institute of Electro-Optical Engineering, National Chiao Tung University, Taiwan, ²Opto-Electronics & Systems Laboratories, Industrial Technology Research Institute, Taiwan

GV-05 INTEGRATED DRIVING AND READOUT CIRCUITS FOR CDMPI SENSOR
Xin Bo Qian¹, Xiao Ping Li¹, Yong Ping Xu¹, Jie Fan¹, ¹Neurosensors Lab, Department of Mechanical Engineering, Division of Bioengineering, National University of Singapore, Singapore, ²Department of Electrical and Computer Engineering, National University of Singapore, Singapore

GV-06 MAGNETIC CHARACTERIZATION OF THERMALLY SENSITIZED TYPE 304 AND 316 STAINLESS STEELS
Yasuhiro Kamada, Tsuyoshi Mikami, Seiki Takahashi, Hiroaki Kikuchi, Katsuyuki Ara, NDE&Science Research Center, Faculty of Engineering, Iwate University, Japan

GV-07 DIRECT MEASUREMENT OF PREISACH DIAGRAM FROM MICROHYSTERESIS LOOPS AT VARIOUS DELAY TIME
Lin-Xiu Ye, Jia-Mou Lee, Te-Ho Wu, Taiwan SPIN Research Center and Graduate school of Engineering Science & Technology, National Yunlin Univ. of Science and Technology, Taiwan

GV-08 VECTOR MAGNETOMETRY OF SYNTHETIC SPIN VALVES
Gerald Rutsch¹, Jamie Yang¹, William Van Drent¹, Daniele Mauri¹, Jinshan Li¹, ¹Hitachi Global Storage Technologies, United States of America, ²ADE Technologies, United States of America

GV-09 INTERNAL MAGNETOSTRICTION OBSERVED BY X-RAY DIFFRACTION IN IRON
Etsuo Arakawa¹, Koh-ichi Maruyama¹, Koichi Mori¹, Hidetaka Nishigaitsu¹, Noriyuki Aizawa¹, ¹Dept. of Physics, Tokyo Gakugei University, Japan, ²Dept. of Molecular Structure, Institute for Molecular Science, Japan, ³Dept. of Radiological Sciences, Ibaraki Prefectural University of Health Sciences, Japan

GV-10 INTERFACIAL MIXING BEHAVIOR OF Fe/Al MAGNETIC THIN FILMS: MOLECULAR DYNAMICS SIMULATION
Chan-Yeup Chung, Yong-Chae Chung, Dept. of Ceramic Engineering, Hanyang University, Republic of Korea
GW-01 MICROMAGNETIC STUDY OF INTERGRANULAR EXCHANGE COUPLING IN TILTED PERPENDICULAR MEDIA
X. Z. Cheng, Mansoor B. A. Jalil, Electrical and Computer Engineering Department, National University of Singapore, Singapore

GW-02 MICROMAGNETIC MODELING WITH EDDY CURRENT AND CURRENT-INDUCED SPIN TORQUE EFFECTS
Pooja Wadhwa, Mansoor B. A. Jalil, Electrical and Computer Engineering Department, National University of Singapore, Singapore

GW-03 MODELING OF LONG-TIME THERMAL MAGNETISATION DECAY IN INTERACTING GRANULAR MAGNETIC MATERIALS
O. Chubykalo-Fesenko¹, R. W. Chantrell², ¹Instituto de Ciencia de Materiales de Madrid, CSIC, Spain, ²University of York, UK, United Kingdom

GW-04 MICROMAGNETIC SIMULATION OF THE IMAGINARY PART OF THE TRANSVERSE SUSCEPTIBILITY
Dorin Cimpoesu², Alexandru Stancu¹, Ioan Dumitru², Leonard Spinu¹, ¹Faculty of Physics, Al. I. Cuza University, Romania, ²Advanced Materials Research Institute - AMRI, University of New Orleans, United States of America, ³Department of Physics and AMRI, University of New Orleans, United States of America

GW-05 REVERSIBLE MAGNETIZATION VARIATIONS IN LARGE FIELD RANGES ASSOCIATED TO PERIODIC ARRAYS OF ANTIDOTS
Jesus M. Gonzalez¹, Oksana A. Chubykalo-Fesenko¹, Felipe Garcia-Sanchez¹, Jose M. Torres-Bruna¹, Juan Bartolome¹, Luis M. Garcia Vinuesa¹, ¹Unidad Asociada ICMM/IMA, Spain, ²ICMM-CSIC, Spain, ³ICMA-Universidad de Zaragoza, Spain
GW-06 MICROMAGNETIC DOMAIN STRUCTURES AND MAGNETIZATION SWITCHING MECHANISM IN SUBMICRON THIN FILM ELEMENTS
Byoung C. Choi¹, B.R. Pujada¹, Y.K. Hong², M.H. Park², H. Han³, S.H. Gee³, G.W. Donohoe¹, ¹Department of Physics & Astronomy, University of Victoria, Canada, ²Department of Materials Science and Engineering, University of Idaho, United States of America, ³Department of Electrical and Computer Engineering, University of Idaho, United States of America

GW-07 MICROMAGNETIC SIMULATION OF NON UNIFORM NANODOTS WITH PERPENDICULAR ANISOTROPY
Ngocnga Dao, Nobuaki Kikuchi, Leon Abelmann, J. Cock Lodder, Systems and Materials for Information Storage, University of Twente, Netherlands

GW-08 ON THE DEPENDENCE OF MAGNETIC STOCHASTIC RESONANCE FEATURES ON MAGNETIC HYSTERESIS
Rosario Nunzio Mantegna, Bernardo Spagnolo, Luigi Testa, Marco Trapanese, Palermo University, Italy

GW-09 AN IDENTIFICATION METHOD OF PLAY MODEL WITH INPUT-DEPENDENT SHAPE FUNCTION
Tetsuji Matsuo, Masaaki Shimasaki, Dept. Electrical Engineering, Kyoto University, Japan

GW-10 GIANT MAGNETIC ANISOTROPY ENERGY IN MONATOMIC CHAINS: OPPORTUNITY TO STABILIZE MAGNETIZATION IN ULTRA-SMALL 0D AND 1D ENTITIES
Ru Qian Wu¹, Ji Sang Hong¹, Ding-Sheng Wang², Jian-Tao Wang², ¹Department of Physics and Astronomy, University of California, Irvine, United States of America, ²Institute of Physics, China

GW-11 A MAGNETIC MOLECULE DETECTION SYSTEM: A COMPARISON OF DIFFERENT SETUPS BY COMPUTER SIMULATION
Willi Schepper, Joerg Schotter, Hubert Brueckl, Guenter Reiss, Dept. of Physics, Bielefeld University, Germany

GW-12 MAGNETIC PROPERTIES OF TRANSITION METAL ATOMS DOPED IN SILICON NANOTUBES WITH HEXAGONAL PRISM STRUCTURE
Y-R. Jang¹, Chulsu Jo², J. I. Lee², ¹Department of Physics, University of Incheon, Republic of Korea, ²Department of Physics, Inha University, Republic of Korea

GW-13 EXCHANGE-INTERACTIONS AND CHEMICAL BONDING IN CuO BY FIRST-PRINCIPLES
Alessio Filippetti, Dept. of Physics, University of Cagliari, Italy
GW-14 FIRST PRINCIPLES CALCULATIONS OF MAGNETIC PROPERTIES OF Zr DOPED RARE EARTH-TRANSITION METAL (1:7) ALLOYS
Kentaro Oka, Teruo Kiyomiya, FDK CORPORATION, Japan

GW-15 A BOUNDARY MESHLESS METHOD FOR TRANSIENT EDDY CURRENT ANALYSIS
Yong Zhang1, K.R. Shao1, You Guang Guo1, J.D. Lavers3,
1College of Electrical & Electronic Engineering, Huazhong University of Science and Technology, China, 2Faculty of Engineering, University of Technology Sydney, Australia, 3Department of Electrical and Computer Engineering, University of Toronto, Canada

GW-16 NOVEL TOPOLOGY OPTIMIZATION FOR THE DESIGN OF MULTIPLE COILS
Woo Chul Kim, Jae Eun Kim, Yoon Young Kim, Dept. of Mechanical and Aerospace Engineering, Seoul National University, Republic of Korea

GW-17 THE CHARACTERISTIC ANALYSIS OF SWITCHED RELUCTANCE MOTOR CONSIDERING DC LINK VOLTAGE RIPPLE ON HARD AND SOFT CHOPPING MODES
Jae-Hak Choi, Joonseon Ahn, Ju Lee, Energy Conversion Lab., Department of Electrical Engineering, Hanyang University, Republic of Korea

Apr. 8 Reception Hall
Session HA
Novel Magnetoresistive Oxides & Halfmetallic Materials
H. Asano
Nagoya University

*HA-01 HEUSLER MATERIALS IN MAGNETIC TUNNEL JUNCTIONS
14:30 Guenter Reiss, Jan Schmalhorst, Hubert Brueckl, Andreas Huetten, S. Kaemmerer, Dept. of Physics, University of Bielefeld, Germany

HA-02 MAGNETIC PROPERTIES OF EPITAXIAL 15:00 Co, Cr, Fe, Al FULL HEUSLER ALLOY THIN FILMS WITH THE L2_1 STRUCTURE
Atsufumi Hirohata1, Hidekazu Kurebayashi1, Susumu Okamura1, Nobuki Tezuka1, Koichiro Inomata1, 1CREST, JST and Dept. of Mat. Sci., Tohoku Univ., Japan, 2Dept. of Mat. Sci., Tohoku Univ., Japan
HA-03 INVESTIGATION OF INTRINSIC GILBERT DAMPING CONSTANT IN Co$_2$MnAl HEUSLER ALLOY FILMS
Resul Yilgin, Mikihiko Oogane, Satoshi Yakata, Yasuo Ando, Terunobu Miyazaki, Dept. of Applied Physics, Tohoku University, Japan

HA-04 PROPERTIES OF Co$_2$YZ HEUSLER COMPOUNDS
Claudia Felser, Sabine Wurmehl, Gerhard Fecher, Thomas Block, Dept. of Inorganic and Analytical Chemistrie, University of Mainz, Germany

HA-05 MAGNETISM AND TRANSPORT PROPERTIES OF EPITAXIAL Co$_2$MnSi FILMS
Wen Hong Wang$^1$, Xiao Bing Ren$^1$, Guang Heng Wu$^2$, Przybylski Marek$^3$, Przybylski Marek$^4$, Barthel Jochen$^1$, Kirschner Jurgen$^1$, 'National Institute for Materials Science, Japan, 'Institute of Physics, Chinese Academy of Sciences, China, 'Max-Planck Institute of Microstructure Physics, Germany, 'Solid State Physics Department, Faculty Physics and Nuclear Techniques, AGH University of Sciences and Technology, Poland

HA-06 XPS AND XMCD STUDY OF Fe$_3$O$_4$/GaAs INTERFACE
Yong Xiong Lu$^1$, Jill S. Claydon$^1$, Ehsan Ahmad$^1$, Yong Bing Xu$^1$, Sarah M. Thompson$^1$, Karen Wilson$^1$, 'Spintronics Laboratory, Department of Electronics, University of York, United Kingdom, 'Department of Physics, University of York, United Kingdom, 'Department of Chemistry, University of York, United Kingdom

HA-07 SPIN FILTERING WITH PEROVSKITE AND SPINEL OXIDES.
M. Gajek$^1$, U. Luders$^2$, A. Barthelemy$^1$, M. Bibes$^2$, J. Fontcuberta$^1$, J-F. Bobo$^1$, K. Bouzehouane$^1$, E. Jacquet$^1$, J. P. Contour$^1$, A. Fert$^1$, 'Unite Mixte CNRS-Thales, Domaine de Corbeville, France, 'ICMAB, Spain, 'LPMC, France

HA-08 GIGANTIC MAGNETOCAPACITANCE AND MAGNETOSTRICTION IN FERROELECTRIC ANTIFERROMAGNET GdMnO$_3$
Kohei Noda, Shigeru Nakamura, Jun Nagayama, Hideki Kuwahara, Dept. of Physics, Sophia University, Japan

HA-09 PROPERTIES OF HALF-METALLIC DOUBLE-PEROVSKITE THIN FILMS
Hidefumi Asano, Norihumi Koduka, Kazumasa Imaeda, Mikito Sugiyama, Masaaki Matsui, Dept. of Crystalline Materials Science, Japan
HA-10 TEMPERATURE DEPENDENCE OF THE MAGNETIC PROPERTIES IN LaMnO₃.
F. J. Palomares, F. Pigazo, J. J. Romero, J. Alonso, A. Arroyo, R. Cortes-Gil, J. M. Gonzalez-Calbet, A. Hernando, M. Vallet-Regí, J. M. Gonzalez. Instituto de Ciencia de Materiales de Madrid. Sor Juana Ines de la Cruz, s/n, Spain, Instituto de Magnetismo Aplicado UCM., Spain, Depto. De Quimica Inorganica I, UCM, Avda. Complutense s/n, Spain, Depto. de Quimica Inorganica y Bioinorganica, UCM Avda. Complutense s/n, Spain, Unidad Asociada ICMM-IMA, P.O. Box 155, 28230 Las Rozas (Madrid), Spain., Spain

HA-11 FINE-TUNING OF MAGNETORESISTANCE IN Nd₀.₅(Ca, Sr)₀.₅MnO₃ SYSTEM
S. L. Cheng, Y. J. Chou, J. G. Lin. Center for Condensed Matter and Sciences and Nano-storage, Taiwan, Department of Material Engineer and Science, Taiwan

Apr. 8 Room 141/142
Session HB
Head Disk Interface II
J. Lin
Komag Inc.

HB-01 THERMAL POLE-TIP PROTRUSION ANALYSIS OF MAGNETIC HEADS FOR HARD DISK DRIVES
Ken-ichiro Aoki, Toshinori Hoshino, Takeshi Iwase, Takahiro Imamura, Keiji Aruga. HDD Technology Development Dept., Fujitsu Limited, Japan, Component Technology Dept., Fujitsu Limited, Japan, HDI Engineering Dept., Fujitsu Limited, Japan, Magnetic Disk Drive Laboratory, Fujitsu Laboratories Ltd., Japan, 1st H.D.D. Div., Fujitsu Limited, Japan

HB-02 VERIFICATION OF THERMALLY INDUCED NANOMETER ACTUATION OF THE MAGNETIC RECORDING TRANSDUCER TO OVERCOME MECHANICAL AND MAGNETIC SPACING CHALLENGES
Mike Suk, Masayuki Kurita, Hideaki Tanaka, Shozo Saegusa, Neil Robertson. Hitachi Global Storage Technologies, United States of America, Hitachi Storage Technology Research Center, Japan, Hitachi Global Storage Technologies, Japan

HB-03 A METHOD TO ESTIMATE POLE TIP PROTRUSION IN RECORDING HEADS
Vijay Prabhakaran, Wu Xing Gan, Suping Song, Eric Sladek. Western Digital Corporation, United States of America
HB-04 MODELING AND DESIGN OF CONTROLLED FLYING PROXIMITY SLIDERS FOR HEAD-MEDIA SPACING VARIATION SUPPRESSION IN ULTRA-LOW FLYING AIR BEARINGS
Jia-Yang Juang, David B. Bogy, Dept. of Mechanical Engineering, University of California, Berkeley, United States of America

HB-05 PARTIAL-CONTACT HEAD-DISK INTERFACE
15:30 APPROACH FOR HIGH-DENSITY RECORDING
Jun Guo Xu¹, Hidekazu Kohira¹, Hideaki Tanaka², Shozo Saegusa³, 'Storage Technology Research Center, Hitachi Ltd, Japan, 'Hitachi GST, Japan

HB-06 HAMR AND MECHANICAL STABILITY OF ITS HEAD-DISK INTERFACE
15:45 H. Li, B. Liu, H.Y. Ye, T.C. Chong, Data Storage Institute, Singapore

HB-07 DEGRADATION TESTING AND LIFETIME PREDICTION OF GMR HEADS UNDER MECHANICALLY AND THERMALLY ACCELERATED CONDITIONS
Takahiro Imamura¹, Kenrou Yamamoto¹, 'Magnetic Disk Drive Laboratory, Fujitsu Laboratories Ltd, Japan, 'HDI Engineering Dept., Fujitsu Ltd., Japan

HB-08 EMULATING MEDIA DEFECT CORROSION
16:15 Qing Dai¹, Guillermo Prada¹, Bing Yen¹, Bruno Marchon¹, Charlie Rettner¹, 'San Jose Research Center, Hitachi Global Storage Technologies Inc., United States of America, 'Materials Laboratory, Hitachi Global Storage Technologies Inc., United States of America, 'IBM Almaden Research, United States of America

HB-09 CHEMICALLY MODIFIED AIR-BEARING SURFACE FOR THE NEAR CONTACT REGIME-PART 1: CONCEPT AND CHARACTERIZATION
Hiroshi Chiba¹, Takayuki Musashi¹, Yoshiharu Kasamatsu¹, Keiji Watanabe¹, 'Inorganic Materials & Polymers Laboratory, FUJITSU LABORATORIES LTD., Japan, 'HDI Dept., FUJITSU LTD., Japan

HB-10 CONFORMATION AND MOTION OF MONOLAYER LUBRICANT MOLECULE ON MAGNETIC DISKS
16:45 Kenji Fukuzawa, Shintaro Itoh, Kenta Suzuki, Yusuke Kawai, Hedong Zhang, Yasunaga Mitsuya, Dept. of Mirco-nano Systems Engineering, Nagoya University, Japan
HB-11 VISCOSITY INCREASE DUE TO CONFINEMENT OF MOBILE MOLECULES OF PERFLUOROPOLYETHERS MEASURED BY FIBER WOBBLING METHOD
Shintaro Itoh, Kenji Fukuzawa, Takamasa Ando, Hedong Zhang, Yasunaga Mitsuya, Dept. of Micro-Nano Systems Engineering, Japan

HB-12 DUAL LAYER X-RAY PHOTOELECTRON SPECTROSCOPY MODEL TO SIMULTANEOUSLY DETERMINE A PFPE/A20H LUBRICANT MIXTURE AND CARBON LAYER THICKNESSES ON HARD DISK MAGNETIC MEDIA
Dave Spaulding, Zunde Yang, Jia Jay Liu, MMC Technology, United States of America

Apr. 8 Room 234
Session HC
Symposium on High Magnetic Anisotropy L10 and Related Materials
T. Suzuki
Toyota Technological Institute

*HC-01 FIRST PRINCIPLE CALCULATIONS OF FePt, CoPt,
14:30 CoPt AND FePt ALLOYS
James M. Maclaren, Seagate Research, United States of America, 'University of Duisburg-Essen, Germany, 'University of York, United Kingdom

*HC-02 GIANT MAGNETO-CRYSTALLINE ANISOTROPY OF FCT Fe3Pt ORDERED ALLOY THIN FILMS FABRICATED ONTO MgO SUBSTRATES
Md. Ariful Islam Nahid, Information Storage Materials Laboratory, Toyota Technological Institute, Japan

*HC-03 AN ATOMISTIC MODEL OF SWITCHING IN FePt
15:30 NANOPARTICLES
Oleg Mryasov', Ulrich Nowak', Roy W. Chantrell', 'Seagate Research, United States of America, 'University of Duisburg-Essen, Germany, 'University of York, United Kingdom

*HC-04 MAGNETIZATION REVERSAL PROCESS IN FePt
16:00 NANOPARTICLES
Satoshi Okamoto, IMRAM, Tohoku University, Japan

*HC-05 ORDERING PROCESS AND SIZE EFFECT OF FePt
16:30 MAGNETIC THIN FILMS
Y.K. Takahashi, K. Hono, National Institute for Materials Science, Japan
17:00 COMBINED REACTIONS ASSOCIATED WITH LI
Timothy J. Klemmer, Seagate Research, United States of America

Apr. 8 Room 224

Session HD
Microwave and Magnetoelastic Materials/Devices
E. Quandt
Center of Advanced European Studies and Research
S. Yamamoto
Yamaguchi University

HD-01 MICROWAVE PROPERTIES AND ANISOTROPY
14:30 FIELD DISTRIBUTION IN NANOGRAINULAR Fe-Co-Al-O FILMS
Massimo Pasquale1, Marco Coisson1, Sergio Perero1, Sang-Ho Lim2, 'Materials Department, IEN Galileo Ferraris Torino, Italy, 2Dept. of Materials Science and Eng., Korea Univ. Seoul, Republic of Korea

HD-02 THE FORMATION OF BARIUM HEXAFERRITES
14:45 USING COPRECIPITATION METHODS
Darja Lisjak, Miha Drofenik, Jocef Stefan Institute, Advanced Materials Dept., Slovenia

HD-03 PREPARATION AND CHARACTERIZATION OF Mn-Ir/Fe-Si EXCHANGE-COUPLED MULTILAYER FILM WITH Ru UNDERLAYER FOR HIGH-FREQUENCY MICROMAGNETIC DEVICES
Makoto Sonehara, Takatoshi Sugiyama, Toshiro Sato, Kiyohito Yamasawa, Yoshimasa Miura, Faculty of Engineering, Shinshu University, Japan

HD-04 EFFECT OF MAGNETIC POWDER SIZE OF BAND PASS FILTER FOR ULTRA WIDEBAND(UWB) COMMUNICATION SYSTEMS
A.Saito1, M.Okabe2, 'Dept. of Electromagnetic Material, Daido Steel Co., Ltd., Japan, 2Research & Development Laboratory, Daido Steel Co., Ltd., Japan

HD-05 MICRO-MACHINED MAGNETOSTATIC WAVE COUPLED RESONATORS
Romolo Marcelli1, Takuro Koike2, 'CNR-IMM, Rome Section, Italy, 'Tamagawa University Research Institute, Japan
HD-06 GIANT VOLUME MAGNETOSTRICTION AT ROOM
15:45 TEMPERATURE AND ITS CONNECTION WITH
COLOSSAL MAGNETORESISTANCE IN La_{0.67}Ba_{0.33}MnO_3
R.V. Demin, L.I. Koroleva, Ya.M. Mukovskii, 'M.V.
Lomonosov Moscow State University, Russian Federation,'Moscow State Steel and Alloys Institute, Russian Federation

HD-07 TEMPERATURE DEPENDENCE OF REVERSIBLE
16:00 FIELD-INDUCED STRAIN AND MAGNETIZATION
CHANGES IN NiMnGa SINGLE CRYSTAL
Oleg Heczko, Ladislav Straka, Simo-Pekka Hannula,
'Laboratory of Physical Metallurgy and Material Science,
Helsinki University of Technology, Finland,'Laboratory of
Biomedical Engineering, Helsinki University of Technology,
Finland

HD-08 MAGNETOSTRAIN AND MAGNETIZATION OF THE
16:15 Ni-Mn-Ga SINGLE CRYSTAL
Chengbao Jiang, Jing Min Wang, Hui Bin Xu, Department of
Materials Science and Engineering, Beijing University of
Aeronautics and Astronautics, China

HD-09 MAGNETOSTRICTION OF NiMnGa IN LOW AND
16:30 INTERMEDIATE TEMPERATURE PHASES
Masaaki Matsui, Hidefumi Asano, Kazuhiko Ohmori, Daisuke
Murakami, Toshinori Nakakura, Dept. of Crystalline Materials
Science, Nagoya University, Japan

HD-10 MAGNETOSTRICTIVE PROPERTIES OF Tb-Fe-Co
16:45 SYSTEM THIN FILMS
Teruo Kiyomiya, Yoji Yamada, Yoshio Matsuo, Hiroyuki
Wakiwaka, Yohei Torii, Mika Makimura, 'FDK
CORPORATION, Japan,'Shinshu University, Japan,'Industrial
Research Institute of Nagano Prefecture, Japan

HD-11 SWITCHING OF MAGNETOSTRICTIVE MICRO-DOT
17:00 ARRAYS BY MECHANICAL STRAIN
Markus Loehndorf, Maik-Thomas Bootsmann, Stefani
Dokupiæ, Tzvetan Ivanov, Nicolai Abedinov, Eckhardt
Quandt, 'Center of Advanced European Studies and Research
(caesar), Bonn, Germany,'IMA, University of Kassel, Germany

HD-12 OPTIMAL DESIGN OF MAGNETIC CIRCUIT FOR A
17:15 MAGNETOSTRICTIVE ACTUATOR
Young-Woo Park, Seok-Ho Lee, 'Dept. of Mechatronics
Engineering, Chungnam National University, Republic of
Korea,'Mechatronics Engineering, Chungnam National
University, Republic of Korea
HE-01 4-POLE ALIGNMENT RING-SHAPED MAGNET FOR AUTOMOBILE DC MOTOR
14:30 Hiroshi Matsuoka, Kenji Noguchi, Yoji Hayashi, Hironari Mitarai, Yoshinobu Honkura, Electric & Magnetic Division, Aichi Steel Corporation, Japan

HE-02 RESEARCH ON THE MAGNETIZATION OF A TANGENTIALLY MAGNETIZED BRUSHLESS DC MOTOR
14:45 Ping Zheng, Feng Chai, Yan Wang, Shu Kang Cheng, School of Electrical Engineering and Its Automation, Harbin Institute of Technology, China

HE-03 CAD AND FE ANALYSIS OF RADIAL-FLUX SURFACE MOUNTED PERMANENT MAGNET BRUSHLESS DC MOTOR
15:00 Parag R Upadhyay, K. R. Rajagopal, Electrical Engineering Department, IIT Delhi, India

HE-04 A NOVEL MONOLITHICALLY FABRICATED LORENTZ FORCE ACTUATOR USING POLYMER MAGNETS
15:15 Marco Feldmann, Stephanus Buettgenbach, Institute for Microtechnology, TU-Braunschweig, Germany

HE-05 A HALBACH ARRAY MAGNETIC SPRING
15:30 Will Robertson, Ben Cazzolato, Anthony Zander, School of Mechanical Engineering, University of Adelaide, Australia

HE-06 EFFICIENCY OF PERMANENT MAGNET ASSEMBLIES FOR MRI DEVICE
15:45 Chun Li, Michael K Devine, Dexter Magnetic Technologies, United States of America

HE-07 SUPER-HIGH SPEED CRYOGENIC PMSM DESIGN
16:00 Liping Zheng¹, Thomas X. Wu¹, Dipjyoti Acharya², Kalpathy B. Sundaram¹, Jay Vaidya¹, Li Mei Zhao¹, Chan H. Ham², Nagaraj Arakere¹, Jay Kapat¹, Louis Chow¹, ¹Department of ECE, University of Central Florida, United States of America, ²Department of MMAE, University of Central Florida, United States of America, ³Electrodynamics Associates, Inc., United States of America, ⁴Department of MAE, University of Florida, United States of America
HE-08 BASIC CHARACTERISTICS OF THE SYNCHRONOUS GENERATOR USING MECHANICAL VIBRATION
16:15
Shunsuke Ohashi, Tatsuroo Matsuzuka, Dept. of Electrical Engineering and Computer sciences, Kansai University, Japan

HE-09 LOSS ANALYSIS AND EFFICIENCY IMPROVEMENT OF THE POWER SUPPLY SYSTEM USING MAGNETIC COUPLING FOR MEDICAL IMPLANTS
16:30
Shin-nosuke Suzuki, Oyama National College of Technology, Japan

HE-10 THE EFFECT OF NEUTRON IRRADIATION ON Sm2Co17-BASED HIGH TEMPERATURE MAGNETS AND Nd-Fe-B MAGNETS
16:45
Christina H. Chen1, Joseph Talnagi2, Jin Fang Liu1, Payal Vora3, Ashil Higgins1, Michael H. Walmer1, Don Lee1, Sam Liu1, 1University of Dayton, United States of America, 2Ohio State University, United States of America, 3Electron Energy Corp., United States of America

Apr. 8 Event Hall
13:30-17:00 Session HP
MRAMs and Magnetic Tunnel Junctions
K. Kobayashi
Fujitsu Laboratory
T-W. Kim
SAIT: Samsung Advanced Institute of Technology

HP-01 THERMAL STABILITY OF A SYNTHETIC ANTIFERROMAGNET FREE LAYER
14:00
Nobuki Tezuka, Kazutaka Sakurada, Koichiro Inomata, Tohoku University, Japan

HP-02 NANOMETER SCALED MAGNETIC TUNNEL JUNCTIONS FABRICATED BY A SUBSTRATE BIASED PLASMA ETCHING TECHNIQUE
14:15
Lee K. I.1, J. Y. Chang2, S. H. Han1, K. H. Shin1, W. Y. Lee1, 1Dept. of Materials Science and Engineering, Yonsei University, Republic of Korea, 2Nano Device Research Center, Korea Institute of Science and Technology, Republic of Korea

HP-03 IMPROVED SELECTIVITY OF SAF FREE LAYER IN HIGH DENSITY MRAM ARRAY
14:30
Injun Hwang1, Woncheol Jeong2, Jae Hyun Park2, Wanjun Park1, Young Man Jang1, Youngjin Cho3, Soonwon Hwang1, Taewan Kim1, 1Samsung Advanced Institute of Technology, Republic of Korea, 2Semiconductor R&D Division, Samsung Electronics, Republic of Korea
HP-04 HIGH DENSITY MAGNETIC RANDOM ACCESS MEMORY USING A PAIR OF ASYMMETRICAL CELL
Chee K. Lim¹, Yong S. Kim¹, No Y Park¹, J. Lee², ¹HDD Program Team, Samsung Advanced Institute of Technology, Republic of Korea, ²Dept. of Electrical Engineering, Hanyang University, Republic of Korea

HP-05 PAIRED INTERACTION EFFECT ON SWITCHING BEHAVIORS OF PATTERNED "PAC-MAN" ARRAY
Hongmei Han¹, Yang-Ki Hong¹, Mun-Hyoun Park¹, Byung-Chul Choi², Sung-Hoon Gee³, James F. Jabal¹, Gavin Abo¹, Andrew Lyle¹, Byron Wong⁴, Gregory W. Donohoe⁴, ¹Dept. of Materials Science and Engineering, University of Idaho, United States of America, ²Dept. of Physics, University of Victoria, Canada, ³Dept. of Electrical and Computer Engineering, University of Idaho, United States of America

HP-06 LOW SWITCHING FIELD OF SUB-MICRON Sized MTJs WITH SYNTHETIC FERRIMAGNET FREE LAYER BASED ON NiFe/Ru/NiFe MULTILAYERS
Young Min Lee¹, Hitoshi Kubota², Yasuo Ando³, Terunobu Miyazaki¹, ¹Dept. of Applied Physics, Tohoku University, Japan, ²Nanoelectronics Research Institute, AIST, Japan

HP-07 TUNNEL MAGNETORESISTANCE IN FULLY EPITAXIAL MgO DOUBLE BARRIER MAGNETIC TUNNEL JUNCTIONS
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Koide1, 1National Institute of Advanced Industrial Science and
Technology, Japan, 2Dept. of Physics, Toho University, Japan,
1CREST-JST, Japan, 2KEK Photon Factory, IMSS, Japan

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Fei Li1, Tao Zhu2, Jun Du2, Ming-wen Xiao1, Zheng-Zhong Li2,
An Hu1, John Q. Xiao1, 1Dept. of Physics and Astronomy,
University of Delaware, United States of America, 2National
Laboratory of Solid State Microstructures, Nanjing University,
China

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Terunobu Miyazaki1, 1Department of Applied Physics, Graduate
School of Engineering, Tohoku University, Japan,
2Nanoelectronics Research Institute, National Institute of
Advanced Industrial Science and Technology (AIST), Japan

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1Dept. of Physics, National Taiwan University, Taiwan, 2Institute
of Physics, Academia Sinica, Taiwan

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Tohoku University

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Chiharu Mitsumata¹, Akimasa Sakuma¹, Kazuaki Fukamichi¹, ¹Advanced Electronics Research Lab., Hitachi Metals, Ltd., Japan, ²Dept. of Applied Physics, Graduate School of Engineering, Tohoku University, Japan, ³Dept. of Material Science, Graduate School of Engineering, Tohoku University, Japan

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G. Vallejo Fernandez, M. Vopsaroiu, S. Manzoor, K. O’Grady, Department of Physics, The University of York, United Kingdom

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Joong Hoe Dho1, C. W. Leung1, H. H. Kim2, H. H. Kim3, M. G. Blamire1, 1Department of Materials Science and Metallurgy, University of Cambridge, United Kingdom, 2Nanoscience Center, IRC in Nanotechnology, University of Cambridge, United Kingdom, 3Memory Division, Semiconductor Business, Samsung Electronics Co. Ltd., Republic of Korea

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Young Hun Hwang¹, Hye Kyeong Kim¹, Young Ho Um¹, Hyo Yeol Park¹, Gwang Soo Jeen¹, ¹Department of Physics, University of Ulsan, Republic of Korea, ²Department of Semiconductor Application, Ulsan College, Republic of Korea, ³Department of Physics, Pusan National University, Republic of Korea

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Yoshimi Mita, Graduate School of Engineering Science, Osaka University, Japan
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Anna Go, Maria Pugaczowa-Michalska, Ludwik Dobrzynski, ‘Institute of Experimental Physics, University of Bialystok, Poland, ‘Institute of Molecular Physics, Polish Academy of Science, Poland, ‘The Soltan Institute for Nuclear Studies, Poland

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Jae Il Lee, Y. J. Jin, Dept. of Physics, Inha University, Republic of Korea
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