TT
Tutorial Symposium: Recent Advances in Nanomagnetism

Can Korman
George Washington University

Sunday
3:30 PM

TT 01
3:30 PM
NANOFABRICATED MAGNETIC ISLANDS FOR HIGH DENSITY STORAGE
B Tertis, IBM Almaden Research Centre, San Jose, CA

TT 02
4:15 PM
SELF-ORDERED FePt NANOPARTICLE MAGNETIC ARRAY MEDIA
D Weller, N Shukla, C Liu, T Klemmer, X Wu, J Ahner, R Chantrell, M Kryder, Seagate Research, Pittsburgh, PA

TT 03
5:00 PM
THERMAL RELAXATION IN MAGNETIC NANOSTRUCTURES
J W Harrell, Phys. & MINT Center, University of Alabama, Tuscaloosa, AL

AA
SYMPOSIUM
Magnetisation Dynamics: Ultrafast Switching

Burkard Hillebrands
University of Kaiserslautern

Jacques Millat
Universite Paris Sud

Monday
9:00 AM

AA 01
9:00 AM
FERROMAGNETIC SWITCHING DYNAMICS AS REVEALED BY OPTICAL MICROSCOPY [invited]
Mark R Freeman, Byoung-Chul Choi, G E Ballentine, M Belov, A Krichevsky, Dept of Physics, University of Alberta, Edmonton, AB, Canada

AA 02
9:30 AM
PRECESSIONAL MAGNETIZATION REVERSAL IN MICROSCOPIC SPIN VALVE CELLS [invited]
Hans Werner Schumacher1, Claude Chappert1, Paul Crozat1, Ricardo C Sousa2, Paulo P Freitas2, J Ferre3, J Millat4, 1IEF, CNRS, Universite Paris Sud, Orsay, France, 2INESC, Lisbon, Portugal, 3Laboratoire de Physique des Solides, Universite Paris Sud, France

AA 03
10:00 AM
PICOSECOND COHERENT MAGNETISATION REVERSAL BY MAGNETIC FIELD PULSE [invited]
Thomas Gerrits1, Hugo A.M. van den Berg2, Julius Hohlfeld3, L Bar4, Theo Rasing1, 1Research Institute for Materials, University of Nijmegen, 2Siemens AG, CT MF 1, Erlangen, Germany

AA 04
10:30 AM
MAGNETIZATION REVERSAL DYNAMICS AND ENERGY DAMPING [invited]
Jian-Gang Zhu, Robert M. White, Data Storage System Center, Dept. of ECE, Carnegie Mellon Univ., Pittsburgh, PA

AA 05
11:00 AM
FAST SWITCHING OF MAGNETIC NANOPARTICLES:
SIMULATION OF THERMAL NOISE EFFECTS USING THE LANGEVIN DYNAMICS [invited]
Dmitri Vladimirovich Berkov, INNOVENT e.V., Jena, Germany

AA 06
11:30 AM
MAGNETIZATION SWITCHING INDUCED BY SPIN POLARIZED CURRENTS [invited]
S Zhang1, Z Li2, P M Levy3, A Shpiro2, A. Fert1, 1Dept. of Physics and Astronomy, Univ. of MO-Colombia, 2Department of Physics, New York University, 3UMP CNRS-THALES, Orsay, France
AB
Advanced Media I: AFC and Patterned

Mary Doerner
IBM SSD, San Jose

Monday
9:00 AM  Forum  9:00 AM

AB 01  EFFECT OF EXCHANGE FIELD STRENGTH ON MAGNETIC AND RECORDING PROPERTIES OF SAF MEDIA
Sudhir Malhotra, Zhengsheng Shan, Donald Stafford, Gerardo Bertero, David Eugene Wachenschwanz, Komag, Inc., San Jose, CA

9:15 AM

AB 02  THERMAL STABILITY AND READ-WRITE PERFORMANCE OF AFC MEDIA
Fumiko Akagi, Masakazu Igarashi, Hitachi, Ltd., Central Research Lab., Japan

9:30 AM

AB 03  EXPERIMENTAL STUDIES OF THE SWITCHING PROPERTIES OF SYNTHETIC ANTI-FERROMAGNETIC (SAF) MEDIA
David Eugene Wachenschwanz, Sudhir Malhotra, Donald Stafford, Zhengsheng Shan, Gerardo Bertero, Komag, Inc., San Jose, CA

9:45 AM

AB 04  IMPROVED STABILIZATION EFFICIENCY IN SYNTHETIC FERRIMAGNETIC MEDIA
Akihiro Inomata, E Noel Abarr, B R Acharya, Iwao Okamoto, Fujitsu Laboratories, Atsugi, Japan

10:00 AM

AB 05  ADVANCED LAMINATED ANTIFERROMAGNETICALLY COUPLED MEDIA WITH HIGH THERMAL STABILITY AND LOW NOISE
S. I. Pang, S. N. Piramanayagam, J. P. Wang, Data Storage Institute, Singapore

10:15 AM

AB 06  MAGNETISATION REVERSAL IN AFC MEDIA
Jing Wu, K. O’Grady, James Dutson, Dept of Physics, University of York, UK

10:30 AM

AB 07  THERMAL DECAY STUDY OF VARIOUS MAGNETIZATION PATTERNS
Richard M Brockie, Hans Jürgen Richter, Seagate Technology, Fremont, CA

10:45 AM

AB 08  ANALYSIS OF THE MAGNETIZATION SWITCHING IN CoCrPtTa THIN FILMS BY MAGNETO-OPTIC KERR EFFECT VECTOR MAGNETOMETRY
Giancarlo Bottini, Donato Candolfio, Antonio Cecchetti, Paolo Vavassori, INFN, University of Ferrara, Italy

11:00 AM

AB 09  RECORDING PROPERTIES OF PATTERNED Co_{0.8}Pt_{0.2}Cr_{1.2} PERPENDICULAR MEDIA
Manfred Albrecht, Charles T. Rettnere, Andreas Moser, Simone Anders, Thomas Thomson, Margaret E. Best, Bruce D. Terris, IBM, Almaden Research Center, San Jose, CA

11:15 AM

AB 10  2.5-INCH DISK PATTERNED MEDIA PREPARED BY AN ARTIFICIALLY ASSISTED SELF-ASSEMBLING METHOD
Katsuyuki Naito, Hiroyuki Hieda, Masatoshi Sakurai, Yoshiyuki Kamata, Koji Asakawa, Toshiba R&D Center, Toshiba Corp., Advanced Materials and Devices Lab., Toshiba Corp., Saiwai-ku, Kawasaki, Japan

11:30 AM

AB 11  MAPPING COERCIVITY VARIATION ON PATTERNED MAGNETO-OPTICAL MEDIA
Te-ho Wu’, Lin-Xia Ye’, J.M. Lee’, J.C. Wu’, Han-Ping D. Shieh’, ‘Taiwan Univ. of Sci. and Tech., Touliu, Taiwan Nat’l Univ., Hsinchu, Taiwan

11:45 AM

AB 12  ION PROJECTION PRINTING FOR PATTERNING OF MAGNETIC MEDIA
Andreas Dietzel, Ruediger Berger, IBM Germany
AC
GMR and Exchange Bias

Hans Boeve
Philips Research, Eindhoven

Monday 9:00 AM

Room A

9:00 AM

AC 01
MEASUREMENT OF ENERGY BARRIER DISTRIBUTION IN THE ANTFERROMAGNETIC LAYER OF EXCHANGE BIASED MATERIALS
K. O’Grady, Lee Holloway, Dept of Physics, University of York, UK

9:15 AM

AC 02
DOMAIN STATE MODEL FOR EXCHANGE BIAS: TRAINING EFFECT OF DILUTED Co$_x$O ON EXCHANGE BIAS IN Co/CoO
Bernd Beschoten, Jan Keller, Andrea Tillmanns, Peter Miltényi, Gernot Güntherodt, Physikalisches Institut, RWTH Aachen

9:30 AM

AC 03
INCOMPLETE AFM INTERFACE MOMENT FLIPPING IN AFM/FM BILAYERS
Jian Chen, Chunhong Hou, Juan Fernandez-de-Castro, Seagate Technology, Minneapolis, MN

9:45 AM

AC 04
HIGHLY SENSITIVE CPP ELEMENTS USING SPIN-VALVE FILM WITH NANO-OXIDE LAYERS FOR OVER 100 GBIT/INCH$^2$ READ HEADS
Keiichi Nagasaka, Hirotaka Oshima, Yoshihiko Seyama, Yutaka Shimizu, Atsushi Tanaka, Fujitsu Laboratories Ltd., Japan

10:00 AM

AC 05
ANNEALING EFFECT ON THE RECOVERY OF TRAINING EFFECT IN FeO/CoFe POLY-CRYSTALLINE SYSTEMS
Kunliang Zhang, Tong Zhao, Hideo Fujiwara, MINT center, University of Alabama, Tuscaloosa, AL

10:15 AM

AC 06
90° COUPLING IN FeNi/ nickel/Co TRILAYERS
Julio Camarero$^1$, Yan Penne$^2$, Jan Vogel$^1$, Stefania Pizzini$^1$, Farid Fettar$^2$, Frank Ernult$^1$, Bernard Diets$^2$, $^1$Laboratoire Louis Néel, CNRS, BP166, Grenoble, France, $^2$DRFMC, SP2M/NM, CEA Grenoble, France

10:30 AM

AC 07
MAGNETO-RESISTANCE OF MnFe(As,P)
Ekkes Bruck, Van der Waals-Zeeman Instituut, Universiteit van Amsterdam, The Netherlands

10:45 AM

AC 08
CHARACTERIZATION OF NANO-OXIDE LAYERS FABRICATED BY ION BEAM OXIDATION: APPLICATION IN SPECULAR SPIN-VALUES AND TUNNEL JUNCTIONS
Susana Cardoso, Haohua Li, Paulo Freitas, INESC, Lisbon - Portugal

11:00 AM

AC 09
EFFECTS OF SPUTTERING ANGLE ON SURFACE ROUGHNESS, CHEMICAL COMPOSITION, AND GMR BEHAVIOR OF NiO & Fe$_2$O$_3$ BOTTOM SPIN-VALUES
Seongtae Bae$^1$, P.J. Chen$^2$, W. F. Egelhoff, Jr.$^2$, Jack H. Judy$^1$, $^1$MINT, University of Minnesota, Minneapolis, MN, $^2$Magnetic Materials Group, NIST, Gaithersburg, MD

11:15 AM

AC 10
THE STRUCTURAL AND MAGNETIC CHARACTERISATION OF MBE-GROWN FeMn/NiFe EXCHANGE-BIASED BILAYERS
Young-suk Choi$^1$, Amanda K Pettford-Long$^1$, Roger C. C. Ward$^1$, Mike R Wells$^2$, $^1$Department of Materials, University of Oxford, $^2$Department of Physics, University of Oxford, UK

11:30 AM

AC 11
PERPENDICULAR MAGNETORESISTANCE IN BULK METALLIC MULTI-LAYERS PREPARED BY COLD DEFORMATION
Alexandre Giguere$^1$, Nora M. Dempsey$^1$, Marc Verdier$^2$, Dominique Givord$^1$, $^1$Laboratoire Louis Neel, CNRS, Grenoble, France, $^2$LTPCM, INPG, Grenoble, France

11:45 AM

AC 12
GIANT MAGNETOSTRICTION AND TEMPERATURE CHARACTERISTICS OF BOTTOM SPIN VALVES HAVING VERY THIN Cu SPACERS
Soonchul Jo$^1$, Michael A Seigler$^2$, $^1$School of Electronic Engineering, Soongsil University, Korea, $^2$Seagate Research, Pittsburgh, PA
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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Presenters</th>
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<tr>
<td>9:00 AM</td>
<td>AD 01</td>
<td>INVESTIGATING HEAD-DISK INTERFACE ISSUES AT NEAR-CONTACT USING TAKE-OFF PRESSURE MEASUREMENTS <em>invited</em></td>
<td>Vedantham Raman, CHV-0281, IBM-STD, San Jose, CA</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>AD 02</td>
<td>AN ACTIVE-HEAD SLIDER WITH A PIEZOELECTRIC ACTUATOR FOR CONTROLLING FLYING HEIGHT</td>
<td>Masayuki Kurita¹, Takanori Yamazaki², Hidekazu Kohira², Matsumoto Masaaki², Ryuuiji Tsuchiyama¹, Junguo Xu¹, Takeshi Harada¹, Youichi Inoue¹, ¹Mechanical Engineering Research Lab., Hitachi, Ltd., ²Data Storage Systems Division, Hitachi, Ltd., Japan</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>AD 03</td>
<td>DIRECT OBSERVATION OF PADDED SLIDER TIPPING USING THE MRE COOLING EFFECT</td>
<td>Xinwei Li, Huan Tang, Jing Gui, Seagate Technology, Fremont, CA</td>
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<td>10:00 AM</td>
<td>AD 04</td>
<td>EFFECTS OF VACUUM ULTRAVIOLET IRRADIATION TO LUBRICANT LAYER ON HARD-DISK MEDIA</td>
<td>Hiroshi Chiba, Fujitsu Laboratories, Ltd., Atsugi, Japan</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>AD 05</td>
<td>GENESIS AND EVOLUTION OF LUBRICANT MOGULS</td>
<td>Bruno Marchon¹, Qing Dai¹, Celine Saint-Olive¹, Remmeht Piet¹, ¹IBM, Almaden Research, ²IBM, Storage Technology Division, San Jose, CA</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>AD 06</td>
<td>THE EFFECT OF PROCESS SOLVENT AND MOISTURE LEVEL ON LUBRICANT FILM PROPERTY AND ITS PERFORMANCE</td>
<td>Shaun H. Chen¹, Billy Shin¹, James Chao¹, Paul E. Rajtar¹, Jason M. Kehren¹, ¹Komag, Inc., San Jose, CA, ²3M Center, St. Paul, MN</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>AD 07</td>
<td>Ta-C FILMS BY FILTERED CATHODIC VACUUM-ARC DEPOSITION FOR ABSOC</td>
<td>Kenji Furusawa¹, Hiroshi Inaba¹, Hiroshi Inaba¹, Shinya Hirano¹, Shinji Sasaki¹, Minoru Yamasaka², Masayoshi Endou², ¹PERL, Hitachi, Ltd., Totsuka, Yokohama, Japan, ²STR, Hitachi, Ltd., Kozu, Odawara, Japan</td>
</tr>
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<td>11:00 AM</td>
<td>AD 08</td>
<td>FUNCTIONALIZED ION BEAM CARBON FOR MAGNETIC DISKS</td>
<td>Shahid A. Pirzada, Jia J. Liu, Fred Li, Chao Yuan Chen, MMC Technology, San Jose, CA</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>AD 09</td>
<td>MAPPING OF SLIDER-DISK INTERACTION</td>
<td>Yijun Man, Bo Liu, Yansheng Ma, Data Storage Institute, Singapore</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>AD 10</td>
<td>HEIGHT-ATTITUDE OBSERVATION AND INVESTIGATIONS IN LOAD/UNLOAD PROCESSES</td>
<td>Jiang Zhou¹, Bo Liu¹, Qingfang Leng¹, Masaki Matsumoto¹, ¹Data Storage Institute, Singapore, ²Data Storage Systems Division, Hitachi Ltd., Japan</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>AD 11</td>
<td>SLIDER AND HGA DESIGNS FOR BOTH SMOOTH LOAD/UNLOAD OPERATION AND HIGH SHOCK RESISTANCE</td>
<td>Ni Sheng, Wei Hua, Bo Liu, Data Storage Institute, Singapore</td>
</tr>
</tbody>
</table>
AE
Magnetostriction and Shape Memory Effects

Mike Gibbs
University of Sheffield

Monday
9:00 AM
Room C & D

9:00 AM
AE 01
NOVEL STRAIN SENSORS BASED ON MAGNETOSTRICTIVE GMR/TMR STRUCTURES
Markus Loehndorf, Caesar, Friedensplatz 16, Bonn, Germany

9:15 AM
AE 02
OPTIMIZATION OF THE DELTA-E-EFFECT IN THIN FILMS AND MULTILAYERS BY MAGNETIC FIELD ANNEALING
Alfred Ludwig, Eckhard Quandt, Caesar, Friedensplatz 16, Bonn, Germany

9:30 AM
AE 03
FABRICATION AND CHARACTERIZATION OF Fe(Ti/Ga) THIN FILMS
Giovanni Zangari1, James Weston1, Alejandro Butera2, Tommaso Lograsso1, Julica Zana3, J.A. Barnard4, 1University of Alabama, MINT Center, Tuscaloosa, AL, 2Centro Atomico Bariloche, Rio Negro, Argentina, 3AMES Laboratory, Ames IA, 4University of Pittsburgh, PA

9:45 AM
AE 04
RELATION BETWEEN MAGNETIC REVERSAL AND MAGNETIC SHAPE MEMORY EFFECT
Oleg Heczko1, Ladislav Straka1, Kari Ullakko2, 1Helsinki University of Technology, 2AdaptaMat OY, Finland

10:00 AM
AE 05
MAGNETIC PROPERTIES OF VARIOUS ARTENSTIC PHASES IN Ni-Mn-Ga ALLOY
Ladislav Straka, Oleg Heczko, Nataliya Lanska, Helsinki University of Technology, Finland

10:15 AM
AE 06
STRUCTURE OF MELT-SPUN Fe-Ga BASED MAGNETOSTRICTIVE ALLOYS
Shu-Fan Cheng1, Badri Das1, Peter Lubit1, Marilyn Wun-Fogle2, Arthur Clark1, 1NRL, Washington DC, 2NSWC, West Bethesda, MD, 3Clark Associates, Adelphi, MD

10:30 AM
AE 07
MAGNETIC PROPERTIES OF Ni-Mn-Ga RIBBON PREPARED BY RAPID SOLIDIFICATION
Oleg Heczko1, Peter Svec2, Nataliya Lanska1, Kari Ullakko1, 1Helsinki University of Technology, 2Institute of Physics, Slovak Academy of Science, 3AdaptaMat OY, Finland

10:45 AM
AE 08
COMPOSITION AND TEMPERATURE DEPENDENCE OF THE MAGNETOCRYSTALLINE ANISOTROPY IN Ni2−xMnxGa1−x HEUSLER ALLOYS
Franca Albertini1, Luigi Pareti1, Antonio Paoluzzi1, Luis Morellon2, Pedro Algarabel2, Manuel Ricardo Ibarra2, 1Maspec CNR, Parco Area delle Scienze, Italy, 2DFMC-ICMA, Universidad de Zaragoza-CSIC, Spain

11:00 AM
AE 09
INFLUENCE OF THERMAL TREATMENT ON LOCAL STRUCTURE AND MAGNETIC PROPERTIES OF NiMnGa ALLOYS
Charles J. O’Connor1, Vladimir O. Golub2, Andriy Ya. Vovk1, Vitaliy V. Kotov2, Piter G. Yakovenko1, Karri Ullakko1, 1AMRI-University of New Orleans, LA, 2Institute of Magnetism, NAS of Ukraine, Kiev, Ukraine, 3Institute of Metal Physics, NAS of Ukraine, Kiev, Ukraine, 4Helsinki University of Technology, Finland

11:15 AM
AE 10
MAGNETIC DOMAIN OBSERVATIONS AND INTERPRETATIONS ON Fe,Pd FOR FERROMAGNETIC SHAPE MEMORY
Qi Pan, Jun Cui, Richard D. James, University of Minnesota, Dept. of Aerospace Eng. & Mech.

11:30 AM
AE 11
MAGNETIC AND MECHANICAL PROPERTIES OF NiMnGa SINGLE CRYSTALS
Massimo Pasquale1, Carlo Paolo Sasso1, Stefano Besseghini1, Thomas Lograsso1, 1IENGF Materials Dept. Torino Italy, 2CNR-Tempe Sez. Lecco Italy, 3Ameaslab Ames, IA

11:45 AM
AE 12
MAGNETIC FIELD-INDUCED DEFORMATION IN SINGLE- AND POLY-CRYSTALLINE NiMnGa
S.J. Jeong, Bok-Ki Min, D.W. Shin, KERI, Chanwon 641-120, Korea
AP 01  A RECORDING AT A CHANNEL RATE OF 200MBPS IN HELICAL TAPE SYSTEMS
Shinichi Fukuda, Kyoko Suzuki, Shinichi Fukuda, Toshio Shirai, Tadashi Ozue, CT Development Center, Sony. Corp, Yokohama, Japan

AP 02  PERFORMANCE EVALUATION OF LDPC CODE ON VR2
Daqing Yang, Richard W Molstad, Yung Yip, Imation Corp., 1 Imation Way, Oakdale, MN

AP 03  WITHDRAWN

AP 04  PARTICLE DISPERSION AND NOISE IN METAL PARTICLE TAPES
Mustafa Makki Aziz1, Barry K Middleton2, Jim J Miles3,
1University of Exeter, 2University of Manchester, UK

AP 05  SPATIAL EFFECTS IN THE DC MODULATION NOISE OF ADVANCED MP TAPE
Philip Raymond Bissell1, Tim Mercer1, Paul-Claudiu Ardeleanu1, Laurentiu Stoleriu2, Alexandru Stancu2, 1University of Central Lancashire, Preston, UK, 2Alexandru Ioan Cuza University, Iasi, Romania

AP 06  EFFECT OF AI-DOPING AND COATING ON ELLIPSOIDAL Fe-Co PARTICLES
N.O. Nuñez, R. Pozas, M.P. Morales, M. Ocaña, C.J. Serna, ICMM, CSIC, Madrid, Spain

AP 07  DEPENDENCE OF COERCIVITY RATIO ON ANISOTROPY DISTRIBUTION AND INTERACTIONS IN PARTICULATE MEDIA
Shoutao Wang, J W Harrell, Phys. & MINT Center, Univ. of Alabama, Tuscaloosa, AL

AP 08  MAGNETIC PROPERTIES OF ACICULAR ULTRAFINE IRON PARTICLES
Laudemir Carlos Varanda,1 Gerardo Fabian Goya2, Puerto Morales Herrero2, Rodrigo Fernando Costa Marques3, Ricardo Henrique Moreton Godoi4, Miguel Iafelici Jr1, Carlos Serna1, 1Instituto de Química de Araraquara - UNESP, 2Physics Institute - Sao Paulo University, 3ICMM, CSIC Spain, 4University of Antwerp - Department of Chemistry, Belgium

AP 09  EFFECT OF Cr UNDERLAYER ON OBLIQUELY SPUTTERED Co ON PET SUBSTRATE
Long Thang Nguyen1, Abdellah Lisi2, Kim Le Phan1, J C Lodder1, R G Keimi1, 1SMI, MESA+ Institute, U. Twente, 2SMAL, MESA+ Institute, U. Twente, The Netherlands

AP 10  RECORDING CHARACTERISTICS OF THIN METAL EVAPORATED MEDIA IN A HELICAL-SCAN TAPE SYSTEM WITH A SPIN-VALVE HEAD
Hiroki Tetsukawa1, Masayuki Kondo1, Yutaka Soda1, Tadahiko Ozoe1, Kazunari Motoshahi1, Seiichi Onodera2, Takahiro Kawana1, 1CT Development Center, Sony, Japan, 2RMCo, Sony, Japan

AP 11  ERASE AND WRITE WIDTHS FOR NARROW TRACK HIGH DENSITY FLEXIBLE STORAGE MEDIA APPLICATIONS
Mark Lee Watson, Kevin D McKinstry, StorageTek, Louisville, CO

AP 12  WITHDRAWN

AP 13  MICROTRACK PROFILES FOR INVESTIGATING SIDE EFFECTS OF ADVANCED SILICON HEADS FOR HELICAL SCAN TAPE
Adrian Hozoi1, J.P.J. Groenland1, Cocks Lodder2, J.B. Albertini3, 1SMI, MESA+ Research Institute, U. Twente, The Netherlands, 2Alditech, Grenoble, France

AP 14  FLAT PROFILE TAPE RECORDING HEAD
Robert Glenn Biskeborn, James H Eaton, IBM Corporation, San Jose, CA

AP 15  REDUCTION OF POLE TIP RECESSON IN LINEAR RECORDING HEADS
Erwan Soutry1, John L. Sullivan1, Marcel de Jong2, 1Aston University, Birmingham, U.K., 2Onstream MST BV, AC Eindhoven, The Netherlands

AP 16  COMPARISON OF MR AND GMR SPIN VALVE HEADS FOR MAGNETIC RECORDING ON MP TAPE
Richard Henry Dee, StorageTek, Louisville, CO

AP 17  FLUX-GUIDE TYPE TUNNEL-VALVE HEAD FOR HELICAL SCAN TAPE SYSTEM
Eiji Nakashio, Junichi Sugawara, Seiji Onoe, Seiji Kumagai, Sony Corporation CNC SDC, Yokohama, Japan

AP 18  QUASI-STATIC AND DYNAMIC ANALYSIS OF SPIN VALVE TAPE HEADS WITH SYNTHETIC FREE AND PINNED LAYERS VS. HEADS WITH A CONVENTIONAL FREE LAYER AND A SYNTHETIC PINNED LAYER
Anaibela Veloso1, Paulo P Freitas2, Richard H Dee2, 1INESC, R. Alves Redol 9-1, Lisbon, Portugal, 2StorageTek, Louisville, CO
**Inductive Recording Heads and Materials I**

Palavi Dhagat  
Seagate Technology, Minneapolis

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<td>Monday</td>
<td>AQ 01</td>
<td>OPTIMIZATION OF ONE-SIDED POLE HEADS</td>
<td>Hazel A Shute¹, David T Wilton¹, Jim J Miles¹, Desmond J Mapps¹, ¹University of Plymouth, Drake Circus, Plymouth, UK, ²University of Manchester, Oxford Rd, Manchester, UK</td>
</tr>
<tr>
<td></td>
<td>AQ 02</td>
<td>NEW STRUCTURED PLANAR TYPE WRITE HEAD FOR 100GB/IN² AND BEYOND</td>
<td>Yasushi Kanai¹, Ryo Matsubara¹, Koji Fujiwara², Norio Takahashi², ¹Niigata Inst. of Tech., Kashiwazaki, Japan, ²Dpt. E.E., Okayama Univ. Okayama, Japan</td>
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<tr>
<td></td>
<td>AQ 03</td>
<td>DESIGN OPTIMIZATION OF PLANAR-TYPE WRITE HEAD FOR HIGH DENSITY MAGNETIC RECORDING</td>
<td>Sang Ho Lim, Kyong Suk Kim, Cheol Eui Lee, Korea Institute of Science and Technology, Seoul, Korea</td>
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<td>AQ 04</td>
<td>MAGNETIZATION REVERSAL DYNAMICS AND ENERGY DAMPING</td>
<td>Jian-Gang Zhu, Robert M. White, Data Storage System Center, Carnegie Mellon University, Pittsburgh, PA</td>
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<td>AQ 05</td>
<td>HIGH FIELD GRADIENT SINGLE POLE HEAD WITH A NOVEL POLE STRUCTURE</td>
<td>Weixing Xia, Hiroki Muraoka, Yoshiiisa Nakamura, RIEC, Tohoku Univ., Sendai, Japan</td>
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<td>AQ 06</td>
<td>FABRICATION OF SUBMICRON TRACKWIDTH THIN FILM HEAD AND ITS INDUCTANCE-SATURATION CHARACTERISTICS</td>
<td>Huan Du, Dept. Engineering, University of Exeter, Devon, UK</td>
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<tr>
<td></td>
<td>AQ 07</td>
<td>WRITE HEADS WITH POLE TIP CONSISTING OF HIGH B, FeCoAlO FILMS</td>
<td>Shoji Ikeda, Fujitsu Laboratories Ltd., Japan</td>
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<td></td>
<td>AQ 08</td>
<td>HIGH PERFORMANCE WRITER USING HIGH MOMENT SPUTTERED FILMS ON TOP AND BOTTOM POLES</td>
<td>Yingjian Chen, Francis Liu, Kroum Stoev, Xiaozhong Dang, Huaching Tong, Yiming Huai, Read-Rite Corporation, Fremont, CA</td>
</tr>
<tr>
<td></td>
<td>AQ 09</td>
<td>SOFT MAGNETIC PROPERTIES AND MICROSTRUCTURE IN NiFe/FeCoNiFe FILMS WITH LARGE SATURATION MAGNETIZATION</td>
<td>Hiroyuki Katada, Takehito Shimatsu, Isao Watanabe, Hiroaki Muraoka, Yoshiiisa Nakamura, RIEC, Tohoku Univ., Sendai, Japan</td>
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<tr>
<td></td>
<td>AQ 10</td>
<td>DEMONSTRATION OF IMPROVED FREQUENCY RESPONSE IN LAMINATED SPUTTERED TOP POLES</td>
<td>Kevin Anthony McNeill¹, Brian L Kelly¹, Paul M Dodd¹, Thomas K McLaughlin¹, Douglas A Saunders¹, ¹Seagate Technology Ireland, Springtown, Derry, ²Seagate Technology, Minneapolis, MN</td>
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<tr>
<td></td>
<td>AQ 11</td>
<td>THE EFFECT OF DOPANTS ON THE MAGNETIC AND CORROSION PROPERTIES OF HIGH MOMENT ELECTROPLATED FILMS</td>
<td>Peter Kevin McGeehin¹, Steve Riemer¹, Alan B Johnston¹, ¹Seagate Technology Ireland, Springtown, Derry, ²Seagate Technology, Bloomington, MN</td>
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<td>AQ 12</td>
<td>MULTILAYERED FeCoFeCo-O SOFT MAGNETIC FILMS FOR RECORDING APPLICATIONS</td>
<td>S. N. Piramanayagam, E.W. Soo, J.P. Wang, Data Storage Institute, Singapore</td>
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<tr>
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<td>AQ 13</td>
<td>INCREASE ON THE RESISTIVITY OF ELECTROLESSLY DEPOSITED HIGH B, CoNiFeB THIN FILMS</td>
<td>Tokihiko Yokoshima, Dept. of Appl. Chem., Waseda Univ., Tokyo, Japan</td>
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<td></td>
<td>AQ 14</td>
<td>MECHANICAL PROPERTIES OF SOFT, ELECTRODEPOSITED Fe-Co-Ni FILMS FOR MAGNETIC RECORDING HEADS</td>
<td>Xiaomin Liu, Feng Huang, Giovanni Zangari, Mark Weaver, MINT Center, University of Alabama, Tuscaloosa, AL</td>
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<tr>
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<td>AQ 15</td>
<td>WRITE-TO-READ COUPLING BREAKDOWN IN HGA</td>
<td>Leslie He, Read-Rite Corp., Freemont, CA</td>
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<td>AQ 16</td>
<td>LOCAL DEGRADATION OF MAGNETIC PROPERTIES IN MAGNETIC THIN FILMS IRRADIATED BY GA+ FOCUSED-ION-BEAMS</td>
<td>Chang-Min Park, James A. Bain, Carnegie Mellon Univ., Pittsburgh, PA</td>
</tr>
</tbody>
</table>
ENERGY BARRIER AND EXCHANGE COUPLING IN SPRING-MAGNETS
J.P. Liu1, Zhengsheng Shan2, 1IfIM, LaTech University, Ruston, LA, 2Komag, Inc., San Jose, CA

CRITICAL UNDERCOOLINGS FOR DIFFERENT PRIMARY PHASE FORMATIONS IN Nd2Fe17B13 ALLOY
Jianrong Gao, WB-RS, DLR, Cologne, Germany

THE TEMPERATURE DEPENDENCE OF THE ANISOTROPIC NdFeB FABRICATED BY SINGLE STAGE HOT DEFORMATION
Ying Li1, Yoonbae Kim2, Tae-Sick Yoon1, Dongzhe Jin2, Chong-Oh Kim2, 1Research Center for Advanced Magnetic Materials, CNU, Korea, 2Korea Research Institute of Standards and Science, Seoul, Korea

MAGNETIC PROPERTIES OF Nd-Fe-B THICK FILM MAGNETS PREPARED BY LASER ABLATION TECHNIQUE
Masaki Nakano, Shin-ichi Tsutsumi, Hiroshi Fukunaga, Fac. of Engineering, Nagasaki University, Japan

THE EFFECT OF RARE EARTH ELEMENT ON THE MAGNETIC PROPERTIES OF Nd12−xR2Dy3Fe9B7 (R=Y, La AND Ce) THICK FILMS
Wen Cheng Chang1, S. K. Chen1, S. H. Chiou1, M. D. Lee1, 1Physics Dept, National Chung Cheng Univ., 2Dept. of Materials Science, Feng Chia Univ., China

STRUCTURE AND MAGNETIC PROPERTIES OF MECHANICALLY-ALLOYED SmZr(CoFe) NANOPIASE HARD MAGNETS
K. Gallagher, A. le Gouil, M. Venkatesan, J.M.D. Coey, Physics Department, Trinity College, Dublin 2 Ireland

EFFECT OF Fe, Cu, Zr AND Ti ON THE MAGNETIC PROPERTIES OF SmCo-1:7 MAGNETS
M. Venkatesan, F.M. F. Rhen, R. Gunning, J.M.D. Coey, Physics Department, Trinity College, Dublin 2, Ireland.

HIGH COERCIVITY IN BORON SUBSTITUTED Sm-Co MELT-SPUN MAGNETS
Sofoklis S. Makridis1, George Litsardakis1, Ioannis Panagiopoulos2, Dimitri Niarchos3, Yong Zhang4, George C. Hadjipanayis5, 1Dept. of Electrical Eng., Aristotle University, Greece, 2Inst. of Materials Science, NCSR Demokritos, Athens, Greece, 3Dept. of Physics & Astronomy, Univ. of Delaware, Newark, DE

EXTRUSION OF STRONTIUM HEXAFERRITE MAGNETS WITH RADIAL ALIGNMENT USING HYDROTHERMALLY SYNTHESIZED POWDER
Zhicong Yuan1, Stuart Blackburn1, Andy Williams2, Rex Harris2, 1IRC in Materials, University of Birmingham, 2Institute of Metallurgy and Materials, University of Birmingham, UK

CHARACTERIZATION OF BaZr6Fe123O19 PREPARED BY CHEMICAL PRECIPITATION
Gonzalo A. Ramos1, H. Yee-Madeira2, Alvaro Gordillo-Sol3, 1CICATA-QRO-IPN, José Siurob 10, Queretaro, Mexico, 2ESFM-IPN, Edif. 9, U.P.ALM, Mexico

A STUDY OF Nd DOPED SRM BY HYDROTHERMAL SYNTHESIS
Jianfeng Wang, Rex Harris, Metallurgy and Materials, The University of Birmingham, UK

THE MAGNETIC PROPERTIES OF Fe-Al-Nb INTERMETALLIC COMPOUNDS
Momotaro Imaizumi1, Bernardo Laks1, Sergio Gama1, José Zalaya Bejerano2, Adelino Coelho2, Marília Mota2, Rubens Caram2, 1Departamento de Física, Universidade Estadual Paulista Júlio de Mesquita Filho, S.P. Bauru, Brazil, 2Universidade Estadual de Campinas, Unicamp, Campinas, Brazil

MAGNETOCRYSTALLINE ANISOTROPY IN THE SINGLE-CRYSTAL HYDRIDES SmFe11Co3TiH8
Yurii Skourski1, Irina Tereshina2, Henryk Drulis1, Norbert Mattern1, Dieter Eckert1, Sergey Nikitin2, Karl-Hartmut Müller1, IFW Dresden, Germany, 1Faculty of Physics, MSU, Vorobevy Gory, Russia, 2INTIBS PAN, Wroclaw 2, Poland

CRYSTAL FIELD IN HYDROGENATED AND NITROGENATED SmFe11/Ti COMPOUND
Nikolay Yurievich Pankratov, Irina Semenovna Tereshina, Sergey Aleksandrovich Nikitin, Moscow State University, Russia

MAGNETIC PROPERTIES AND MICROSTRUCTURE OF Fe-Pt BASED ALLOYS
Pham D. Thang, Ekkes Bruck, Van der Waals-Zeeman Instituut, Universiteit van Amsterdam, The Netherlands

MAGNETIC PROPERTIES AND MICROSTRUCTURAL STUDIES OF FePt AND Fe30Pt30Ni30 WITH VERY HIGH ENERGY PRODUCT
Fu Te Yuan, Feng Chia University, Taichung, Taiwan

THE EFFECTS OF SUBSTITUTION OF Sm FOR Nd ON THE STRUCTURE AND MAGNETIC PROPERTIES OF Nd2Fe17
Ellouze Mohamed, FS Sfax, BP 802 - 3018, Sfax - Tunisia
Monday
8:15 AM
AS 01 THE METHOD OF TESTING OF THE PLANE DISTRIBUTION OF ANISOTROPY
Slawomir Tumanski, Bernard Frykowski, Warsaw University of Technology Koszykowa, Warsaw, Poland

AS 02 UNDERSTANDING THE ORIGIN OF THE MAGNETIC ANISOTROPY IN IRON SILICIDE AMORPHOUS ALLOYS
Javier Diaz, Universidad de Oviedo, Spain

AS 03 CRYSTAL STRUCTURES AND MAGNETIC ANISOTROPY PROPERTIES OF Ni-Mn-Ga MARTENSITIC PHASES WITH GIANT MAGNETIC-FIELD-INDUCED STRAIN
Alexei Sozinov, Alexander Likhachev, Kari Ullakko, Helsinki University of Technology, Finland

AS 04 CRITICAL ANGULAR DEPENDANCE OF THE POLARISING FIELD ON THE MAGNETOELASTIC DYNAMICS NEAR THE SRT IN TbFe/FeCo MULTILAYERS
Nicolas Tiercelin\textsuperscript{1}, Vladimir Preobrajenski\textsuperscript{1}, Jamal Ben Youssef\textsuperscript{2}, Philippe Pernod\textsuperscript{3}, Henri Le Gall\textsuperscript{4}, \textsuperscript{1}IEMN/CNRS/EC-lille Cité Scientifique - V. D Ascq - France, \textsuperscript{2}LMB/CNRS/UBO - Brest - France

AS 05 STATICS AND DYNAMICS OF GIANT MAGNETOSTRICTIVE Tb\textsubscript{0.5}Fe\textsubscript{1.5}/Fe\textsubscript{0.6}Co\textsubscript{0.4} UNIAXIAL MULTILAYERS FOR MEMS APPLICATIONS
Jamal Ben Youssef\textsuperscript{1}, Nicolas Tiercelin\textsuperscript{2}, Farid Petit\textsuperscript{1}, Henri Le Gall\textsuperscript{4}, Vladimir Preobrajenski\textsuperscript{1}, Philippe Pernod\textsuperscript{3}, \textsuperscript{1}LMB/CNRS/UBO - Brest - France, \textsuperscript{4}IEMN/CNRS/EC-lille Cité Scientifique - V. D Ascq - France

AS 06 CRYSTALLOGRAPHICALLY ALIGNED MAGNETOSTRICTIVE COMPOSITES
Greg P Carman, UCLA, CA

AS 07 MODELING STRESS DEPENDENT EXPERIMENTAL ANHYSTERETIC MAGNETIZATION CURVES
John M. Kenkel\textsuperscript{1}, Seong-Jae Lee\textsuperscript{2}, Chester C.H. Lo\textsuperscript{1}, David C. Jiles\textsuperscript{1}, Tony K.M. Koo\textsuperscript{3}, Dickon H.L. Ng\textsuperscript{4}, \textsuperscript{1}Ames Laboratory, Iowa State University, Ames, IA, \textsuperscript{3}Materials Science Programme, Chinese U of Hong Kong

AS 08 NEW PERSPECTIVES FOR MAGNETOPLASTIC COUPLING IN HIGH PURITY NICKEL
Eric Hug, Viorel Eugen Iordache, Nicolas Buron, Roberval Lab. / UTC, Compiègne, France

AS 09 IDENTIFICATION AND TESTING OF AN EFFICIENT HOPFIELD NEURAL NETWORK MAGNETOSTRICTION MODEL
Amr Amin Adly, Salwa Kamal Abd-El-Hafiz, Cairo University, Giza, Egypt

AS 10 THE NATURE OF FRUSTRATED MAGNETIC STRUCTURE IN FERRITE – SPINEL
Lubov Georgievna Antoshina, M.V. Lomonosov Moscow State University, Moscow, Russia

AS 11 MAGNETOELASTIC BEHAVIOUR IN Co-BASED GLASS COVERED AMORPHOUS WIRES
Maria Neagu, Horia Chiriac, Natl. Inst. of R&D for Tech. Phys., Iasi, Romania

AS 12 MAGNETIC PROPERTIES OF Co-Ni-Ga SHAPE MEMORY RIBBON PRODUCED BY MELT-SPINNING METHOD
Mariusz Bogdan Szpyrngačz\textsuperscript{1}, Masato Enokizono\textsuperscript{1}, Takashi Todaka\textsuperscript{1}, Tsugunori Kanada\textsuperscript{2}, Y. Watanabe\textsuperscript{3}, \textsuperscript{1}Oita University, Japan, \textsuperscript{2}Oita National College of Technology, Japan

AS 13 PROPERTIES TRANSFORMATION IN Fe-Cr-Co-Ni-Si-Mn RIBBON PREPARED BY MELT-SPINNING METHOD
Mariusz Bogdan Szpyrngačz\textsuperscript{1}, Masato Enokizono\textsuperscript{1}, Takashi Todaka\textsuperscript{1}, Tsugunori Kanada\textsuperscript{2}, Y. Watanabe\textsuperscript{3}, \textsuperscript{1}Oita University, Japan, \textsuperscript{2}Oita National College of Technology, Japan
AT Computational Magnetism I

Norio Takahashi
Okayama University

Monday
8:15 AM

AT 01
A NEW COMPUTATIONAL TECHNIQUE OF MAGNETIC NONLINEAR TRANSIENTS OF A TRANSFORMER
Masaru Ogawa, Toyama National College of Technology, Toyama-shi Japan.

AT 02
MODELING THE FREQUENCY RESPONSE OF MAGNETIC COMPONENTS
Jorge Guerra Pleite, Emilio Ruiz Olias, Andrés Bautista Barrado, Antonio Blanco Lázaro, Juan Martínez Vázquez, Universidad Carlos III de Madrid, Spain

AT 03
EFFECT OF EDDY CURRENT IN SHIELING PLATE
AND ELECTRON GUN ON FLUX DISTRIBUTION IN CRT
Norio Takahashi1, Hiromi Wakisano2, Kouji Shimada1,
1Dpt. E.E., Okayama Univ. Okayama, Japan, 2Matsushita Electric Industrial Co., Takatsuki, Japan

AT 04
A VERY FAST NUMERICAL ANALYSIS OF BENCHMARK MODELS OF EDDY CURRENT TESTING FOR STEAM GENERATOR
Dezhi Chen1, K.R. Shao1, Hao Chen1, J.D. Lavers2, 1Huazhong Univ. of Sci. & Tech., Wuhan, China, 2University of Toronto, Canada

AT 05
MAGNETIC SATURATION EFFECT IN AN OPEN BOUNDARY AXISYMMETRIC FIELD PROBLEM
Vitor Maló Machado, CETME, IST, UTL, Lisbon, Portugal

AT 06
ANALYSIS OF LAMINATED CORES THROUGH A DIRECTLY COUPLED 2D-1D ELECTROMAGNETIC FIELD FORMULATION
Oriano Bottauro1, Mario Chiampi2, 1IEN Galileo Ferraris, Torino, Italy, 2Dept. Ingegneria Elettrica, Politecnico di Torino, Italy

AT 07
ELECTROMAGNETIC FIELD DIFFUSION IN AXISYMMETRIC HYSTERETIC CORES
Oriano Bottauro1, Mario Chiampi2, Alessandra Manzin1, 1IEN Galileo Ferraris, Torino, Italy, 2Dept. Ingegneria Elettrica, Politecnico di Torino, Italy

AT 08
AUTOMATED 2D FIELD COMPUTATION IN NONLINEAR MAGNETIC MEDIA USING HOPFIELD NEURAL NETWORKS
Amr Amin Adly, Salwa Kamal Abdi El-Hafiz, Cairo University, Giza, Egypt

AT 09
NEW AND FAST PROCEDURES FOR CALCULATING THE MUTUAL INDUCTANCE OF COAXIAL CIRCULAR COILS (DISK COIL – CIRCULAR COIL)
Cevdet Akyel, Slobodan Babic, Ecole Polytechnique de Montreal, Canada
THIRD-ORDER NÉDÉLEC CURL-CONFORMING FINITE ELEMENT
Antonio J Ruiz-Genovés1, Magdalena Salazar-Palma1, Tapan K Sarkar2, 1Universidad Politécnica de Madrid, 1Syrauce University, NY

WAVELET-BASED MULTiresOLUTION ALGORITHM FOR INTEGRAL AND BOUNDARY ELEMENT EQUATIONS IN ELECTRIC AND MAGNETIC FIELD COMPUTATIONS
J.C. Yang1, K.R. Shao1, Hao Chen1, J.D. Lavers2, 1Dept of E.E., Huazhong Univ. of Sci. & Tech., Wuhan, China, 2University of Toronto, Canada

ANALYSIS OF HARMONIC DISTORTION DUE TO UNEVEN MAGNETIC FIELD IN A MICRO-SPEAKER USED FOR MOBILE PHONES
Gun-Yong Hwang, Kyung-Tae Kim, Sang-moon Hwang, School of Mechanical Engineering, Pusan National University, Korea

LOSS EVALUATION OF INDUCTION MOTOR BY USING VECTOR MAGNETIC HYSTERESIS ’E&S2’ MODEL
Masato Enokizono, Hiroyasu Shimoji, Toyomi Horibe, Oita University, Japan

NONLINEAR MAGNETIC CIRCUIT ANALYSIS FOR A NOVEL STATOR-DOUBLY-FED DOUBLY-SALIENT MACHINE
K.T. Chau1, Ming Cheng2, C.C. Chan1, 1University of Hong Kong, Hong Kong, 2Southeast University, Nanjing, China

COGGING TORQUE MINIMIZATION FOR SMALL SPINDLE MOTOR THROUGH REDUCED-ORDER FINITE ELEMENT OPTIMIZATION
M A Jabbar, Electrical Machines and Drives Lab, National University of Singapore

ANALYSIS OF SYNCHRONOUS RELUCTANCE MOTOR USING FEM COUPLED ELECTROMAGNETIC FIELD OF PREISACH MODEL & THERMAL FIELD
Jung Ho Lee1, Dong Seok Hyun2, Seok Myeong Jang3, 1Dept. of Energy System Engineering, Chungbuk Provincial Univ., 2Dept. of Electrical Engineering, Chungnam Nat'l University, Taegon, Korea

A TIME-STEPED FEA MODEL FOR INDUCTION MACHINES USING TLM WITH EDDY-CURRENT ANALYSIS
A M Knight, University of Alberta, Electrical and Computer Engineering Research Faculty, Edmonton, AB, Canada

FEM APPLIED TO ELECTROMAGNETISM: EFFECTIVE OBJECT-ORIENTED SOFTWARE DESIGN
Emilio Gomez1, José Roger-Folch2, Juan Alvaro Fuentes2, Antonio Gabaldon1, 1Technical University of Cartagena, 2Technical University of Valencia, Spain

HOMOGENIZATION ALGORITHMS FOR CALCULATION OF FIELD QUANTITIES IN LAMINATED MAGNETIC MATERIALS
Görn Sven Engdahl1, Anders Bergqvist2, Julius Krah1, 1Kungl. Tekniska Högskolan, Stockholm, Sweden, 2ABB Corporate Research, Västerås, Sweden

IDENTIFICATION OF PREISACH DISTRIBUTION FROM MEASURED INTEGRAL QUANTITIES
Carlo Ragusa, DIEI, Politecnico di Torino, Torino, Italy

BARKHAUSEN NOISE CALCULATION FROM HYSTERESIS PARAMETERS
Hans Hauser1, Boleslaw Augustyniak2, Michal Radczuk2, 1Vienna University of Technology, IEMW, Austria 2Gdansk University of Technology, Poland
MOVING OF DOMAIN WALLS BY SPIN-POLARIZED CURRENT
Roger Elliott¹, Alexei Chmi³, Ernest Epstein⁴, Yuri Gulyaev⁵, Alexei Krikunov⁵, Yuri Ogrin⁵, Peter Zilberman³, ¹University of Oxford, Department of Physics, UK, ²Institute of Radio Engineering & Electronics of RAS, Moscow, Russia

DETECTION OF DC VOLTAGES IN MULTI-LAYERED MAGNETIC THIN FILMS UNDERGOING FERROMAGNETIC RESONANCE
Cheol Eui Lee, Department of Physics, Korea University, Seoul, Korea

CURRENT INDUCED MAGNETIZATION SWITCHING:
Andrea Fabian, Jean-Eric Wegrowe, Philippe Guittienne, Travis Wade, Laurent Gravier, Jean-Philippe Ansermet, EPFL, PHB-Eculbens, Lausanne, Switzerland

LIFETIME OF MAGNETIC TUNNEL JUNCTIONS UNDER VOLTAGE STRESS
Matthew R Gibbons, Kyusik Sin, Shin Funada, Robert Dela Cruz, Xizeng Shi, Read Rite Corp, Fremont, CA

PUSH-PULL BRIDGE SENSOR USING SDT JUNCTIONS WITHOUT SHIELDS
Dixin Wang, Mark Tondra, James M. Daughton, NVE Corp., Eden Prairie, MN

ANGULAR SENSOR USING TMR JUNCTIONS WITH AN AAF (ARTIFICIAL ANTI-FERROMAGNET) REFERENCE ELECTRODE AND IMPROVED THERMAL STABILITY
Manfred Ruehrig¹, Robert Seidel², Ludwig Baer², Michael Vieth¹, Guenter Rupp¹, Joachim Wecker¹, ¹Siemens AG, CT MM1, Erlangen, ²Inst f Solid State & Mat Res, Dresden, Germany

HIGH SPEED SIGNAL TRANSMISSION WITH GMR BASED MAGNETOCOUPLERS
Jens Andreas Hauch¹, Gotthard Rieger¹, Stefan Ganzer¹, Guenther Bayreuther¹, ¹Siemens AG, CT MM1, Erlangen, Germany, ²Inst. für Exp. und Ang. Physik, Univ. Regensburg, Germany

“TRANSPINOR”: A NEW GIANT MAGNETORESISTIVE SPIN-VALVE DEVICE
Seongtae Bae¹, E. James Torok², Shayne Zurn², Larry E. Sheppard², Richard Spitzer², Jack H. Judy¹, W. F. Egelhoff, Jr.¹, Piejie Chen³, ¹MINT, University of Minnesota, ²IME Company, Minneapolis, MN, ³Magnetic Materials Group, NIST, Gaithersburg, MD
State of the Art in Magnetic Recording Technology

Roger Wood
IBM, San Jose

Monday
2:00 PM  Auditorium

2:00 PM
BA 01  OVER 100 GBIT/IN² LONGITUDINAL MAGNETIC RECORDING  [invited]
M Yamagishi, Advanced Magnetic Recording Lab., Fujitsu Laboratories Ltd.

2:30 PM
BA 02  MAGNETIC RECORDING DEMONSTRATION OVER 100 GBIT/IN²  [invited]
Z Zhang¹, Y C Feng¹, T Clinton¹, G Badran¹, N H Yeh¹, E Girt¹, S Harkness¹, M Munteanu¹, H J Richter², R Ranjan¹, S Hwang¹, G C Rauch¹, M Ghaly¹, D Larson¹, E Singleton¹, V Vas’ko¹, J Ho², F Stageberg², V Kong³, K Duxstad³, S Slade³, Seagate Technology, ¹Freemont, CA, ²Pittsburgh, PA, ³Minneapolis, MN

3:00 PM
BA 03  HOW ANTFERROMAGNETIC COUPLING CAN STABILISE RECORDED INFORMATION  [invited]
H J Richter, E Girt, Seagate Technology, Freemont, CA

3:30 PM
BA 04  ADVANCED SPIN-VALVE READ-SENSORS FOR MAGNETIC RECORDING  [invited]
M Re¹, Marcos Lederman¹, Jacques Kools²,¹Read-Rite, ²Veeco Instruments, Freemont, CA

4:00 PM
BA 05  ADVANCED WRITE HEADS FOR HIGH DENSITY AND HIGH DATA-RATE RECORDING  [invited]
S Yuan, IBM, STD, San Jose, CA

4:30 PM
BA 06  SOME TRIBOLOGY AND MECHANICS ISSUES FOR 100 GBIT/IN² HDD  [invited]
D Bogy¹, W Fong¹, B Thornton¹, H Gross¹, H Zhu¹, C Singh Bhata²,¹University of California, Berkeley, ²IBM SSD San Jose, CA
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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
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<tr>
<td>2:00 PM</td>
<td>2:00 PM</td>
<td>BB 01: A NOVEL LOW SWITCHING CURRENT MRAM DESIGN</td>
<td>Jian-Gang Zhu¹, James M. Daughton¹, Data Storage System Center, Carnegie Mellon University, ²NVE Corp., Eden Prairie, MN</td>
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<td>2:15 PM</td>
<td>2:15 PM</td>
<td>BB 02: MULTILEVEL MAGNETORESISTIVE RANDOM ACCESS MEMORY WRITTEN AT CURIE POINT</td>
<td>Yuankai Zheng, Jinjun Qiu, Date Storage Institute of Singapore</td>
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<td>2:30 PM</td>
<td>2:30 PM</td>
<td>BB 04: MRAM WITH IMPROVED MTJ MATERIAL [invited]</td>
<td>Hiroshi Kano, Kazuhiro Bessho, Yutaka Higo, Kazuhiro Ohba, Minoru Hashimoto, Tetsuya Mizuguchi, Masanori Hosomi, Sony Corporation, CNC, Core Technology Development Center, Yokohama, Japan</td>
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<td>3:00 PM</td>
<td>3:00 PM</td>
<td>BB 05: THERMAL STABILITY OF EXCHANGE-BIASED MAGNETIC TUNNEL JUNCTIONS WITH STABILIZING LAYER</td>
<td>Nozomu Matsukawa, Akihiro Odagawa, Yasunari Sugita, Yoshio Kawashima, Yasunori Morinaga, Mitsuo Satomi, Masayoshi Hiramoto, Matsushita Electric Industrial Co., Ltd., Tokyo, Japan</td>
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<td>3:15 PM</td>
<td>3:15 PM</td>
<td>BB 06: CHARACTERIZATION AND MODELING OF TUNNEL BARRIER RELIABILITY</td>
<td>Kentaro Nakajima¹, Minoru Amano¹, Yoshiaki Saito¹, Masayuki Sagoi², ¹Memory LSI R. &amp; D. Center, Toshiba Corporation, ²Corporate R&amp;D. Center, Toshiba Corporation, Kasawaki, Japan</td>
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<td>3:30 PM</td>
<td>3:30 PM</td>
<td>BB 07: SPIN-CURRENT INDUCED MAGNETOTRANSPORT IN Co/Cu/Co NANOSTRUCTURES</td>
<td>Fred Mancoff, Stephen E. Russek, NIST, Boulder, CO</td>
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<td>3:45 PM</td>
<td>3:45 PM</td>
<td>BB 08: ELECTRON SPIN RESONANCE IN TWO-DIMENSIONAL ELECTRON GASES</td>
<td>William H. Rippland¹, Stephen E. Russek¹, Nick Rizzo², ¹NIST, Boulder, CO, ²Motorola Labs, Tempe, AZ</td>
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<td>4:00 PM</td>
<td>4:00 PM</td>
<td>BB 09: MAGNETO-OPTICAL STUDY OF Mn IONS IMPLANTED IN Ge</td>
<td>F. D. Orazio, F. Lucari, M. Passacantando, P. Picozzi, S. Santucci, A. Verna, INFM and Dip. di Fisica - Università - L. Aquila - Italy</td>
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<td>4:15 PM</td>
<td>4:15 PM</td>
<td>BB 10: OBLIQUE HANLE EFFECT FOR RELIABLE ASSESSMENT OF ELECTRICAL SPIN INJECTION</td>
<td>Vasyl Motnyk¹, Viatcheslav Safarow², Jo De Boeck³, Jo Das², Wim Van Roy³, Etienne Goovaerts³, Staf Borghs³, ¹IMEC, Leuven, Belgium, ²GPEC, Faculté des Sciences de Luminy, Marseille, France, ³Dep. of Physics, University of Antwerpen, Belgium</td>
</tr>
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Monday
2:00 PM
Room A

BC 01
NUMERICAL SIMULATION OF THE EFFECT OF DEFECTS ON THE MAGNETIZATION SWITCHING IN SINGLE DOMAIN PARTICLES WITH NON-UNIFORM MAGNETIZATION DISTRIBUTION
Martha Pardavi-Horvath¹, Jijin Yan², J. Roger Peverley², ¹GWU, Dept. ECE, Washington DC, ²GWU, Dept. Physics, Washington DC

BC 02
STRAY FIELD INVESTIGATIONS ON NANOSTRUCTURED FERROMAGNETS BY THE LOCAL HALL EFFECT
Dirk Grundler, Inst. f. Angew. Physik, Univ. Hamburg, Germany

BC 03
COMPARISON OF MFM/STM DATA OF PATTERNED ULTRA THIN IRON FILMS GROWN ON NiO AND Si (001) IN UHV
Michael Dreyer¹, Charles Krafft¹, R. D. Gomez², ¹Laboratory for Physical Sciences, University of Maryland, College Park, MD, ²Dept. of ECE, University of Maryland, College Park, MD

BC 04
THE INFLUENCE OF END-SHAPE, TIME AND TEMPERATURE ON THE SWITCHING OF SMALL MAGNETIC ELEMENTS
Ge Yi¹, P R Atchison¹, W D Doyle¹, J N Chapman¹, C D W Wilkinson¹, ¹Department of Physics and Astronomy, University of Glasgow, UK, ²MINT and Physics & Astronomy, University of Alabama, ³Dept of Electronics & Electrical Eng., University of Glasgow, UK

BC 05
MAGNETIC PROPERTIES OF DOT ARRAYS MADE BY BLOCK COPOLYMER LITHOGRAPHY
C. A. Ross, MIT, Dept. Materials Science and Engineering, Cambridge, MA

BC 06
ELECTRODEPOSITED Co-Pt PERMANENT MAGNET ARRAYS ON Cu/sub111/Si/sub110/ SUBSTRATE
Iulica Zana, Giovanni Zangari, MINT Center, U. Alabama, Tuscaloosa AL

BC 07
WEAK COERCIVITY DISPERSION IN MAGNETIC NANOSTRUCTURES FABRICATED BY ION IRRADIATION
Devoilder Thibaut, Institut d'Electronique Fondamentale, Université Paris-Sud, France

BC 08
FABRICATION OF PATTERNED MEDIA USING SELF-ASSEMBLED MASKS AND SIMULATIONS OF PROBE RECORDING
David Edmundson¹, Virasak Vorathitikut², Ernie W Hill¹, Jim J Miles¹, Paul W Nutter¹, David C Wright², ¹University of Manchester, Oxford Rd, Manchester, UK, ²School of Eng, University of Exeter, UK

BC 09
SUBMICRON SIZE PARTICLES OF Fe/Co MULTILAYERS: EFFECTS OF TUNABLE ANISOTROPY
Olga Kazakova, Chalmers University of Technology and Göteborg University, Sweden

BC 10
MAGNETIZATION REVERSAL IN NANOSTRUCTURED PERMALLOY RINGS
Ching-Ray Chang¹, Zang-Hang Wei¹, J.C. Wu¹, ¹Department of Physics, National Taiwan Univ., Taipei, Taiwan, ²Physics, Nat'l Changhua Univ. of Ed., Changhua, Taiwan

BC 11
PATTERNING MAGNETIC ANTIDOT-TYPE ARRAYS BY Ga“ IMPLANTATION
Nicholas Wyn Owen¹, Hang-Yen Yuen¹, Amanda K. Petford-Long¹, ¹Dept. of Materials, Univ. of Oxford, Parks Rd. Oxford, UK ²Chinese Univ. of Hong Kong, Sci. Centre, Shatin, Hong Kong

BC 12
MAGNETIC PROPERTIES OF LATERAL “ANTIDOT” ARRAYS
M. B. A.Jalil, Angeline S. L. Phoa, Suey L Tan, A O Adeyeye, ISML, ECE Department, National University of Singapore
<table>
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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
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<tr>
<td>2:00 PM</td>
<td>BD 01</td>
<td>ULTRAFAST GENERATION OF MAGNETIC FIELDS IN A SCHOTTKY DIODE</td>
<td>Matthias Bues1, Yves Acremann1, Christian H Back1, Martin Dummi2, Günther Bayreuther2, Danilo Pescia1, 1ETH Zürich, Lab. f. Festkörperphysik, Switzerland, 2Inst. f. Exp. u. Angew. Physik, Uni Regensburg, Germany</td>
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<tr>
<td>2:15 PM</td>
<td>BD 02</td>
<td>SUB-NANOSECOND MAGNETORESISTANCE MEASUREMENTS OF SWITCHING TRANSIENTS</td>
<td>Liesbet Lagae, IMEC, Belgium</td>
</tr>
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<td>2:30 PM</td>
<td>BD 03</td>
<td>HIGH RESOLUTION MAGNETIC FORCE MICROSCOPY USING FOCUSED ION BEAM MODIFIED TIPS</td>
<td>Gavin N Phillips1, Martin Siekman2, Leon Abelmann2, Cock Lodder2, 1Philips Research, Eindhoven, The Netherlands, 2SMI, MESA+ Research Institute, U. Twente, The Netherlands</td>
</tr>
<tr>
<td>2:45 PM</td>
<td>BD 04</td>
<td>THE CANTICLEVER: A DEDICATED PROBE FOR MAGNETIC FORCE MICROSCOPY</td>
<td>Arnoout G Van den Bos, Iwan R Heskamp, Martin Siekman, Leon Abelmann, Cock Lodder, SMI, MESA+ Research Institute, U. Twente, The Netherlands</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>BD 05</td>
<td>A SYNTHETIC MULTIPLE LAYER TIP FOR MAGNETIC FORCE MICROSCOPY</td>
<td>Yihong Wu1, Zhiyong Liu2, Dan You2, Kebin Li3, Jinjun Qiu3, Yuankai Zheng3, 1ECE department, NUS and Data Storage Institute, Singapore, 2Data Storage Institute, Singapore</td>
</tr>
<tr>
<td>3:15 PM</td>
<td>BD 06</td>
<td>MAGNETIZATION ESTIMATION FROM MFM IMAGES</td>
<td>Ronald S. Indeck, Chi-Chun Hsu, Clayton T. Miller, Joseph A. O’Sullivan, Marcel W. Muller, MISC, Washington University, St. Louis, MO</td>
</tr>
<tr>
<td>3:30 PM</td>
<td>BD 07</td>
<td>MAGNETIC FORCE MICROSCOPY CHARACTERIZATION OF UNUSUAL MAGNETIC COUPLING IN AN EXTRAORDINARILY RESPONSIVE MAGNETIC MATERIAL</td>
<td>Jeff Leib3, Chester C.H. Lo2, John E Snyder2, David C Jiles2, 1Mat Sci and Eng Dept, Iowa State Unv, Ames, IA, 2Ames Laboratory, USDoE, Iowa State University, Ames, IA</td>
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<tr>
<td>3:45 PM</td>
<td>BD 08</td>
<td>MICROSCOPIC STUDY ON ACCELERATED THERMAL SIGNAL DECAY BY MFM</td>
<td>Edward Yen, Richard Brockie, Hans J. Richter and Keith McLaurin, Seagate Technology, Fremont, CA</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>BD 09</td>
<td>SWITCHING FIELD DISTRIBUTIONS IN PERPENDICULAR RECORDING MEDIA</td>
<td>René J.M. van de Veerdonk1, Xiaowei Wu1, Roy W. Chantrell2, Chunghee Chang2, Dieter Weller1, 1Seagate Research, Pittsburgh, PA, 2Seagate Recording Media Operations, Fremont, CA</td>
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<tr>
<td>4:15 PM</td>
<td>BD 10</td>
<td>EXTRACTION OF THE RESPONSE FUNCTION OF GMR HEAD FOR SPIN-STANCE IMAGING</td>
<td>Isaac D. Mayergoyz, Chun Tse, Charles Krafft, Dragos Iulian Mircea, Petru Andrei, University of Maryland, College Park, MD</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>BD 11</td>
<td>NOISE AND NON-LINEAR TRANSFER CURVES IN GMR HEADS</td>
<td>Mark Nichols, Maxtor, Milpitas, CA</td>
</tr>
<tr>
<td>4:45 PM</td>
<td>BD 12</td>
<td>RF THIN-FILM PERMEABILITY MEASUREMENTS IN A TRAVELLING ELECTROMAGNETIC FIELD</td>
<td>Yasunori Miyazawa1, Masahiro Yamaguchi2, Katsui Kamishii2, Ken-Ichi Arai2, 1Ryowa Electronics Co., Ltd., Sendai, Japan, 2RIEC, Tohoku Univ., Sendai, Japan</td>
</tr>
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Monday
2:00 PM
Room C & D

BE 01
TOP Nd-Fe-B MAGNETS: >55 MGOe ENERGY DENSITY, 9.7 kOe COERCIVITY
Werner Rodewald, Boris Wall, Matthias Katter, Kaan Uestuener, Vacuumschmelze GmbH & Co KG, Hanau, Germany

BE 02
TEXTURE INDUCEMENT DURING HDD PROCESSING OF NdFeB
Oliver Gutleisch¹, Goran Dragic², Chisato Mishima³, Yoshinobu Honkura⁴, IFW Dresden, Germany, ²Jozef Stefan Institute, Jamova, Slovenia, ³Aichi Steel Corp., ¹Wanowari, Araomachi, Tokai Aichi Japan

BE 03
EFFECT OF CRYSTAL ORIENTATION RELATIONSHIP ON ANISOTROPIC INDUCEMENT IN THE HDD TREATED Nd-Fe-B ALLOYS
Satoshi Sugimoto, Satoshi Ohga, Toshio Kagotani, Koichiro Inomata, Graduate School of Engng., Tohoku Univ., Sendai, Japan

BE 04
HEAT RESISTANCE OF NdFeB ANISOTROPIC BONDED MAGNET
Norihiko Hamada, Chisato Mishima, Hironari Mitarai, Yoshinobu Honkura, Aichi Steel Corp., Araomachi, Tokai Aichi Japan

BE 05
MECHANICAL PROPERTIES OF INJECTION MOLDED NdFeB PERMANENT MAGNETS
Monika Gerda Garrell¹, Albert J Shih², Ronald O. Scattergood³, Edgar Lara-Curzio⁴, Bao-Min Ma⁵, ¹Magnequench Technology Center, ²North Carolina State University, ³Oak Ridge National Laboratory, TN

BE 06
THE MAGNETIC PROPERTIES OF (Nd,Dy)-(Fe,Co)-B-Nb AND Nd-(Fe,Co)-B MAGNETS MADE BY THE MELT SPINNING METHOD WITH GROOVED AND CERAMIC COATED ROLL
Hiroshi Kato, Akira Arai, Koji Akioka, Seiko Epson Corp., Hirooka, Shiojiri, Nagano, Japan

BE 07
CRYSTALLIZATION BEHAVIOUR AND MAGNETIC PROPERTIES OF MELT-SPUN Prₓ(Feₓ,Co₁₋ₓ)B₅-HB ALLOYS
Zuocheng Wang, Hywel A. Davies, C L Harland, Department of Engineering Materials, University of Sheffield, UK

BE 08
IMPROVEMENT IN COERCIVITY BY HIGH-SPEED CRYSTALLIZATION
Hirotoshi Fukunaga, Kyoshi Tokunaga, Fac. Of Engineering, Nagasaki University, Japan

BE 09
EFFECT OF GRAIN GROWTH INHIBITORS ON THE HYSTERESIS PROPERTIES OF NdₓFe₉₂CₓB₂ ALLOYS
Maria Daniil, Dep. of Physics & Astronomy, Univ. of Delaware, Newark, DE

BE 10
EFFECTS OF Zr SUBSTITUTION FOR RARE EARTH ON THE THERMAL STABILITY OF MELT-SPUN (Nd₀.₇₀Pr₀.₃₀)₁₋ₓ₂ₓ(ZrₓFeₓB₁ₓ)₅₋ₓ POWDER AND MAGNETS
Zhongmin Chen, Ben R Smith, Bao-Min Ma, Magnequench Technology Center, Research Triangle Park, NC

BE 11
CORROSION BEHAVIOUR OF TEXTURED AND ISOTROPIC NANOCRYSTALLINE NdFeB-BASED MAGNETS
A. Gebert, IFW Dresden, Germany

BE 12
AN INVESTIGATION INTO THE CORROSION BEHAVIOUR OF Zn COATED NdFeB POWDER
Sarah Lillywhite¹, Allan Walton¹, Andy Williams², Rex Harris², Dave Kinsey², Geraint Jewell², Dave Howe², ¹Institute of Metallurgy and Materials, University of Birmingham, ²Dept. of Materials Engineering, University of Sheffield, UK
BP 01  THERMAL ENGINEERING OF GIANT MAGNETORESISTIVE (GMR) SENSORS: ALTERNATIVE DIELECTRIC GAP  
Yongho Sungtaek Ju, Wen Y. Lee, Marie-Claire Cyrille, Robert E. Fontana, Bruce A. Gurney, IBM Research, San Jose, CA

BP 02  SPIN VALVES WITH COBALT-FERRITE PINNING LAYERS  
Matthew J. Carey, S. Maat, R. Farrow, R. Marks, P. Nguyen, Philip M. Rice, A. Kellock, Bruce A. Gurney, IBM Research, San Jose, CA

BP 03  EFFECTS OF MAGNETIC SHIELD ANNEAL PROCESSES DETERMINED BY MFM AND DOMAIN IMAGING  
Denis O'Donnell, Donna Doherty, Alan B Johnston, Seagate Technology Ireland, Springtown, Derry, N. Ireland

BP 04  ANTI.FERROMAGNET/FERROMAGNET INTERFACE ROUGHNESS EFFECT ON EXCHANGE COUPLING AND MR RATIO IN SPIN-VALVE SYSTEM  
Abdul Al-Jibouri, Nordeko Ltd., UK

BP 05  EFFECT OF ALUMINA SPACER IN TRILAYER Shared Pole STRUCTURES IN GMR RECORDING HEADS  
Nirupama Sharma, Alan B Johnston, Colin J O’Kane, Declan Macken, Seagate Technology, Ireland, ‘Seagate Technology, Minneapolis, MN

BP 06  REQUIRED CONDITIONS FOR THE MAGNETIC DOMAIN CONTROL OF NARROW-TRACK READ HEADS TO ACHIEVE HIGH SENSITIVITY AND GOOD STABILITY  
Akira Morinaga, Chiaki Ishikawa, Takayoshi Ohtsu, Norifumi Miyamoto, Hitachi, Ltd., Data Storage Systems Division, Hitachi, Ltd., Central Research Lab., Tokyo, Japan

BP 07  THERMALLY ACTIVATED MAGNETIZATION FLUCTUATIONS IN SPIN VALVE AND GMR SENSORS: MODE THEORY AND EXPERIMENTAL MEASUREMENTS  
Zhen Jin, H Neal Bertram, Vladimire L Safonov, CMRR, UCSD, La Jolla, CA

BP 08  COMPARISON OF DSV, BSV AND TSV SPIN VALVES IN CPP GEOMETRY  
Mark A Gubbins, Seagate Technology Ireland, Londonderry, Northern Ireland

BP 09  THERMALLY ACTIVATED MAGNETIC NOISE AND SPECTRA IN GMR HEADS  
Jian-Gang Zhu, Yuchen Zhou, Data Storage System Center, Carnegie Mellon University, Pittsburgh, PA

BP 10  ELECTRICAL RELIABILITY OF TUNNELING MAGNETORESISTIVE HEADS  
Seongtae Bae, I-Fei Tsu, Marshall Davis, Janusz J. Nowak, Jack H. Judy, MINT, University of Minnesota, Seagate Technology, Minneapolis, MN

BP 11  NOISE CHARACTERISTICS OF TUNNELING MAGNETORESISTIVE SENSORS  
Hae Seok Cho, Alexey Nazarov, Janusz J Nowak, Ned Tabat, Seagate Technology, Minneapolis, MN

BP 12  FLUX-ENHANCED GIANT MAGNETORESISTANCE HEAD DESIGN AND SIMULATION  
Yuankai Zheng, Date Storage Institute of Singapore

BP 13  EFFECT OF NON-PLANAR SHIELDS ON THE READBACK PERFORMANCE OF GMR HEADS  
Heng Gong, Read-Rite Corp, Fremont, CA

BP 14  PARALLEL BETWEEN PLAYBACK IN PERPENDICULAR AND LONGITUDINAL RECORDING  
Sakhrit Khizroev, Dmitri Litvinov, Seagate Research, Pittsburgh, PA

BP 15  TAPE HEADS FOR HIGH TRACK DENSITY LINEAR RECORDING  
Eddie A Draisma, OnStream Holding B.V. Eindhoven, The Netherlands

BP 16  DEVELOPMENT OF MICROMV MAGNETIC RECORDING SYSTEM  
Keizo Tsuneki, Yasutaka Kotani, Kazuyuki Iesaka, Masayuki Mizuno, Nobuhiro Kondo, Yuji Yanagi, PV Company, Sony Corp., Tokyo, Japan

BP 17  GMR ENHANCEMENT IN HYBRID SPIN VALVES FOR CIP GEOMETRIES  
Denis O'Donnell, Deirdre O'Neill, Alan B Johnston, Seagate Technology Ireland, Springtown, Derry, N. Ireland
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<th>Authors/Institutions</th>
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<td>MORPHOLOGY AND CHEMICAL COMPOSITION OF CARBON SPUTTER TARGETS</td>
<td>Thomas Y.F. Liew, Data Storage Insitute, Singapore</td>
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<td>BQ 02</td>
<td>RAMP WEAR AND DEBRIS FROM LOAD/UNLOAD TAB ROUGHNESS</td>
<td>J. R. Yaeger, Maxtor Corp, Milpitas, CA</td>
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<td>BQ 03</td>
<td>A HIGHLY DURABLE STRUCTURE OF VERY THIN CARBON PROTECTIVE LAYER</td>
<td>Takashi Chiba, Jun Ariake, Naoki Honda, Kazuhiro, Ouchi, AIT, Akita, Japan</td>
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<td>BQ 04</td>
<td>CONSIDERATION IN HEAD-DISK INTERFACE ISSUES AT 10nm FLYING HEIGHT</td>
<td>Run-Han Wang, U. Vasant Nayak, IBM Almaden Research Center, San Jose, CA</td>
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<td>BQ 05</td>
<td>DYNAMICS OF LIQUID MENISCUS BRIDGE OF INTERMITTENT CONTACT SLIDER</td>
<td>Hiroshige Matsuoka, Shigeisa Fukui, Hiroshi Morishita, Dept. Appl. Math. Phys., Faculty of Eng., Tottori Univ., Japan</td>
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<td>BQ 06</td>
<td>PATTERNED LUBRICANT - A MICROSTRUCTURED PERFLUOROPOLYETHER FILM ON THE NITROGENATED CARBON SURFACE</td>
<td>Jun Zhang, Yajie Xu, Zhaibin Guo, J. P. Wang, Data Storage Institute, Singapore</td>
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<td>BQ 07</td>
<td>ANALYSIS OF MOBILITY AND SPREADING BEHAVIOR OF PFPE LUBRICANTS USING SURFACE REFLECTANCE ANALYZER</td>
<td>Saurabh K Deoras¹, Sang-Wook Chun¹, Gerard Vurens², Frank Talke³, ¹CMRR, La Jolla, CA, ²HDI Instrumentation, Santa Clara, CA</td>
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<td>BQ 08</td>
<td>A STUDY OF THE AIR BEARING PRESSURE EFFECT ON THE LUBRICANT DISPLACEMENT USING AN OPTICAL SURFACE ANALYZER</td>
<td>Takeshi Watanabe, Fuji Electric, Nagano, Japan</td>
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<td>BQ 09</td>
<td>EFFECTS OF INTERMOLECULAR FORCES ON SUB-10nm SPACED SLIDERS</td>
<td>Jianhua Li, Bo Liu, Wei Hua, Yansheng Ma, Data Storage Institute, Singapore</td>
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<tr>
<td>BQ 10</td>
<td>THE EFFECT OF SLIDER ON LUBRICANT LOSS AND REDISTRIBUTION</td>
<td>Xiaoming Ma, Huan Tang, Michael Stirmiman, Jing Gui, Seagate Technology, Fremont, CA</td>
</tr>
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**BR**

**Channel and System Considerations for Magnetic Recording**

**Gordon F. Hughes**  
CMRR U.C. San Diego

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**Monday**  
**1:15 PM**

**BR 01**  
**Timing Recovery for Magnetic Recording Using Cross-Correlation**  
Jason Goldberg, Jack K Wolf, CMRR - UCSD, La Jolla, CA

**BR 02**  
**Cycle-Slip-Detector-Aided Iterative Timing Recovery Algorithm**  
Xiaowei Jin, Aleksandar Kavcic, Division of Engineering and Applied Science, Harvard Univ., CT

**BR 03**  
**Joint Timing Recovery and Turbo Equalization for Partial Response Channels**  
Aravind Nayak, John Barry, Steven McLaughlin, Georgia Institute of Technology, Atlanta, GA

**BR 04**  
**Combined Concatenated Coding and Nonlinear Equalization for Magnetic Recording Channels**  
Ali A Ghrayeb, American University of Sharjah, UAE

**BR 05**  
**BER Estimation from Synchronous Sample Statistics**  
Nan-Hsiung Yeh¹, Ghassan Abdelnour², Hong-Shiong Chen³, ¹Seagate Technology, Fremont, CA, ²Seagate Technology, Oklahoma City, OK, ³Seagate Technology, Minneapolis, MN

**BR 06**  
**Analysis of Write Front-End Requirements for Chip-on-Suspension Pre-Amplifier for High Data Rate Magnetic Recording**  
Hao Fang, Sally Doherty, Agere Systems, Mendota Heights, MN

**BR 07**  
**Optimal Read/Write Width Design Using BER Model and Evolutionary Algorithm**  
Kezhaoh Zhang, Herbert Lin, Maxtor Corporation, Milpitas, CA

**BR 08**  
**Experimental Error Rates in a PRML Channel Versus Symmetry**  
Joseph Peng, Terry Whittier, Storage Tech. Div., IBM Corp., San Jose, CA

**BR 09**  
**Serially Concatenated Coding for PR System with LDPC and PC Codes**  
Hidetoshi Saito, Yoshihiro Okamoto, Hisashi Osawa, Dept. of E.&E., Faculty of Eng., Ehime Univ., Japan

**BR 10**  
**Run Length-Limited (3, 7) CDOE for Storage Channels**  
Jaejin Lee, Youpyo Hong, Dongguk University, Seoul, Korea

**BR 11**  
**Computing Information Rates of the Microtrack Channel**  
D. Arnold¹, Hans-Andrea Loeliger², ¹IBM Research, Zurich Research Laboratory, ²ETH Zurich, Switzerland
BS 01  SERVO CONTROLLER DESIGN FOR HIGH BANDWIDTH HDDS  
Chung Choo Chung, Hanyang University, Seoul, Korea

BS 02  RADIAL ERROR PROPAGATION ISSUES IN SELF SERVO TRACK WRITING TECHNOLOGY  
Haibei Ye1, Vincent Ng2, Guoxiao Guo1, Chanling Du1, Vincent Ng1, Canling Du1, Guoxiao Guo1, 1Data Storage Institute, Singapore, 2Seagate Technology, Singapore

BS 03  DUAL-STAGE SERVO WITH ON-SLIDER PZT MICROACTUATOR FOR HDD  
Yaolong Lou1, Peng Gao1, Bin Qin2, Guoxiao Guo1, Eng-Hong Ong2, Akio Takada1, Kanzo Okada1, 1Singapore Research Laboratory, Sony Electronics, 2Data Storage Institute, Singapore

BS 04  THIN FILM PIEZOELECTRIC DUAL-STAGE ACTUATOR FOR HDD  
Hideki Kuwajima, Kaoru Matsuoka, HD Development Center, Matsushita Electric, Osaka, Japan

BS 05  MID-FREQUENCY DISTURBANCE REJECTION VIA MICRO-ACTUATOR IN DUAL-STAGE HDD  
Daowei Wu, Guoxiao Guo, Tow C. Chong, Data Storage Institute, Singapore

BS 06  IRFM CONTROL WITH APPLICATION TO HDD SERVO SYSTEM  
Qing-Wei Jia, Kian-Keong Ooi, Servo Dept., Seagate Technology International, Singapore

BS 07  A NOVEL MAGNETIC PRINTING TECHNIQUE FOR PERPENDICULAR MEDIA  
Akira Saito1, Taizou Hamada2, Tatsuaki Ishida2, Yukihiro Takano1, Eiichi Yonezawa1, 1Device Technology Laboratory, Fuji Electric R&D, Ltd, 2HD Development Ctr, Matsushita Electric Industrial Co., Japan

BS 08  THERMAL ANALYSIS OF MAGNETO-OPTIC PRINTING OF SERVO PATTERNS  
Bill R. Baker, Consultant, Redwood City, CA

BS 09  AERODYNAMIC VIBRATION MECHANISM OF HDD ARMS PREDICTED BY UNSTEADY NUMERICAL SIMULATIONS  
Hiroyuki Kubotera, Naouzumi Tsuda, Masayuki Tatemaki, Tsugito Maruyama, Fujitsu Laboratories Ltd., Japan

BS 10  EXPERIMENTAL AND THEORETICAL STUDIES OF FLUID-DYNAMIC BEARING (FDB) SPINDLES WITH ROTATING-SHAFT DESIGN  
Jung Seo Park1, I. Y. Shen1, C.-P. Roger Ku2, 1University of Washington, Seattle, WA, 2Western Digital Corporation, San Jose, CA

BS 11  EXPERIMENTAL COMPARISON OF DISK VIBRATIONS MOUNTED ON BALL BEARING AND FLUID BEARING SPINDLE  
Qide Zhang1, S.H. Winoto2, Guoxiao Guo1, Jiaping Yang1, 1Data Storage Institute, Singapore, 2Dept. of MPE, National University of Singapore

BS 12  EXPERIMENTAL DYNAMIC MODELING AND CHARACTERISATIONS OF DISK PLATTER RESONANCES  
Pang Chee Khiang1, Ong Eng Hong1, Guoxiao Guo2, 1National University of Singapore, 2Data Storage Institute, Singapore

BS 13  DYNAMIC CHARACTERISTICS OF A FLEX SUSPENSION ASSEMBLY  
Shengkai Yu1, Bo Liu1, Qisuo Chen1, James R. White2, Ke Zhang2, Yongpeng Lee2, 1Data Storage Institute, Singapore, 23M Asia Pacific, Singapore

BS 14  HIL SIMULATION SYSTEM FOR THE HDD SERVO Firmware  
Yosuke Senta, Yuichi Sato, Eiji Okamura, Fujitsu Lab., Kawasaki, Japan
LARGE CAPACITY PROBE RECORDING USING STORAGE ROBOTS (STOBOTS)
Leon Abelmann, Thijs Bolhuis, Cock Lodder, SMI, MESA+ Research Institute, U. Twente, The Netherlands

PERFORMANCE ANALYSIS OF BEYOND 100 GBITS/IN² MFM-BASED MEMS-ACTUATED MASS STORAGE DEVICES
Rany Tawfik El-Sayed, L. Richard Carley, CHIPS, Carnegie Mellon Univ., Pittsburgh PA

DEPENDENCE OF THERMO-MAGNETIC MARK SIZE ON APPLIED STM VOLTAGE IN Co/Pt MULTILAYERS
Li Zhang, James A. Bain, Jian-Gang Zhu, DSSC, Dept. of ECE, Carnegie Mellon Univ., Pittsburgh, PA
CUBIC PHASE STABILIZATION IN SPUTTER DEPOSITED NANOCRYSTALLINE COPPER FERRITE THIN FILMS WITH LARGE MAGNETIZATION
Mrugesh Desai¹, Shiva Prasad¹, N. Venkataramani¹, Indradev Samajdar¹, Arun Kumar Nigam², R. Krishna², 
¹IT Bombay, India, ²TIFR, Mumbai, India, *LMOV-CNRS, France

RECYCLING OF MnZn FERRITE CORES AND MAGNETIC PROPERTIES
Yoshio Matsuo, FDK Corporation, Koisai-shi, Shizuoka, Japan

INFLUENCE OF CRYSTALLINE STRUCTURE ON MICROMAGNETIC DOMAIN FORMATION
Atsunori Hirohata¹, Y. B. Xu², J. A. C. Bland¹, Stuart N. Holmes¹, E. Cambriii¹, Y. Chen³, F. Rousseaux¹, ¹Cavendish Lab., Univ. of Cambridge, ²Department of Electronics, University of York, ³Cambridge Research Lab., Toshiba Research Europe Ltd., *L2M/CNRS, Bagneux, France

Mn-Zn FERRITE PARTICLE/POLYMIDE COMPOSITE THICK FILM AND ITS APPLICATION TO A COUPLED TRANSMISSION-LINE COMMON-MODE FILTER
Toshio Sato¹, Takahiro Kokaia¹, Masashi Moroishia¹, Kiyohito Yamashawa¹, Hiroki Karasawa¹, Toshiyuki Sakumaa¹, *Shinshu University, Nagano, Japan, ¹KOA Corporation, Nagano, Japan

EFFECTS OF Bi₂O₃ ADDITION ON THE MICROSTRUCTURE AND ELECTROMAGNETIC PROPERTIES OF NiCuZn FERRITES
Jaill Jeong¹, Byeong Cheol Moon¹, Young Ho Han¹, ¹Sungkyunkwan University, *Samsung Electromechanics Co., Korea

MAGNETIC PROPERTIES OF NANOCOMPOSITES CONTAINING FeNi OR Fe DISPERSED IN A MnZn FERRITE MATRIX
Johan Moulin¹, Yannick Champion¹, Lajos Karoly Varga², Frédéric Mazaleyrat¹, ¹LESIR, ENS Cachan, Cachan, France, ²CECM, Vitry, France, ²RISSPO, Budapest, Hungary

THE MICROSTRUCTURE AND CHARACTERISTICS OF MAGNETITE THIN FILMS PREPARED BY ULTRASOUND-ENHANCED FERRITE PLATING
Jae Hee Oh, Department of Ceramic Engineering Inha University, Incheon, Korea

MAGNETIC AND ELECTRIC PROPERTIES OF SiO₂-DOPED Mn FERRITE BY MECHANICAL ALLOYING
Jun Ding, Faculty of Science, National University of Singapore*

FOURIER TRANSFORM A TOOL FOR NON INVASIVE CHARACTERIZATION OF MAGNETIZATION PROCESSES IN SOFT FERRITE
Ovidiu Florin Caltun, Iulian Nistor, Anca Mihaela Sava, “A. I. Cuza” University, Faculty of Physics, Iasi, Romania

MAGNETIC ANISOTROPIC PROPERTIES IN Fe₃O₄ AND CoFe₂O₄ FERRITE EPITAXY THIN FILMS
Lance Horng¹, G Chern², *National Changhua University of Education, ²Department of Physics, National Chung-Cheng University, China

CONSTRUCTION AND MAGNETIC CHARACTERISTICS OF MAGNETIC WOOD
Hideo Oka¹, Atushi Hojo¹, Hiroshi Osada¹, Kyoushiro Seki¹, Yasuji Namizaki¹, Hiroshi Tanichi¹, ¹Iwate University, Morioka, Japan, ²Iwate Industrial Research Institute, ³Iwate Pref. Forestry Technology Center, Morioka, Japan

LOW-FIELD MAGNETORESISTANCE AND MAGNETIC STUDY OF BaₓFeₓ₋ₓMoₓ₋ₓO₃
Woo Young Lee¹, Hauk Han¹, Sung Baek Kim², Chul Sung Kim², Bo Wha Lee³, ¹Department of Physics, HUFS, Yongin, Korea, ³Department of Physics, Kookmin Univ., Seoul, Korea

MAGNETIC AFTEREFFECTS IN Si-DOPED YIG
Carlos Torres Cabrera, Oscar Alejos, Pablo Hernández-Gómez, José María Muñoz, Carlos de Francisco, Dpto. Electricidad y Electronica, Univ. Valladolid, Spain

THERMAL STABILITY OF ELECTRODEPOSITED SOFT-MAGNETIC IRON ALLOY LAYERS
E.H. du Marchie van Voorthuysen, D.O. Boerma, N.G. Chechenin, F.T. ten Broek, NSSP and MSC, University of Groningen, The Netherlands

RELATION BETWEEN OBSERVED MICROMAGNETIC RIPPLE AND FMR WIDTH IN ULTRASOFT MAGNETIC FILMS
Nikolai G. Chechenin, Materials Science Centre, University of Groningen, The Netherlands

MOMENT REDUCTION DUE TO OXYGEN CONTAMINATION OF FeₓCoₓ
**BV 01**
MAGNETOSTRICTIVE PROPERTIES OF CUBE-TEXTURED SI-STEEL SHEETS BY OXIDE-SEPARATOR-INDUCED DECARBURATION
Toshiro Tomida, Sumitomo Metals R&D, Amagasaki, Japan

**BV 02**
NEURAL NETWORK BASED APPROACH TO DYNAMIC HYSTERESIS FOR CIRCULAR AND ELLIPtical MAGNETIZATION IN ELECTRICAL STEEL SHEET
Dimitre Makaveev, Luc Dupré, Jan Melkebeek, Ghent University, Ghent, Belgium

**BV 03**
TWO-DIMENSIONAL DC-BIASED PROPERTIES OF MAGNETIC MATERIALS
Masato Enokizono, Shuichi Takahashi, Oita University, Oita, Japan

**BV 04**
INTERFACIAL SEGREGATION KINETICS OF SULFUR INFLUENCED BY FLOW RATE OF HYDROGEN AND MAGNETIC INDUCTION IN THIN-GAUGED 3%Si-Fe STRIP
Sang-Beom Kim, Yong-Seek Choi, Seong-Soo Cho, Nam Hoe Heo, Korea Electric Power Research Institute, Yusung, Korea

**BV 05**
ORDER IN HIGH SILICON ELECTRICAL STEEL CHARACTERIZED BY MÖSSBAUER SPECTROSCOPY
Daniel Ruiz Romero, Tanya Ros-Yañez, Yvan Houbaert, Robert Vandenberghe, Ghent University, Belgium

**BV 06**
CHARACTERIZATION OF PEARLITE GRAINS IN PLAIN CARBON STEEL BY BARKHAUSEN EMISSION
K. M. Koo1, D. H. L. Ng1, Chester C.H. Lo1, 2Department of Physics, The Chinese University of Hong Kong, 2Ames Laboratory, Iowa State University, Ames, IA

**BV 07**
SURFACE-ENERGY-INDUCED SELECTIVE NUCLEATION AND GROWTH IN 3%SiC-STEEL SHEET
Nam Hoe Heo, Sang-Beom Kim, Yong-Seek Choi, Seong-So Cho, KEPRI, Taejon, Korea

**BV 08**
FINE-GRAINED AND CUBE-TEXTURED SI-STEEL SHEET HOOP BY OXIDE-SEPARATOR-INDUCED DECARBURATION
Naoyuki Sano1, Toshiro Tomida1, Shigeharu Hinotani1, Atsuhiro Kuroda1, Hitoshi Kotera1, Koji Fujiwara1, 1Sumitomo Metals R&D, Amagasaki, Japan, 2Dept. Mechanical Engineering, Kyoto University, 3Dpt. E.E., Okayama Univ., Japan

**BV 09**
EVOLUTION OF MAGNETIC PROPERTIES AND MICROSTRUCTURE OF HIGH-SILICON STEEL DURING HOT DIPPING AND DIFFUSION ANNEALING
Tanya Ros-Yañez, Yvan Houbaert, Marc de Wulf, Ghent University, Belgium

**BV 10**
INVESTIGATION OF RESIDUAL EFFECTS OF TENSILE STRESS ON MAGNETIC PROPERTIES OF NON-ORIENTED ELECTRICAL STEEL
Alexandre Poulinikov, Viatcheslav Permiakov, Jan Melkebeek, Department of Electrical Power Engineering, Ghent University, Belgium

**BV 11**
NON-DESTRUCTIVE CHARACTERISATION OF 2Cr-1Mo STEEL QUALITY USING MAGNETO-ACOUSTIC EMISSION
Boleslaw Augustyniak1, Leszek Piotrowski1, Marek Chmielewski1, Martin J Sablik2, 1Gdansk University of Technology, 2Southwest Research Institute, San Antonio

**BV 12**
STRESS EVALUATION OF STEEL PLATES BY CHAOS OF BARKHAUSEN NOISE
Yuji Tsuchida, Takahiro Ando, Masato Enokizono, Oita University, Oita, Japan

**BV 13**
DETERMINATION OF FATIGUE DAMAGE IN AUSTENITIC STAINLESS STEEL USING THE PERPENDICULAR RESIDUAL MAGNETIZATION METHOD
Moachirou Oka, Terutoshi Yakushiji, Yuji Tsuchida, Masato Enokizono, Oita National College of Technology, Oita, Japan

**BV 14**
EFFECTS OF TWO LASER CUTTING MODES ON THE MAGNETIC PROPERTIES OF LOW AND MEDIUM Si GRAIN NON-ORIENTED ELECTRICAL STEELS
Philippe Baudouin1, Ahmed Belhadj2, Florin Breban3, André Deffontaine1, Yvan Houbaert4, 1RUG Ghent Belgium, 2RDCS Liége Belgium, 3CALFA Béthune France, 4Ghent University, Technologiepark 9 Zwijnaarde, Belgium

**BV 15**
FLUX AND LOSS DISTRIBUTIONS IN A TYPICAL STATOR CORE
Nedim Tutkun1, Anthony Jones Moses3, 1Karaelmas University, Dept. of Elec &Electronic, Turkey, 2Cardiff University, Wolfson Centre, UK
**BW High Frequency Effects and Materials**

E. Schloemann Weston
C. Patton Colorado State University

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**BW 01**

TUNABLE ZERO FIELD RESONANCE FREQUENCY IN ARRAYS OF MAGNETIC ALLOY NANOWIRES
Armando Encinas¹, Marc Demand², Salah Kenane³, Isabelle Huynen⁴, Luc Piraux¹, ¹UCL-PCPM Louvain La Neuve Belgium, ²EMIC-UCL Louvain La Neuve Belgium

**BW 02**

FORMATION AND PROPAGATION OF DIPOLE SPIN WAVE ENVELOPE SOLITONS UNDER THE INFLUENCE OF PARAMETRIC PUMPING
Andrei N. Slavin¹, Yuri V. Koblianskyi², Gennady A Melkov², Vladimir M Pan³, Vasyl S Tiberkevich², ¹Department of Physics, Oakland Uni., MI, ²Taras Shevchenko Kiev University, Kiev, Ukraine

**BW 03**

ACTIVE MAGNETOSTATIC WAVE DELAY LINE FOR MICROWAVE SIGNALS
Andrei N. Slavin¹, Yuri V. Koblianskyi², Gennady A Melkov², Vladimir M Pan³, Vasyl S Tiberkevich², ¹Department of Physics, Oakland Uni., MI, ²Taras Shevchenko Kiev University, Kiev, Ukraine

**BW 04**

NON-LINEAR MAGNETOSTATIC SURFACE WAVES PULSE PROPAGATION IN FERRITE-DIELECTRIC-METAL STRUCTURE
Yuri A. Filimonov¹, Romolo Marcelli², Sergey A. Nikitov³, ¹IRE-RAS, Saratov, Russia, ²CNR-IMM-M2T, Roma, Italy, ³IRE-RAS, Moscow, Russia

**BW 05**

MICROWAVE ABSORBING PROPERTIES OF Co-SUBSTITUTED Ni,W HEXAFERRITES IN KA-BAND FREQUENCIES (26.5-40 GHz)
Sung-Soo Kim, Dept. of Materials Eng., Chungbuk National Univ., Korea

**BW 06**

MICROWAVE ABSORPTION PROPERTIES OF POLYMER-PROTECTED METALLIC MAGNETIC NANOPARTICLES
Satoshi Sugimoto, Yoshihiro Kato, Ken-ichi Shinohara, Toshio Kagotani, Koichiro Inomata, Graduate School of Engng., Tohoku Univ., Sendai, Japan

**BW 07**

RECURRENT PHENOMENON FOR MICROWAVE SOLITONS IN FERRITE FILMS
Mark Mitchell Scott¹, Boris A. Kalinikos², Carl E. Patton¹, ¹Colorado State University, Fort Collins, CO, ²St. Petersburg Electrotechnical Institute, Russia

**BW 08**

ORIGIN OF LARGE SIGNAL DECAY AT HIGH FREQUENCIES OVER FMR POINT IN CoZnNb/POLYIMIDE MULTILAYERED THIN FILM MICROSTRIP-LINE
Shinji Ikeda, Toshiro Sato, Yasuyuki Maruyama, Kiyohito Yamashita, Shinshu University, Nagano, Japan

**BW 09**

DESIGN CONSIDERATION OF HIGH FREQUENCY PLANAR TRANSFORMER
Fu Wong, Jun Lu, Griffith University, Australia

**BW 10**

HIGH POWER MICROWAVE PROPERTIES OF Zn-Y HEXAGONAL FERRITE
Alexey V Nazarov, Richard G Cox, Carl E. Patton, Colorado State University, Fort Collins, CO

**BW 11**

Ni-Zn-Co FERRITE FILMS PREPARED AT 90°C HAVING IMAGINARY PERMÉABILITY 30 AT 3 GHz
Nobuhiko Matsushita, Tatsuro Nakamura, Masanori Abe, Tokyo Institute of Technology, Japan

**BW 12**

NONLINEAR BEHAVIOR OF MAGNETOSTATIC SURFACE WAVES IN FERRITE FILM MULTILAYER STRUCTURE
Tetsuya Ueda¹, Makoto Tsutsumi², ¹Kyoto Institute of Technology, Kyoto, Japan, ²Fukui University of Technology, Fukui, Japan

**BW 13**

THE FMR BEHAVIOR OF Fe SINGLE LAYER
Chin-Chung Yu¹, M.J. Chen², P.S. Chiur³, D.S. Hung², Y. Lio¹, S.F. Lee⁴, C.S. Tsai², Y.D. Yao⁴, ¹Institute of Physics, Academia Sinica, Taipei 115, Taiwan, ²Inst. of Appl. & Eng. Res., Academia Sinica, Taipei, Taiwan, ³Synchrotron Radiation Research Center, Hsinchu, Taiwan

**BW 14**

FM SPECTRUM CALCULATION OF AN ARBITRARILY-SHAPED YIG RESONATOR BY THE FULL-WAVE FDTD METHOD TAKING INHOMOGENEOUS DEMAGNETIZING FIELD INTO ACCOUNT
Atsushi Sanada, Ikuo Awai, Yamaguchi Univ., Dept. of EEE, Yamaguchi, Japan

**BW 15**

MICROMACHINED MAGNETOSTATIC WAVE BAND-PASS RESONATORS
Romolo Marcelli¹, Gheorghe Sajin², Alina Cismaru³, ²CNR-IMM-M2T, Roma, Italy, ³IMT, Bucharest, Romania

**BW 16**

GENERATION OF SPIN-WAVE SOLITON-LIKE PULSE TRAINS IN YTTRIUM IRON GARNET FILMS UNDER PARALLEL PUMPING
Boris A Kalinikos¹, Mikhail P Kostylev¹, Nikolai G. Kovshikov¹, Hartmut Benner², ¹Electrotechnical University, St. Petersburg, Russia, ²Darmstadt University of Technology, Germany

**BW 17**

PULSE REGIME OF NONLINEAR SPIN WAVE INTERFEROMETER OPERATION
Alexei Borisovich Ustinov, St. Petersburg Electrotechnical University, Russia

**BW 18**

DYNAMIC PERMEABILITY OF FERROMAGNETIC THIN FILMS WITH STRIPE DOMAIN STRUCTURE
Nikita A. Buznikov, Alexander L. Rakhmanov, Konstantin N. Rozanov, ITAE, Moscow, Russia

**BW 19**

SMART MEASUREMENT SETUP FOR SPIN WAVE LINEWIDTH DHK
U. Hoepe, AFT GmbH, Backnang, Germany

**BW 20**

TWO-PORT TRANSDUCERS FOR MAGNETOSTATIC WAVE FILTERS AND DELAY LINES
Sergei V. Zagriaski, Jaechoon Choi, Jaechoon Choi, Hyeongdung Kim, Dept. of Electrical & Computer Eng., Hanyang University, Seoul, Korea

**BW 21**

MULTI-SOLITON FORMATION FROM A SINGLE NARROW PULSE IN FERRITE FILMS
Craig Zaspel, University of Montana/Western, Dillon, MT

**BW 22**

EPITAXIAL FERRITE FILM STRAIGHT EDGE RESONATORS
Sergey D. Vasilchenko, Evgeny V. Kudinov, Michael G. Balinskiy, Andrii V. Selezn’ov, NTUU Kiev Polytechnic Institute, Kiev, Ukraine
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors/Institutions</th>
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<tbody>
<tr>
<td>9:00 AM</td>
<td>CA 01</td>
<td>IMPROVED CORROSION RESISTANCE OF IrMn ANTIFERROMAGNETS FOR SPIN VALVE APPLICATIONS BY ALLOYING WITH Cr AND Ru [invited]</td>
<td>Matthew J. Carey, J. R. Childress, A. Kellock, T. Le, T. Thompson, L. Baril, Bruce A. Gurney, IBM Research, San Jose, CA</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>CA 02</td>
<td>THE APPLICABILITY OF CPP-GMR FOR OVER 100GbpsI [invited]</td>
<td>Takagishi Masayuki, Katsuhiko Koi, Masatoshi Yoshikawa, Tomomi Funayama, Hitoshi Iwasaki, Masashi Sahashi, Toshiba Corp., R&amp;D Center, Kawasaki, Japan</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>CA 03</td>
<td>VERY LARGE GMR OF SPIN VALVE WITH SPECULARLY REFLECTIVE LAYERS</td>
<td>Jongill Hong, Hitoshi Kanai, Yuji Uehara, Magnetic Recording Technology Laboratory, Fujitsu Labs. Ltd, Japan</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>CA 04</td>
<td>CPP SENSORS WITH AN ENHANCED MR USING LAMINATED FM LAYERS</td>
<td>Yihong Wu¹², Kebin Li², Zaibing Guo², Jinjun Qiu², Guchang Han², T C Chong², ¹ECE National University of Singapore, ²Data Storage Institute, Singapore</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>CA 05</td>
<td>A TUNNELING MAGNETORESISTANCE SENSOR</td>
<td>Tsann Lin, IBM Almaden Research Center, San Jose, CA</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>CA 06</td>
<td>DEGRADATION OF GMR AND TMR RECORDING HEADS USING VERY SHORT DURATION ESD TRANSIENTS</td>
<td>Lydia C Baril, Mark Nichols, Albert Wallash, Maxtor Corp. Milpitas, CA</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>CA 07</td>
<td>AREAL DENSITY PROCESS ADVANTAGES FOR CPP SENSORS</td>
<td>Robert E. Fontana, Jordan A Katine, Marie-Claire Cyrille, Michael K. Ho, J. R. Childress, Ching H. Tsang, IBM Research, San Jose, CA</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>CA 08</td>
<td>TUNNEL-VALVE AND SPIN-VALVE STRUCTURES WITH IN SITU IN-STACK BIAS</td>
<td>J. R. Childress, Michael K Ho, Robert E Fontana, Philip M Rice, Matthew J Carey, Bruce A Gurney, Ching H Tsang, IBM Almaden Research Center, San Jose, CA</td>
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<tr>
<td>Time</td>
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<tr>
<td>9:00 AM</td>
<td>CB 01</td>
<td>DYNAMICS OF TRANSITION WRITING IN ANTIFERROMAGNETICALLY COUPLED MAGNETIC RECORDING MEDIA</td>
<td>Manfred Ernst Schabes, IBM Almaden Research Center, San Jose, CA</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>CB 02</td>
<td>MICROMAGNETIC SIMULATION OF PSEUDORANDOM SEQUENCES FOR EQUALIZED SNR ESTIMATIONS IN LONGITUDINAL RECORDING</td>
<td>Jim Giusti, Yuming Zhou, Lieping Zhong, Juan Fernandez-de-Castro, Seagate Technology, Minneapolis, MN</td>
</tr>
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<td>9:30 AM</td>
<td>CB 03</td>
<td>HEAD FIELD ANGLE DEPENDENT WRITING IN LONGITUDINAL RECORDING</td>
<td>Lieping Zhong, Yuming Zhou, Jim Giusti, Juan Fernandez-de-Castro, Seagate Technology LLC, Bloomington, MN</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>CB 04</td>
<td>RELATION BETWEEN MAGNETIC CLUSTER SIZE AND THERMAL SWITCHING SIZE IN HDD MEDIA</td>
<td>Masakazu Igarashi1, Fumiko Akagi1, Yutaka Sugita2, 1Hitachi, Ltd., CRL, 2Tohoku Institute of Technology, Sendai, Japan</td>
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<tr>
<td>10:00 AM</td>
<td>CB 05</td>
<td>READBACK RESPONSES FOR COMPLEX RECORDING MEDIA CONFIGURATIONS</td>
<td>David T Wilton1, Roger Wood2, 1University of Plymouth, Plymouth, UK, 2IBM, San Jose, CA</td>
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<tr>
<td>10:15 AM</td>
<td>CB 06</td>
<td>TRANSITION NOISE REDUCTION IN CGC PERPENDICULAR MEDIA</td>
<td>Kenji Miura1, Hiroaki Muraoka1, Yoshiaki Sonobe2, Yoshihisa Nakamura1, 1RIEC, Tohoku Univ., Sendai, Japan, 2IBM Almaden, San Jose, CA</td>
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<td>10:30 AM</td>
<td>CB 07</td>
<td>PERPENDICULAR RECORDING MODEL OF MEDIUM EFFECTS ON READ-BACK AMPLITUDE AND TRANSITION SNR</td>
<td>Martin Plumer, Johannes van Ek, Seagate Technology, Minneapolis, MN</td>
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<td>10:45 AM</td>
<td>CB 08</td>
<td>VECTOR RECORDING PROPERTIES OF PERPENDICULAR MEDIA</td>
<td>Jim J Miles1, Terry Olson1, Roger Wood2, Hazel A Shute1, David T Wilton1, Barry K Middleton1, 1University of Manchester, UK, 2IBM, San Jose, CA, 3Maths &amp; Stats Dept University of Plymouth Devon UK</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>CB 09</td>
<td>DYNAMICS IN PERPENDICULAR RECORDING USING 3D MICROMAGNETIC SIMULATION</td>
<td>Kaizhong Gao, H Neal Bertram, CMRR, UCSD, La Jolla, CA</td>
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<td>11:15 AM</td>
<td>CB 10</td>
<td>MULTIPLE MAGNETIC IMAGE REFLECTION IN PERPENDICULAR RECORDING</td>
<td>Dmitri Litvinov, Roy W. Gustafson, Alexander Kuznetsov, Mark H. Kryder, Sakhrat Khizroev, Seagate Research, Pittsburgh, Pennsylvania, PA</td>
</tr>
</tbody>
</table>
**CC**
Thin Films: Surfaces and Interfaces

David J Larson
Seagate Technology, Minneapolis, MN

**Tuesday**
**9:00 AM**

**Room A**

**CC 01**
TEMPERATURE DEPENDENCE OF ANISOTROPIES IN (001)Co/NiMn
Yung-Hung Wang¹, Chih-Huang Lal¹, Jyh-Shinn Yang¹, ²National Tsing Hua University, Hsinchu, Taiwan, ²National Taiwan Ocean University, Keelung, Taiwan

**9:15 AM**

**CC 02**
SWITCHING PROCESSES OF A CONTROLLED DOMAIN WALL IN AN EXCHANGE BIASED FERRIMAGNETIC BILAYER
Stéphane Mangin, François Montaigne, Loic Joly, Michel Hehn, Alain Schuhl, LPM, Université Henri Poincare Nancy-1, France

**9:30 AM**

**CC 03**
CONTROL OF MAGNETIC ANISOTROPY IN CoPt MULTILAYERS BY INSERTION OF Pt INTERLAYERS INTO Pt
Satoshi Sano, S. H. Kong, Shigeki Nakagawa, Tokyo Institute of Technology, Japan

**9:45 AM**

**CC 04**
EASY AXIS DISPERSION IN HIGH MOMENT Fe-Co-Ni THIN FILMS ELECTRODEPOSITED ON VARIOUS UNDERLAYERS
Xiaomin Liu, Giovanni Zangari, MINT Center, University of Alabama, Tuscaloosa, AL

**10:00 AM**

**CC 05**
MAGNETIC PROPERTIES OF FeRh ALLOY FILMS PREPARED BY ION-BEAM SPUTTERING
Shuichiro Hashi¹, Shunji Yanase², Yasuo Okazaki³, M Inoue³, ¹Dept. of Elec. & Elec Eng., Gifu Univ., ²EEE, Toyoohashi University of Technology, Toyoohashi, Japan

**10:15 AM**

**CC 06**
HIGH MOBILITY OF SURFACE ATOMS AND INDUCED UNIAXIAL ANISOTROPY IN VERY THIN PERMALLOY FILMS
Hiroaki Katada¹, Takehito Shimatsu¹, Hiroshi Watanabe¹, Isao Watanabe¹, Hiroaki Muraoka¹, Yoshihisa Nakamura¹, Yutaka Sugita², ³RIEC, Tohoku Univ., Sendai, Japan, ²Tohoku Inst. Tech., Sendai, Japan

**10:30 AM**

**CC 07**
TEMPERATURE VARIATION OF STEP-INDUCED ANISOTROPY IN PERMALLOY THIN FILM GROWN ON Mo STEPPED SURFACE
C.M. Fu¹, P.C. Kao¹, H.S. Hsu¹, U.C. Zhao¹, C.C. Yu¹, J. C. A. Huang¹, ²Physics department, National Kaohsiung Normal University, ³Physics department, National Chen-Kung Normal University, Taiwan, R.O.C.

**10:45 AM**

**CC 08**
EPITAXIAL GROWTH AND MAGNETIC ANISOTROPY OF ELECTRODEPOSITED Ni AND Co THIN FILMS GROWN ON n-TYPE GaAs
Paul Richard Evans, Christian Scheck, Giovanni Zangari, Rainer Schad, University of Alabama, MINT Center, Tuscaloosa AL

**11:00 AM**

**CC 09**
THERMALLY LIMITED RATE-DEPENDENT SWITCHING IN EPITAXIAL Fe/GaAs
T. A. Moore, S. M. Gardiner, G. Wastlauer, J. A. C. Bland, Cavendish Laboratory, University of Cambridge, UK

**11:15 AM**

**CC 10**
CONTROLLING THE MAGNETO-TRANSPORT PROPERTIES OF EuS THIN FILMS
Jan Keller¹, Jeff Parker¹, Jolanta Satkiewicz¹, Peng Xiong¹, Stephan von Molnar¹, Patricia Stampe½, Robin Kennedy², ³MARTECH, Florida State University, Tallahassee, FL, ³Dep. of Physics, Florida A&M University, Tallahassee, FL
CD
Giant Magneto-Impedance

Larissa Panina
University of Plymouth

Tuesday
9:00 AM
Room B

**CD 01**
Giant Magnetoeimpedance, Skin Depth and Domain Wall Dynamics
Raul Valenzuela, Israel Betancourt, IIM-UNAM, Cto Ext CU, Mexico DF, Mexico

9:00 AM

**CD 02**
Temperature Effect on the Giant Magnetoeimpedance in Amorphous Materials
Y. W. Rheem¹, C. G. Kim², C. O. Kim¹, G. W. Kim¹, S. S. Yoon², ¹ReCAMM, Chungnam National University, Taejon, Korea, ²Dept. of Physics, Andong National University, Korea

9:15 AM

**CD 03**
Torsional Dependence of Second Harmonic Amplitude of Giant Magnetoeimpedance in FeCoSiB
Cristina Gómez-Polo, Depto. de Fisica. Universidad Publica de Navarra, Pamplona, Spain

9:30 AM

**CD 04**
Hysteretic and Asymmetric Magnetoeimpedance in Cobalt-Rich Amorphous Wires
Petru Ciureanu, Grazyna Rudkowska, Luiz Guillermo Melo, Arthur Yelon, Ecole Polytechnique Montreal, Canada

9:45 AM

**CD 05**
Giant Magnetoeimpedance and Surface Hysteresis Loops in Co-Rich Amorphous Microwires
Valentina A. Zhukova¹, Alexandr Chizhik², Arcady P. Zhukov³, Alexandr Torcunov³, Vladimir S. Larin³, Julian Gonzalez³, ¹Dpto Fisica Materiales, Fac. Química, UPV/EHU, San Sebastian, Spain, ²Inst. Low Temp. Phys. & Eng., Nat. Acad. Sciences of Ukraine, ³Donostia Intern. Phys. Centre, San Sebastian, Spain, the TAMag S.L., Madrid, Spain

10:00 AM

**CD 06**
High-Frequency Magnetoeimpedance in Co₆₃.₂Mn₉.₆Si₅.₉B₃.₃ Glass-Coated Microwires
Paola Tiberto, IEN Galileo Ferraris, Torino, Italy

10:15 AM

**CD 07**
Dynamic Circular Magnetisation Loops in Co-Based Amorphous Wires
David Lionel Ambler, L V Panina, D J Mapps, DECE, University of Plymouth, Drake Circus, Plymouth, UK

10:30 AM

**CD 08**
Laser Annealing Effect on Giant Magnetoeimpedance in Amorphous Co-Based Microwire
S. J. Ahn¹, S. S. Yoon², C. G. Kim³, C. O. Kim³, ¹Dept. of Physics, Sun Moon University, Korea, ³Dept. of Physics, Andong National University, Korea, ²ReCAMM, Chungnam National University, Taejon, Korea

10:45 AM

**CD 09**
Giant Magnetoeimpedance Effect and Magnetoelastic Properties in Stress-Annealed FeSiBCuNb Nanocrystalline Wire
Y.F. Li¹,², M. Vázquez³ and D.-X. Chen¹, ¹Instituto de Magnetismo Aplicado UCM-RENFE. PO Box 155. 28230 Madrid.Spain, ³Instituto de Ciencia de Materiales, CSIC, 28049 Madrid. Spain

11:00 AM

**CD 10**
Mass Produced Amorphous Wire Type MI Sensors
Yoshinobu Honkura¹, Michiharu Yamamoto¹, Yoshiaki Kohtani¹, K Mohri², ¹Aichi Steel Corp., Tokai Aichi Japan, ²Graduate School of Elec. Eng. Nagoya University, Japan

11:15 AM
**CE**
Magneto-Chemistry and Magnetic Fluids

**Charles Krafft**  
University of Maryland

**Tuesday**  
9:00 AM  
**Room C & D**

**CE 01**  
MAGNETIC FIELD EFFECTS ON THE REST POTENTIAL OF FERROMAGNETIC ELECTRODES  
Gareth Hinds, Fernando M.F. Rhen, J. M.D. Coey, Physics Dept, Trinity College, Dublin 2, Ireland

9:15 AM

**CE 02**  
MEASUREMENT OF HINDERED SETTLING IN MAGNETIC DISPERSIONS  
Tim Mercer, Philip R Bissell, Ray G Gilson, Centre for Materials Science, UClan, Preston, U.K.

9:30 AM

**CE 03**  
MICRO-STRUCTURES AND POTENTIALLY ELECTRO-OPTIC APPLICATIONS OF MAGNETIC FLUID FILMS  
Chin-Yih Hong1, Herng-Er Horng2, Shieh-Yueh Yang2, Hong-Chang Yang2, 1Department of Mechanical Engineering, Da-Yeh University, Taiwan, 2Dept. of Phys., National Taiwan Normal Univ., Taiwan

9:45 AM

**CE 04**  
WIDE VARIETY OF FERRITE FINE PARTICLES SYNTHESIZED FROM AQUEOUS SOLUTION AT ROOM TEMPERATURE  
Kazuhiro Nishimura1, Masanori Abe2, Mitsuteru Inoue1, 1Toyohashi University of Technology, 2Tokyo Institute of Technology, Japan

10:00 AM

**CE 05**  
STUDY OF PARTICLE-PARTICLE INTERACTION IN MAGNETIC FLUIDS USING MAGNETIC RESONANCE  
Paulo Cesar Morais, Gil Renato Ribeiro Goncalves, Universidade de Brasilia, Brasilia (DF), Brazil

10:15 AM

**CE 06**  
NANOPARTICLE SURFACE CHARGE DENSITY IN IONIC MAGNETIC FLUIDS: THE EFFECT OF PARTICLE-PARTICLE INTERACTIONS  
Fanyao Qu1, Paulo Cesar Morais2, 1Faculdade de Fisica, Universidade Federal de Uberlandia, 2Universidade de Brasilia, Brasilia (DF)-Brazil

10:30 AM

**CE 07**  
BIREFRINGENCE OF MAGNETITE-BASED MAGNETIC FLUIDS: THE EFFECT OF THE SURFACE-COATING LAYER  
Paulo Cesar Morais, Kalil Skeff Neto, Andris Figueiroa Bakuzis, Maria de Fatima Da Silva, Norbert Buske, Universidade de Brasilia, Brasilia

10:45 AM

**CE 08**  
IN VIVO INVESTIGATION OF DMSA-COATED MAGNETIC FLUID  
Zulmira Guerrero Lacava1, Sacha Beaum Chaves1, Leandro Marques Lacava1, Paulo Cesar Morais1, Osni Silva2, 1Universidade de Brasilia, Brasilia (DF)-Brazil, 2Universidade Federal de Goias, Goiania, Brazil

11:00 AM

**CE 09**  
EFFECT OF NONUNIFORM DISTRIBUTION OF MASS CONCENTRATION ON OSCILLATORY PIPE FLOW UNDER STEADY AND FLUCTUATING MAGNETIC FIELDS  
Kunio Shimada1, Hiroshi Yamaguchi2, Narimitsu Shyuchi2, 1Akita Prefectural University, Honjyo Campus, 2Doshisha University, Faculty of Engineering, Japan

11:15 AM

**CE 10**  
FLOW BOILING HEAT TRANSFER OF MAGNETIC FLUID MIXED WITH LOWER SATURATION TEMPERATURE SECONDARY PARTICLES  
Shigemitsu Shuchi, Taisei Mori, Hiroshi Yamaguchi, Mech. Eng. Dept., Doshisha University, Japan

**CZ**
IEEE Magnetics Society Awards Ceremony

**Tuesday**  
11:45 AM  
**Auditorium**
Wednesday  
9:00 AM  
**DA 01**  
ROLE OF ION IMPLANTATION IN EXCHANGE BIAS SYSTEMS *invited*  
J Fassbender, B Hillebrands, Fachbereich Physik, Universität Kaiserslautern, Germany  

9:30 AM  
**DA 02**  
EXCHANGE BIAS WITH PERPENDICULAR ANISTROPY IN (Pt/Co)/FeMn MULTILAYERS *invited*  
F Garcia, J Moritz, F Ernult, F Fettar, S Auffret, B Rodmacq, B Dieny, CEA/Grenoble, Departement de Recherche Fondamentale sur la Matiere Condensee/SPINTEC, Grenoble, France  

10:00 AM  
**DA 03**  
THERMAL EFFECTS IN THE MAGNETIC PROPERTIES OF COUPLED FM/AFM LAYERS *invited*  
R W Chantrell, Seagate Research, Pittsburgh, PA  

10:30 AM  
**DA 04**  
STABILITY OF DOMAINS AND PINNING NEAR THE FERROMAGNET/ANTIFERROMAGNET INTERFACE *invited*  
R L Stamps, Department of Physics, University of Western Australia, Australia  

11:00 AM  
**DA 05**  
THE USE OF THE ANISOTROPIC MAGNETORESISTANCE TO STUDY EXCHANGE COUPLING *invited*  
E D Dahlberg¹, T Gredig¹, I N Krivorotov¹, C Leighton¹, J Nogues², I K Schaller², A M Goldman¹, ¹School of Physics and Astronomy, University of Minnesota, Minneapolis, MN, ²Physics Department, UCSD, La Jolla, CA  

11:30 AM  
**DA 06**  
DYNAMIC SPIN STRUCTURE AND ANTIFERROMAGNETIC DOMAINS IN EXCHANGE-COUPLED MULTILAYERS *invited*  
C L Chien, Johns Hopkins University, Baltimore, MD
Wednesday
9:00 AM

**DB 01**
DESIGN OF THERMALLY STABLE PERPENDICULAR MEDIA FOR 50-200GB/IN² [invited]
Steven Jon Kimble, Jack H. Judy, University of Minnesota, Elec. Eng., Minneapolis MN

9:30 AM

**DB 02**
ZERO FIELD VISCOSITY IN PERPENDICULAR MEDIA
J W Harrell, Shoutao Wang, Phys. & MINT Center, Univ. of Alabama, Tuscaloosa, AL

9:45 AM

**DB 03**
A NEW METHOD FOR INTRINSIC VISCOSITY MEASUREMENTS ON PERPENDICULAR RECORDING MEDIA
Kim Le Phan, Cock Lodder, Systems and Materials for Information Storage (SMI), MESA+ Research Institute, U. Twente, The Netherlands

10:00 AM

**DB 04**
THERMALLY STABLE CGC PERPENDICULAR RECORDING MEDIA WITH Pt-RICH CoPtCr LAYER [invited]
Yoshiaki Sonobe¹, Hiroaki Muraoka², Kenji Miura², Yoshiihisa Nakamura², Yoshihiro Ikeda¹, Hoa Do¹, Andreas Moser¹, Walter Weresin¹, Natacha Supper¹, Kentaro Takano¹, Yen K Bing¹, ¹IBM Almaden, San Jose, CA, ²RIEC, Tohoku Univ., Sendai, Japan

10:30 AM

**DB 06**
EFFECTIVE PERMEABILITY AND IMAGING OF MULTILAYERED SOFT FILMS FOR PERPENDICULAR RECORDING MEDIA
Thomas Michael Coughlin¹, James E. Monson², ¹Coughlin Associates, San Jose, CA, ²Harvey Mudd College, Claremont, CA

10:45 AM

**DB 07**
CoFe/IrMn EXCHANGE-COUPLED SOFT UNDERLAYERS FOR PERPENDICULAR MEDIA
H. S. Jung¹, W D Doyle³, ¹MINT Center and Materials Science, University of Alabama, ³MINT and Physics & Astronomy, University of Alabama, Tuscaloosa, AL

11:00 AM

**DB 08**
HIGH COERCIVITY CoCrPt/Ti PERPENDICULAR MEDIA BY IN SITU INTERDIFFUSION OF CrMn ULTRA THIN OVERLAYERS
Anup Ghosh Roy, Sangki Jeong, David E Laughlin, DSSC, Carnegie Mellon University, Pittsburgh, PA

11:15 AM

**DB 09**
GRAIN SIZE REDUCTION IN Co/Pd MULTILAYER PERPENDICULAR MAGNETIC RECORDING MEDIA WITH NiAI AS A SEEDLAYER AND A PINNING LAYER
Lianjun Wu, Data Storage Institute, Singapore

11:30 AM

**DB 10**
Ti GRAIN CUTTING LAYER AND Pt UNDERLAYER FOR CoCr BASED SINGLE MAGNETIC LAYERED PERPENDICULAR MAGNETIC RECORDING MEDIA
Byung-Kyu Lee¹, H. S. Oh², K. J. Lee², N. Y. Park³, ¹Samsung Advanced Institute of Technology, Youngin, Korea, ²Storage Lab., SAIT, Suwon, Korea

11:45 AM

**DB 11**
PERPENDICULAR ANISOTROPY IN Fe-Pt THIN FILMS DOPED WITH Ag
Nguyen Phu Thuy, International Training Institute for Materials Science (ITIMS), DHBK, Hanoi, Vietnam
**DC SYMPOSIUM**
**Soft Nanocrystalline Materials and GMI**

Manuel Vazquez  
ICMM, CSIC, Madrid

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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
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<tr>
<td>9:00 AM</td>
<td>DC 01</td>
<td>MAGNETIC PROPERTIES OF PARTIALLY DEVITRIFIED METALLIC GLASSES</td>
<td>H K Lachowicz1, K Zaveta2, A Sławska- Waniwerska1, 1Institute of Physics, Polish Academy of Sciences, Warsaw, Poland, 2Institute of Physics, Academy of Sciences of Czech Republic, Prague 6, Czech Republic, 3Joint Laboratory for Mössbauer Spectroscopy, Charles University, Prague 8, Czech Republic</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>DC 02</td>
<td>THE THERMAL, MAGNETIC, AND STRUCTURAL CHARACTERIZATION OF THE CRYSTALLIZATION KINETICS OF AMORPHOUS SOFT MAGNETIC MATERIALS</td>
<td>A C Hsiao, L'École Normale Superieure de Cachan, France, and Carnegie Mellon University, Pittsburgh, PA</td>
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<tr>
<td>10:00 AM</td>
<td>DC 03</td>
<td>(Ni, Fe, Co)-BASED NANOCRYSTALLINE SOFT MAGNETS WITH NEAR ZERO MAGNETOSTRICTION</td>
<td>M A Willard, J C Claassen, R M Stroud, T L Francavilla, V G Harris, U.S. Naval Research Laboratory, Washington, DC</td>
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<tr>
<td>10:30 AM</td>
<td>DC 04</td>
<td>INFLUENCE OF MAGNETIZATION PROCESSES AND DEVICE GEOMETRY ON THE GMI EFFECT</td>
<td>J M Barandiaran, A García Arribas, J L Munoz, G V Kurlyandskaya, Departamento de Electricidad y Electrónica, Universidad del País Vasco (UPV/EHU), Bilbao, Spain</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>DC 05</td>
<td>GIANT MAGNETO-IMPEDANCE EFFECT IN SOFT MAGNETIC WIRE FAMILIES</td>
<td>H Chiriac, T A Ovari, National Institute of Research and Development for Technical Physics, Iasi, Romania</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>DC 06</td>
<td>AMORPHOUS WIRE &amp; CMOS IC BASED SENSITIVE MICRO MAGNETIC SENSORS UTILIZING MAGNETO-IMPEDANCE (MI) AND STRESS-IMPEDANCE (SI) EFFECTS</td>
<td>H K Mohri1, T Uchiyama1, L P Shen1, Y Honkura2, M Yamamoto2, L V Panina3, 1Electrical Eng., Nagoya University, Nagoya, Japan, 2Aichi Steel Co., Electromagnetics, Tokai, Japan, 3Moscow Physical and Engineering University, Russia</td>
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DD

Micromagnetics and Computational Magnetism

Josef Fidler
Vienna University of Technology

Wednesday
9:00 AM
Room B

9:00 AM

DD 01
HYSTERESIS IN SOFT MAGNETIC ELEMENTS: A COMPARATIVE STUDY OF EXPERIMENTAL OBSERVATIONS AND MICROMAGNETIC MODELING
Rudolf Schaefer¹, Antonio DeSimone², ¹IFW-Dresden, Germany, ²Max-Planck-Institute for Mathematics in the Sciences, Leipzig, Germany

9:15 AM

DD 02
MAGNETOSTATIC INTERACTION ENERGY BETWEEN ELLIPSOIDAL NANO PARTICLES
Silvia Suarez, Honororio Rubio, Departamento de Física, Universidad de Oviedo, Spain

9:30 AM

DD 03
TRANSITION FROM FERROMAGNETISM TO SUPERPARAMAGNETISM IN UNIAXIAL NANO PARTICLES: THE ROLE OF NON-UNIFORMITIES IN THE MAGNETIZATION
Luis Lopez-Diaz, Luis Torres, Univ. de Salamanca, Spain

9:45 AM

DD 04
DEPENDENCE OF SWITCHING TIME ON TEMPERATURE
Hiroshi Fukushima¹, Yasutaro Uesaka², Yoshinobu Nakatani³, Nobuo Hayashi³, ¹3-73 Honda, Chiba, Japan, ²Nihon University, Kohriyama, Japan, ³University of Electro-Communications, Chofu, Japan

10:00 AM

DD 05
THERMAL EFFECTS IN THE HIGH-SPEED SWITCHING OF THE MAGNETIZATION OF FINE GRAINS
Andreas Lyberatos, Sakhrat Khizroev, Dmitri Litvinov, Seagate Research, Pittsburgh, PA

10:15 AM

DD 06
MICROMAGNETIC SIMULATION OF ANTI FERROMAGNETIC/FERROMAGNETIC STRUCTURES
Dieter Suess¹, Werner Scholz¹, Thomas Schrefl¹, Josef Fidler¹, Robert Stamps², ¹Vienna University of Technology, Austria, ²The University of Western Australia, Perth, Australia

10:30 AM

DD 07
OPTIMISATION OF EXCHANGE COUPLING IN PERPENDICULAR MEDIA
Simon John Greaves, Michiyori Miura, Hoya R&D Centre, Akishima-shi, Tokyo, Japan

10:45 AM

DD 08
NORMAL MODE MIXING AND FERROMAGNETIC RESONANCE LINEWIDTH
Andrew Kunz, R. D. McMichael, NIST, Gaithersburg, MD

11:00 AM

DD 09
PERTURBATION TECHNIQUE FOR LLG EQUATION
Giorgio Bertotti¹, Isaac D. Mayergoyz², Claudio Serpico³, ¹Istituto Elettrotecnico Nazionale (IEN), Italy, ²University of Maryland College Park, ³DIE, University of Naples, Italy

11:15 AM

DD 10
MONTE CARLO STUDY OF MIXED SPIN-1 AND SPIN-3/2 ISING FERROMAGNET
Yasuuki Nakamura¹, John W. Tucker², ¹Sch. of Info. & Sci., Nagoya Univ., Nagoya, Japan, ²Physics Dept., University of Sheffield, U.K.
DE
Tunnel Magnetoresistance I

Jeffrey R. Childress
IBM Almaden Research Center

Wednesday
9:00 AM
Room C & D

DE 01
UNDERSTANDING THE BIAS DEPENDENCE OF MAGNETORESISTANCE IN THE SYSTEM
La0.7Sr0.3MnO3/SrTiO3/Co
Martin Oliver Bowen1, R. Bertacco2, A. Barthélémy1, M. Portaluppi2, M. Marcon2, L. Duo2, F. Cicacci2, J.P. Contour1, A. Fert1, F. Petroff3, E. Jacquet1, J. Humbert1, A. Vaurès1, 1UMF CNRS-THALES, Orsay, France, 2INFM - Dpt di Fisica, Politecnico de Milano, Italia
9:00 AM

DE 02
LOW RESISTANCE SPIN-DEPENDENT TUNNEL JUNCTIONS WITH HfAlOx, BARRIERS FOR MTJ RECORDING HEAD
Jianguo Wang, Paulo P Freitas, INESC Lisbon Portugal
9:15 AM

DE 03
ENHANCED TUNNEL MAGNETORESISTANCE BY Hf LAYER INSERTION IN THE TUNNEL BARRIERS
Byong Guk Park, Taek Dong Lee, KAIST, Korea
9:30 AM

DE 04
LARGE MAGNETORESISTANCE IN HYBRID SPIN FILTER
Patrick R. LeClair, Jonathon K. Ha, Henk J.M. Swagten, Juergen T. Kohlhepp, Coen H. van de Vin, Wim J.M. de Jonge, Department of Physics, Eindhoven University of Technology, The Netherlands
9:45 AM

DE 06
ON THE WAY TO AN ALL-NITRIDE EPITAXIAL MAGNETIC TUNNEL JUNCTION
D. M. Borsa, S. Grachev, D. O. Boerma, RUG/NVSF, University of Groningen, Nijenborgh 4, The Netherlands
10:00 AM

DE 07
PHOTOCONDUCTANCE IN MAGNETIC TUNNEL JUNCTIONS
Paul H.P. Koller1, Frederik W.M. Vanhelmont2, Reinder Coehoorn2, Wim J.M. de Jonge1, 1Department of Physics, Eindhoven University of Technology, 2Philips Research Laboratories Eindhoven, The Netherlands
10:15 AM

DE 08
VERY HIGH MAGNETORESISTANCE MEASURED IN CONSTRAINED GRANULAR Co NANOWIRES
Jean-Eric Wegrowe, Travis Wade, Laurent Gravier, Jean-Marc Bonard, Jean-Philippe Ansermet, EPFL, PHB-Ecublens, Switzerland
10:30 AM

DE 09
FABRICATION OF FERROMAGNETIC TUNNEL JUNCTIONS IN 10-nm SIZES BY USING INORGANIC RESIST PROCESS
Toshimi Wada, Satoshi Haraichi, Akira Sato, Akio Fukushima, AIST, Tsukuba, Japan
10:45 AM

DE 10
INTERDIFFUSION IN THE PINNED ELECTRODE OF THE EXCHANGED-BIASED MAGNETIC TUNNEL JUNCTIONS
Jay H Lee, Il C Rho, Hee D Jeong, Kyung K Kim, Chong S Yoon, Chang K Kim, Hanyang University, Dept. of Materials Science and Engineering, Seoul, Korea
11:00 AM

DE 11
NEW PLASMA SOURCE WITH LOW ELECTRON TEMPERATURE FOR FABRICATION OF INSULATING BARRIER IN FERROMAGNETIC TUNNEL JUNCTIONS
Kazuhiro Nishikawa, Masakiyo Tsunoda, Satoshi Ogata, Migaku Takahashi, Tohoku University Dept. Engineering, Sendai, Japan
11:15 AM

DE 12
MAGNETIC AND TUNNEL PROPERTIES OF EPITAXIAL TRANSITION METAL / MgO HETEROSTRUCTURES. [invited]
A. Cebollada, C.M. Boubeta, J.L. Costa Kramer, J.V. Anguita, F. Briones, Instituto de Microelectrónica de Madrid, IMM (CNM-CSIC), Spain
11:30 AM

[invited]
DP 01  IN-SITU MEASUREMENTS OF TEMPERATURE DISTRIBUTION OF AIR BEARING SURFACE USING THERMOGRAPHY
Takahiro Imamura1, Michinaga Yamagishi2, Shuji Nishida3, HDI Engineering Department, Fujitsu Limited, 4Advanced Magnetic Recording Lab., Fujitsu Laboratories Ltd., 5Magnetic Recording Technology Lab., Fujitsu Laboratories Ltd, Japan

DP 02  SHOCK AND HEAD SLAP SIMULATIONS OF OPERATIONAL AND NON-OPERATIONAL HARD DISK DRIVES
Eric M Jayson1, Frank Talke1, Paul W Smith2, James Murphy3, CMRR, UCSD, La Jolla, CA, 4Seagate Technology, Minneapolis, MN

DP 03  DSMC/MGL COMPARISONS OF STRESSES ON SLIDER AIR BEARING WITH NANO METER SPACINGS

DP 04  PIEZOELECTRIC THIN FILM RELIABILITY FOR HDD
DUAL-STAGE ACTUATOR
Hideki Kuwajima, Hirokazu Uchiyama, Yuko Ogawa, Hiroyuki Kita, Kaoru Matsuoka, HD Development Center, Matsushita Electric, Osaka, Japan

DP 05  ENGINEERING REALIZATION OF TRIPLE HARMONIC METHOD ON IN-SITU FH TEST
Zhi-Min Yuan, Bo Liu, Sheng-Bin Hu, Wei Zhang, Data Storage Institute, Singapore

DP 06  TRIBOLOGY OF TEXTURED SLIDERS IN NEAR CONTACT SITUATIONS
Lin Zhou1, Michael Beck2, Hans Heinrich Gatzen1, Koji Kato1, Gerard Vuren5, Frank Talke1, CMRR, UCSD, La Jolla, CA, Institute for Microtechnology, Hanover University, Germany, Laboratory of Tribology, Tohoku University, Sendai, Japan, HDI Instrumentation, Santa Clara, CA

DP 07  STRESS CONTROL AND SLIDER CURVATURE ADJUST
Mingsheng Zhang, Yue T Sim Hor, Guchang Han, Bo Liu, Data Storage Institute, Singapore

DP 08  OPTIMAL DESIGN OF SUSPENSION FOR HIGH-DENSITY MAGNETIC RECORDING SYSTEMS
Gih Keong Lau, Hejun Du, CMMS, Nanyang Technological University, Singapore

DP 09  DIRECT ALGORITHM AND ITS APPLICATION TO SLIDER AIR BEARING SURFACE OPTIMIZATION
Hong Zhu, David B. Bogy, CML, UC Berkeley, Oakland, CA

DP 10  DESIGN SENSITIVITY ANALYSIS OF AIR-LUBRICATED SLIDER BEARINGS
Sang-Joon Yoon, Min-Soo Kim, Dong-Hoon Choi, iDOT Center, Hanyang University, Seoul, Korea

DP 11  ADOPTING TAGUCHI METHOD FOR HIGH SHOCK RESISTANT HEAD SUSPENSION ASSEMBLY
Haruhide Takahashi, Hitoshi Shindo, Shozo Saegusa, Shigeo Nakamura, Yasushiro Matsuda, Hitachi, Odawara, Kanagawa, Japan

DP 12  OPTIMIZATIONS OF AIR-LUBRICATION SLIDER BEARINGS BY USING REDUCED BASIS CONCEPT
Dong-In Kim1, Sang-Joon Yoon1, Taesik Kang1, Tee-Gun Jeong1, Dong-Hoon Choi1, iDOT Center, Hanyang University, Seoul, Korea, Samsung Electronics, School of Mechanical Engineering, Konkuk Univ., Seoul, Korea
Applications of Soft Magnetic Materials

Barry Middleton
University of Manchester

Wednesday
8:15 AM

DQ 01
EQUIVALENT CIRCUIT ANALYSIS OF AN RF INTEGRATED FERROMAGNETIC INDUCTOR
Takashi Kuribara, Masahiro Yamaguchi, Ken-Ichi Arai, RIEC, Tohoku Univ., Sendai, Japan

DQ 02
A MHz SWITCHING DC/DC CONVERTER USING FeBN THiN FILM INDUCTOR
Jongyoul Kim1, Ki Hyeon Kim1, Hee Jun Kim1, Suk Hee Han1, Hi Jung Kim1, 2Dept. of Metallurgy & Materials Sci. Hanyang Univ., 2Sch. of Electrical & Computer Sci., Hanyang Univ., 3Nano Device Research Center, KIST, Korea

DQ 03
SIMULTANEOUS ANALYSIS OF HARMONICS AND 2D EFFECTS ON THE OPTIMAL THICKNESS OF TRANSFORMER WINDINGS
Frederic Robert1, Pierre Mathys1, Jean-Pierre Schauwers1, 1Universite Libre de Bruxelles - Electronics, 2Ceramic Europe, Wavre, Belgium

DQ 04
IMPROVED DESIGN OF A NOVEL PM DISC MOTOR BY USING SOFT MAGNETIC COMPOSITE MATERIAL
Goga Vladimir Cvetkovski1, Lidija Petkowska1, Milan Cundev1, Sinclair Gair2, 1Ss. Cyril & Methodius University, Skopje, Macedonia, 2Napier University, Edinburgh, U.K.

DQ 05
PERFORMANCE OF INTEGRATED INDUCTORS WITH CoTaZr AND CoNbZr MAGNETIC MATERIALS
Ankur Mohan Crawford, Shan Xiang Wang, Stanford University, CA

DQ 06
LOW BIAS INDUCTORS
Fumiaki Nakao, FDK Corporation, Washizu Shizuoka, Japan

DQ 07
2-D vs. 3-D MODELS TO PREDICT EQUIVALENT CIRCUIT PARAMETERS FOR HIGH FREQUENCY TRANSFORMERS
Doug Lavers, Eric Lavers, ECE Dept., University of Toronto, Canada

DQ 08
FABRICATION OF RF INDUCTOR USING PATTERNED FeTaN SOFT MAGNETIC FILMS
Seok Bae, Hongik University, Dept. of Material Sci. and Metallurgical Eng., Seoul, Korea

DQ 09
ELECTRICAL PERFORMANCE OF MICRO-TRANSFORMERS FOR DC-DC CONVERTER APPLICATIONS
Magali Brunet, Terence O'Donnell, Ningning Wang, Paul Mccloskey, Sean Cian O'Mathuna, PEI Technologies, NMRC, Cork, Ireland

DQ 10
WHEN MATHEMATICS KNOCKS PHYSICS, OR THE TRUE STORY OF THE LAYER COPPER FACTOR
Frederic Robert, Universite Libre de Bruxelles, Belgium

DQ 11
HIGH RATE DEPOSITION OF Mn-Zn SPINEL FERRITE THIN FILMS USING REACTIVE FACING TARGET SPUTTERING
S. Saito, S.H. Kong, Shigeki Nakagawa, Tokyo Institute Of Technology, Japan

DQ 12
AC MAGNETIC FIELD INDUCED ROTATION IN LEVITATING MAGNETOSTRICTIVE WIRE
Carlos Luna1, Victor Raposo2, Manuel Vázquez1, 1ICMM, CSIC. Madrid.Spain, 2Dpto.Física Aplicada, Universidad de Salamanca. Spain

DQ 13
IMPROVEMENT OF SENSITIVITY USING CARRIER SUPPRESSION TECHNIQUE IN HIGH FREQUENCY CARRIER TYPE THIN-FILM MAGNETIC FIELD SENSOR
Hiroaki Kikuchi1, Shin Yabukami1, Masahiro Yamaguchi1, Ken-Ichi Arai1, Tetsu Suzuki1, 1RIEC, Tohoku Univ., Sendai, Japan, 2Sendai National College of Technology, Sendai, Japan

DQ 14
MAGNETIC NEAR FIELD PROBE BASED ON THE HIGH-FREQUENCY CARRIER TYPE THIN-FILM MAGNETIC FIELD SENSOR
Masahiro Yamaguchi1, Hiroaki Kikuchi1, Satoshi Sugimoto1, Ken-Ichi Arai1, Mizuki Iwanami2, Atsushi Nakamura2, Shigeki Hoshino2, 1RIEC, Tohoku Univ., Sendai, Japan, 2ASET, Tsukuba, Japan

DQ 15
THIN-FILM RF NOISE SUPPRESSOR INTEGRATED ONTO A TRANSMISSION LINE
Masahiro Yamaguchi, Takashi Kuribara, Ken-Ichi Arai, RIEC, Tohoku Univ., Sendai, Japan

DQ 16
APPLICATION OF CURRENT SENSOR USING ASYMMETRIC GIANT MAGNETOIMPEDANCE IN AMORPHOUS MATERIALS
Y. W. Rheem1, C. G. Kim2, C. O. Kim1, G. D. Kim1, Y. T. Park1, 1ReCAM, Chungnam National University, Taejon, Korea, 2KRISS, Taejon, Korea

DQ 17
WITHDRAWN

DQ 18
IMPROVEMENT OF THE SOFT MAGNETIC PROPERTIES OF Fe-BASED GLASSY ALLOYS WITH A LARGE SUPERCOOLED-LIQUID REGION
Nebojsa S. Mitrovic, Stefan Roth, Jürgen Eckert, Technical Faculty Caac, Cacak, Yugoslavia
TRANSPORT PROPERTIES OF NICKEL NITRIDE FILMS
Laurent Ranno\textsuperscript{1}, J Janišek\textsuperscript{1}, J. Vais\textsuperscript{1}, L. Dittrichova\textsuperscript{1}, J. Spousta\textsuperscript{1}, T. Sikola\textsuperscript{2}, \textsuperscript{1}Laboratoire Louis Neel, Grenoble, France, \textsuperscript{2}Institute of Physical Engineering, FSI VUT, Brno, Czech Rep.

SURFACE RECONSTRUCTION AND INDUCED ANISOTROPY IN (001) Ni FILMS
Rosa Alejandra Lukaszew\textsuperscript{1}, Zhengdong Zhang\textsuperscript{1}, Vladimir Alexandru Stoica\textsuperscript{2}, Roy Clarke\textsuperscript{1}, \textsuperscript{1}Physics and Astronomy Department, University of Toledo, Toledo, OH, \textsuperscript{2}Applied Physics, University of Michigan, Ann Arbor, MI, USA, \textsuperscript{3}Physics Department, University of Michigan, Ann Arbor, MI

REORIENTATION TRANSITION IN ULTRATHIN ALLOY FILMS
Frank Oliver Schumann, FU Berlin, Arnimallee 14, Berlin, Germany

SHEAR INSTABILITY IN ULTRATHIN Fe/Cu(100) FILMS
Daniel Spisak, Juergen Hafner, Inst. fuer Materialphysik, Universitaet Wien, Austria

MAGNETIC ANISOTROPY OF THIN Ni(001) FILMS: COMPARISON BETWEEN STATIC AND DYNAMIC TECHNIQUES
Gianluca Gubbio\textsuperscript{1}, Giovanni Carlotti\textsuperscript{1}, M. Ciria\textsuperscript{1}, R. C. O’Handley\textsuperscript{1}, \textsuperscript{1}INFN, Unità di Perugia, \textsuperscript{2}Dipartimento di Fisica, Via A. Pascoli, Perugia, Italy, \textsuperscript{3}Departamento de Física, Universidad de Zaragoza, Spain, \textsuperscript{4}MIT, Cambridge MA

THEORY OF INDUCED UNIAXIAL ANISOTROPY IN THIN MAGNETIC FILMS
Alexei N. Bogdanov, Ulrich K. Rössler, Karl-Hartmut Muller, IFW Dresden, Germany

INTERFACE MAGNETISM IN EPITAXIAL Fe/InAs
Yongbing Xu\textsuperscript{1}, Jing Wu\textsuperscript{2}, Sha Wang\textsuperscript{2}, Marina Tselep\textsuperscript{1}, Tony Bland\textsuperscript{1}, G van der Laan\textsuperscript{1}, \textsuperscript{1}Department of Electronics, University of York, \textsuperscript{2}Dept of Physics, University of York, York, UK, \textsuperscript{3}Cavendish Lab, University of Cambridge, Cambridge, UK, \textsuperscript{4}Daresbury Lab., Warrington, UK

MAGNETIC AND STRUCTURAL PROPERTIES OF (Co-Ni),Pt ALLOY THIN FILMS
Georg Lauhoff, Takao Suzuki, Andrei Toporov, ISML, Toyota Technological Institute, Nagoya, Japan

WITHDRAWN

MICROSTRUCTURE AND MAGNETIC PROPERTIES OF HEXAGONAL Ba-FERRITE THIN FILMS WITH VARIOUS UNDERLAYERS
Dong Hyoun Kim, Research of Magnetic Recording Media, Chuncheon, Korea

DEPOSITION OF HARD MAGNETIC Re-Fe-B THIN FILMS BY MAGNETISATION SPUTTERING
L. Castaldi\textsuperscript{1,2}, M.R.J. Gibbs\textsuperscript{2}, H.A. Davies\textsuperscript{1}, \textsuperscript{1}Department of Engineering Materials, \textsuperscript{2}Department of Physics and Astronomy, University of Sheffield, UK

INVERTED HYSTERESIS LOOPS IN ULTRATHIN EPITAXIAL YTiTRIUM IRON GARNET FILMS
Elena Popova\textsuperscript{1}, Niels Keller\textsuperscript{1}, Francois Iomard\textsuperscript{1}, Marie-Claire Brianson\textsuperscript{1}, Luc Thomas\textsuperscript{1}, Francois Gendron\textsuperscript{1}, Marcel Guyor\textsuperscript{2}, Michel Tessier\textsuperscript{1}, \textsuperscript{1}LPM, Univ. H. Poincare, Vandoeuvre les Nancy, \textsuperscript{2}LMOV, UVSQ-CNRS, Versailles, \textsuperscript{3}LPSC, CNRS, Meudon, \textsuperscript{4}Dept. de Physique, UVSQ, Versailles, \textsuperscript{1}LMDH, Paris VI, France

PREPARATION OF NiFe\textsubscript{2}O\textsubscript{4} THIN FILMS BY A NEW ROUTE SOL- GEL
Marcelo Andrade Macêdo, Universidade Federal de Sergipe, São Cristóvão, Brazil

ELECTROMAGNETISM OF MAGNETIC THIN FILMS FOR PREDICTING ELECTRICAL-FAILURE LIFETIME OF GMR READ HEADS
Seongtae Bae\textsuperscript{1}, I-Fei Tsu\textsuperscript{2}, Marshall Davis\textsuperscript{2}, Edward S. Murdock\textsuperscript{2}, Jack H. Judy\textsuperscript{1}, \textsuperscript{1}MINT, University of Minnesota, \textsuperscript{2}Seagate Technology, LLC, Minneapolis, MN

THE MAGNETIC CIRCULAR DICHROISM IN ANGULAR DEPENDENCE STUDY OF Tb(0001) FILMS
Orhan Zeybek, Balıkesir University, Balıkesir, Turkey
OPtical Interaction with Spin Waves at Turning Point
Makoto Tsutsumi, Tetsuya Ueda, Vishnu Priye, Hitoshi Shimasaki, Fujui University of Technology, Fukui, Japan

Magneto-optical Properties of DMS CdMnCoTe Films
Masaaki Imamura, Jin-Yong Ahn, Kazuo Takashima, Satoru Inoue, Fukuoka Inst. of Tech., Fukuoka, Japan

Bi-YIG Nanoparticle and Plastic Hybridized Magneto-Optical Material
Tae-Youb Kim, Teruyoshi Hirano, Yoshitaka Kitamoto, Tetsuya Hasegawa, Hideomi Koinuma, Yohtaro Yamazaki, National Institute for Materials Science, Namiki, Tsukuba, Japan, Toppan Printing, Sugito, Saitama, Japan

Magneto-Optical Switch Based on Orthoferrite
Yuri S. Didosyan, Hans Hauser, Georg A. Reider, Vienna University of Technology, IEMW, Photonics Institute, Wien, Austria

Properties of One-Dimensional Magnetophotonic Crystals
Hideki Kato, Takeshi Matsushita, Akio Takayama, Motoji Egawa, Mitsuteru Inoue, R&D Center, Minebea Co Ltd., Iwata-gun, Shizuoka, Japan

Electrical and Magnetotransport Properties of Canted Antiferromagnet Dy3Si2Ge2
V Sankaranarayanan, K Sethupathi, Alex V Morozkin, Zili Chu, W B Yelon, S K Malik, V Prasad, S V Subramaniam, Department of Physics, IITMadras, Chennai India, Department of Chemistry, Moscow State University, Russia, Physics, University of Missouri-Columbia, USA, Center of Materials Research, Univ. of Missouri-Rolla, USA, Tata Institute of Fundamental Research, Mumbai India, Dept. of Physics, Bangalore India

The Magnetocaloric Effect in Gd3Pd1.4 Ni, Compounds
Fabio Canepa, Myrta Napoletano, Salvino Cirafici, Franco Merlo, INFN-Dip. Chimica, Genova, Italy

Thermal Expansion of Single Crystal Gd3(Si2Ge2) Showing Unusual First-Order Transformation
Mangui Han, Jason A Paulsen, John E Snyder, David C Jiles, Ames Laboratory, USDoE and Dept. of MSE, Iowa State University, Ames, IA
DT 01 MAGNETOSTRICTION MEASUREMENT UNDER NON-UNIFORM TEMPERATURE DISTRIBUTION IN 3% Si-Fe ANISOTROPIC SHEET
Yasuho Okazaki, Hironari Niwa, Shinji Yanase, Yoshitoshi Tani, Gifu Univ., Japan, Mitsubishi Electric Corp., Amagasaki, Japan

DT 02 AN ESTIMATE FOR THE VOLUME-AVERAGE MEAN-SQUARE DEMAGNETIZING FIELD USING MICROMAGNETICS AND SMALL-ANGLE NEUTRON SCATTERING
Andreas Michels, Uni Saarbruecken, Germany

DT 03 CRYSTALLIZATION STUDY DURING DC JOULE HEATING IN AMORPHOUS RIBBONS
Carlos Morón Fernández, Alfonso García García, Francisco Maganto Suárez, E.U. Informática (U.P.M.), Madrid, Spain

DT 04 ABSOLUTE MEASUREMENTS OF THE AC SUSCEPTIBILITY OF CYLINDRICAL SAMPLES OF ARBITRARY ASPECT RATIO: SCALING OF THE EXTERNAL SUSCEPTIBILITY
W.A.C. Passos, R. de Andrade Jr., C.C. de Faria and W.A. Ortiz, Departamento de Fisica, Centro Multidisciplinar para o Desenvolvimento de Materiais Cerâmicos, Universidade Federal de São Carlos, Brazil

DT 05 A PULSED FIELD MAGNETOMETER FOR LOCAL MAGNETIZATION MEASUREMENTS.
Roland Grüssinger, E-131, Techn. Univ. Vienna, Austria

DT 06 A PULSED FIELD MAGNETOMETER FOR INDUSTRIAL USE.

DT 07 MAGNETIC FIELD FLUCTUATIONS DUE TO MOVEMENT OF OBJECTS COMPOSED OF MAGNETIC MATERIALS

DT 08 MAGNETIC FIELD FLUCTUATIONS DUE TO AUTOMOBILE MOVEMENT

DT 09 PREDICTION OF THE MAGNETIC FIELD BELOW AN AXIS-SYMETRICAL PLANAR SENSOR ARRAY WITH A MAGNETIC SOURCE LOCATED ABOVE THE MEASUREMENT
Rungkiet Kamonnedtada, Alexander V. Kildishev, John A. Nyenhuis, Purdue University, West Lafayette, IN

DT 10 MULTIPOLE IMAGING OF AN ELONGATED MAGNETIC SOURCE BY A CYLINDRICAL SENSOR ARRAY
Alexander V. Kildishev, John A. Nyenhuis, Michael A. Morgan, Purdue University, West Lafayette, IN, Naval Postgraduate School, Monterey, CA

DT 11 OPTIMAL SENSOR PLACEMENT FOR MAGNETIC SIGNATURE PREDICTION
Michael A. Morgan, Stacey W. Yopp, Alexander V. Kildishev, Naval Postgraduate School, Monterey, CA, Purdue University, West Lafayette, IN

DT 12 EFFECTS OF ASYMMETRY IN FAR FIELDS OF PERMANET MAGNET MOTORS
Sheppard Salon, O-Mun Kwon, Kiruba Sivasubramaniam, Rensselaer Polytechnic Institute, Troy, NY, The Electronic Systems Laboratory, GE-CRD, Niskayuna, NY

DT 13 OPTIMAL DESIGN OF INTERIOR TYPE PERMANENT MAGNET SYNCHRONOUS MOTORS BASED ON MAGNETIC EQUIVALENT CIRCUIT NETWORK METHOD
Kwang-Ho Lee, Kyung-Ho Kim, Dong-A University, Electrical Engineering, Korea
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<td>Hiroshi Suzuki, Tomokazu Shimakura, Kinio Nakamura, Central Res. Lab., Hitachi, Ltd., Kokubunji, Tokyo, Japan</td>
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<td>Dan You¹, Zhiyong Liu¹, Zaihing Guo¹, Yihong Wu², ¹Data Storage Institute, Singapore, ²Department of Electrical and Computer Engineering, National University of Singapore</td>
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<td>Astrid N Mueller¹, Uwe Hartmann¹, Thomas Sulzbach², Paul M Dodd³, Michael R. Koblishka¹, ¹University of the Saarland, Germany, ²Nanosensors, Germany, ³Seagate Technology, Ireland, Londonderry, Northern Ireland</td>
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<td>Erik Bjorn Svedberg, Dmitri Litvinov, Sakhrat Khizroev, Seagate Research, Pittsburgh, PA</td>
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<td>J.C. Wu¹, W.Z. Shieh¹, Ching-Ray Chang², Zung-Hang Wei³, Nickolai A. Usov⁴, ¹Physics, Natl Changhua Univ. of Ed., Changhua, Taiwan, ²Department of Physics, National Taiwan Univ., Taipei, Taiwan, ³Troitsk Institute, Moscow, Russia</td>
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<tr>
<td>Ahmet Oral¹, Murat Kaval¹, Munir Dede¹, Adarsh Sandhu², ¹Bilkent University, Physics Department, Ankara, Turkey, ²Tokai University, Electrical Engineering Department, Japan</td>
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<td>Antonio Domingues dos Santos¹, Marcelo S. Lancarotte¹, Jeroen Schoenmaker⁴, Yves Souche⁵, Leonardo N. Nobrega¹, ¹Instituto de Fisica da Univerdidade de Sao Paulo, ²Laboratoire Louis Néel-CNRS, Grenoble, France</td>
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<th>DU 10</th>
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<tr>
<td>Andrew J Williams², Jessica K Hole¹, D Geraint R Jones¹, Rex Harris², ¹Redcliffe Magtronics Ltd., Brislington, Bristol, UK, ²University of Birmingham, Institute of Metallurgy and Materials, UK</td>
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EA
SYMPOSIUM
Magnetisation Dynamics: Excitations and Relaxation

Jacques Mitat
Université Paris Sud

Burkard Hillebrands
University of Kaiserslautern

Wednesday
2:00 PM  Auditorium

EA 01  HIGH FREQUENCY RELAXATION PHENOMENA IN FERROMAGNETIC AND FERRIMAGNETIC SYSTEMS - PHYSICS AND
PHENOMENOLOGY  [invited]
C E Patton, Department of Physics, Colorado State University, Ft Collins, CO

2:30 PM

EA 02  MAGNETIC RELAXATIONS IN METALLIC FILMS, SINGLE AND MULTILAYER STRUCTURES  [invited]
B. Heinrich, R. Urban, and G. Woltersdorf, Physics Department, Simon Fraser University, Burnaby, Canada

3:00 PM

EA 03  DYNAMIC EXCITATIONS IN CONFINED AND STRUCTURED MAGNETIC MEDIA  [invited]
S.O. Demokritov¹, B. Hillebrands¹, A.N. Slavin²¹Fachbereich Physik, University Kaiserslautern, Germany, ²Department of Physics, Oakland
University, Rochester, MI

3:30 PM

EA 04  MEASUREMENT OF MAGNETOSTATIC MODE EXCITATION AND RELAXATION IN PERMALLOY FILMS USING SCANNING KERR
IMAGING  [invited]
S. Tamaru¹ , J. A. Bain¹ , R. van de Veerdonk² , T. M. Crawford² , M. Covington² , M. H. Kryder² , Data Storage Systems Center, Carnegie Mellon
University, ¹Seagate Research, Pittsburgh, PA

4:00 PM

EA 05  DYNAMIC MICROMAGNETIC SIMULATIONS OF
SUSCEPTIBILITY SPECTRA IN THIN FILMS WITH NON-UNIFORM MAGNETIZATION DISTRIBUTIONS  [invited]
N Vukadinovic, Dassault Aviation, DGT/DTA, Saint-Cloud, France

4:30 PM

EA 06  THERMAL NOISE, DAMPING FUNDAMENTALS AND MODE ANALYSIS: APPLICATION TO GMR SENSORS  [invited]
H. Neal Bertram and Vladimir L. Safonov, CMRR-UCSD, La Jolla, CA
EB SYMPOSIUM
Advances in Magnetic Imaging

Rudolf Schafer
IFW, Dresden

Wednesday
2:00 PM

EB 01
PROGRESS IN MAGNETIC SOFT X-RAY MICROSCOPY [invited]
P Fischer¹, G Denbeaux², T Eimuller¹, D Goll¹, G Schultz¹, ¹Max-Planck-Institute for Metals Research, Stuttgart, Germany; ²Center for X-ray Optics, LBNL, Berkeley, CA

EB 02
IMAGING ANTIFERROMAGNETIC DOMAINS AT SURFACES AND INTERFACES USING DICHROISM XPEEM [invited]
H Ohldag¹,², A Scholl¹, J Stohr¹, T J Regan³, N B Weber¹, F Nolting³, R L White³, F U Hillebrecht³, ¹Stanford Synchrotron Radiation Laboratory, CA; ²Advanced Light Source, CA; ³Swiss Light Source, 5232 Villigen, Switzerland

EB 03
MAGNETISM AND MICROSTRUCTURE AT RELEVANT LENGTH SCALES: COMPLEMENTARY MEASUREMENTS WITH ELECTRON AND PHOTON PROBES [invited]
K M Krishnan¹, W Groger¹, G Kusinski¹, M E Gomez¹, I Schuller¹, E C Nelson², ¹Department of Materials Science & Engineering, University of Washington, Seattle, WA; ²University of Graz, Austria

EB 04
RECENT ADVANCES IN QUANTITATIVE LORENTZ MICROSCOPY [invited]
M de Graef, Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA

EB 05
HIGH RESOLUTION QUANTITATIVE MAGNETIC FORCE MICROSCOPY [invited]
H. J. Hug, P. Kappenberger, S. Martin, P. Reimann, R. Hoffmann, J. Rychen, W. Lu and H.-J. Güntherodt, Institute of Physics, University of Basel, Basel, Switzerland

EB 06
IMAGING MAGNETIC DOMAINS WITH SUB-NANOMETER RESOLUTION USING SPIN POLARIZED STM [invited]
M Bode, O Pietzsch, A Kubetzka, R Ravlic, R Wiesendanger, University of Hamburg, Germany
EC
Coding and Data Detection

Ronald S. Indeck
Washington University, St. Louis

Wednesday
2:00 PM  
Room A

EC 01 2:00 PM
ECC-LESS LDPC CODING FOR MAGNETIC RECORDING
Toshihiko Morita, Yuichi Sato, Takao Sugawara, Fujitsu Laboratories Ltd., Kawasaki, Japan

EC 02 2:15 PM
LDPC CODES AND THRESHOLDS FOR PARTIAL RESPONSE CHANNELS
Steven McLaughlin, Andrew Thangaraj, Georgia Institute of Technology, Atlanta, GA

EC 03 2:30 PM
BOUNDS FOR LOW-DENSITY PARITY-CHECK CODES OVER PARTIAL-RESPONSE CHANNELS
Weijun Tan, Richard M Todd, J. R. Cruz, University of Oklahoma, Norman, OK

EC 04 2:45 PM
COMBINATION OF NONLINEAR EQUALIZATION AND SIMPLE DETECTION
Hangyu Cho, Choongchae Woo, Daesik Hong, Dept. Electrical & Electronic Engineering, Yonsei Univ., Seoul, Korea

EC 05 3:00 PM
VITERBI DETECTOR WITH ADDED NOISE DETECTION CHANNEL
Gordon F. Hughes, CMRR UCSD, La Jolla, CA

EC 06 3:15 PM
VITERBI DETECTION FOR PARTIAL RESPONSE CHANNELS WITH COLORED NOISE
Vladimir Dorfman, Jack Keil Wolf, CMRR, UCSD, La Jolla, California

EC 07 3:30 PM
ON THE INFORMATION-THEORETIC CAPACITY OF MAGNETIC RECORDING SYSTEMS IN THE PRESENCE OF MEDIA NOISE
D. Arnold, Evangelos Eleftheriou, IBM Research, Zurich Research Laboratory, Rüschlikon, Switzerland

EC 08 3:45 PM
A PARALLEL SLIDING WINDOW MAP DECODER FOR A PR4 MAGNETIC RECORDING
NamKyun Beon, Jong Tae Kim, School of Electrical and Computer Engineering, SungKyunKwan University, Suwon, Republic of Korea

EC 09 4:00 PM
SOFT SIGNAL SPACE DETECTION FOR MAGNETIC RECORDING
Balder Steingrimsson, ECE Dept., McMaster University, Hamilton, Ontario, Canada

EC 10 4:15 PM
RETRY MODE SOFT REED-SOLOMON DECODING
Haitao Xia, Hongxin Song, J. R. Cruz, University of Oklahoma, Norman, OK

EC 11 4:30 PM
ITERATIVE DECODING AND EQUALIZATION FOR 2-D RECORDING CHANNELS
Naveen Singla, Joseph A. O'Sullivan, Ronald S. Indeck, Yunxiang Wu, MISC, Washington University, St. Louis, MO

EC 12 4:45 PM
TRACK SQUEEZE USING ADAPTIVE INTER-TRACK INTERFERENCE EQUALISATION
M. Z. Ahmed, T. Donnelly, P. J. Davey, W. W. Clegg, University of Plymouth, UK
ED
High Anisotropy Thin Films

Claude Chappert
IEF, CNRS, Paris

Wednesday
2:00 PM

Room B

2:00 PM
ED 01
EFFECT OF Pt BUFFER LAYER ON STRUCTURAL AND MAGNETIC PROPERTIES OF EPITAXIAL FePt THIN FILMS
Jingsheng Chen, Yingfan Xu, J.P. Wang, Data Storage Institute, NUS, Singapore

2:15 PM
ED 02
LOW-TEMPERATURE FABRICATION OF L10 ORDERED FePt ALLOY WITH PERPENDICULAR ANISOTROPY BY ALTERNATE MONATOMIC LAYER DEPOSITION
Toshiyuki Shima, Takuto Moriguchi, Seiji Mitani, Koki Takanashi, IMR, Tohoku Univ. Sendai, Japan

2:30 PM
ED 03
FePt ALLOY THIN FILMS: CHEMICAL ORDER, ANISOTROPY AND OTHER MAGNETIC PROPERTIES [invited]
Y. Samson¹, J.P. Attané², D. Halley¹, A. Marty¹, D. Ravelosona³, C. Chappert², H. Bernas³, ¹CEA Grenoble, DRFMC/SP2M, France, ²IEF, UMR CNRS 8622, Université Paris Sud, Orsay, France, ³CSNSM, UPR CNRS 6412, Université Paris Sud, Orsay, France

3:00 PM
ED 04
MAGNETIC AND STRUCTURAL PROPERTIES FOR (Fe-Co-Ni)Pt ALLOY THIN FILMS
Takao Suzuki¹, Hiroshi Kanazawa¹, Akimasa Sakuma²,
¹Toyota Technological Institute, Hisakata, Nagoya, ²Hitachi Metals, Ltd., Mikajiri, Kumagaya, Japan

3:15 PM
ED 05
ORDERING OF FePt ALLOY AT LOW TEMPERATURE BY ADDITION OF Cu
Tomoyuki Maeda, Akira Kikitsu, Tadashi Kai, Toshihiko Nagase, Hisanori Aikawa, Junichi Akiyama, Toshiba Corp. Corporate R&D, Kawasaki, Japan

3:30 PM
ED 06
CoPt NANOCOMPOSITE FILMS: MICROSTRUCTURE AND MAGNETIC BEHAVIOR
Katayun Barmak¹, Jihwan Kim², Roger A. Ristau², Laura H. Lewis³, ¹DSSC, Carnegie Mellon University, Pittsburgh, PA, ²Accurel Systems International, Sunnyvale, CA, ³Mater. Sci. Dept., Brookhaven National Lab., Upton, NY

3:45 PM
ED 07
PERMANENT-MAGNET PROPERTIES OF FePt, FePt:Fe AND FePt:Co NANOCOMPOSITE FILMS
Jian Zhou, Ralph Skomski, Mingliang Yan, David J. Sellmyer, Behlen Laboratory and CMRA, Univ. of Nebraska, Lincoln, NE

4:00 PM
ED 08
MAGNETIC AND MICROSTRUCTURAL PROPERTIES OF HARD MAGNETIC NdFeB FILMS PREPARED ON A Ta BUFFER BY PULSED LASER DEPOSITION
Sebastian Fähler, IFW Dresden, Germany

4:15 PM
ED 09
INVESTIGATIONS ON BARIUM FERRITE MAGNETIC THIN FILMS
Wenjie Pang, Physics Dept., Univ. of Western Australia, Perth, Australia
2:00 PM

**EE 01**
SPIN POLARIZED TUNNELING AT ROOM TEMPERATURE IN A HEUSLER COMPOUND – A NON-OXIDE MATERIAL WITH A LARGE NEGATIVE MAGNETORESISTANCE EFFECT IN LOW MAGNETIC FIELDS [invited]
T. Block¹, C. Felsel¹, J. Windeln¹; Institut für Anorganische Chemie und Analytische Chemie, Universität Mainz, Germany, ²IBM, Mainz

2:30 PM

**EE 02**
STEP EDGE MAGNETORESISTANCE OF MAGNETITE FILMS
Michael Ziese¹, Roland Hoehne¹, Klaus Zimmer¹, Pablo Esquinazi¹; ¹University of Leipzig, Leipzig, Germany, ²Institute for Surface Modification, Leipzig, Germany

2:45 PM

**EE 03**
LATTICE DISTORTION EFFECTS AT GRAIN BOUNDARIES IN COLOSSAL MAGNETORESISTIVE FILMS
Yeong-Ah Soh¹, G. Aeppli¹, P. G. Evans², Z. Cai³, B. Lai¹, N. D. Mathur¹, M. G. Blamire¹, C.-Y. Kim¹, E. D. Isaacs²; ¹NEC Research Institute, Princeton, NJ, ²Bell Laboratories, Murray Hill, NJ, ³Argonne National Laboratory, Argonne, IL, ⁴Department of Materials Science, University of Cambridge, UK, ⁵Dept. of Materials Science, Northwestern University, IL

3:00 PM

**EE 04**
EPITAXIALLY-INDUCED PERPENDICULAR ANISOTROPY IN MANGANITE FILMS
Laurent Ranno, Emmanuel Favre-Nicolin, Raluca Tiron, Laboratoire Louis Néel, Grenoble, France

3:15 PM

**EE 05**
VARIABLE TEMPERATURE MFM/EFM STUDY OF Pr-DOPED LCMO FILM
A. Millis³, S. H. Chung³, S. R. Shinde¹, S. B. Ogale¹, T. Venkatesan¹, R. L. Greene¹, Michael Dreyer²; ¹Dept. of Phys. and Astro., Rutgers Univ., Piscataway, NJ, ²Lab. for Phys. Sci., U. of Maryland, College Park, MD, ³Dept. of Phys., Univ. of Maryland, College Park, MD, ⁴Dept. of ECE, University of Mayland, College Park, MD

3:30 PM

**EE 06**
GIANT TUNNELING MAGNETORESISTANCE IN POLYCRYSTALLINE NANOSTRUCRURED Zn,Fe₃₋ₓOₓ₋₄₋ₓ Fe₂O₃ [invited]
Da Youwei, Chen Peng, Ni Gang, Zhu Jianmin, Xing Dingyu, National Lab of Solid State Microstructure, Dept. of Physics, Nanjing University, Nanjing, China

4:00 PM

**EE 07**
DEVELOPMENT OF HALF METALLIC ULTRA-THIN Fe₃Oₓ FILMS FOR NEW SPIN-TRANSPORT DEVICE
Hiromasa Takahashi¹, Susumu Soeya¹, Jun Hayakawa¹, Hiroyuki Hoshiya¹, Kenchi Ito¹, Chisato Yamamoto², Ayumu Kida², Hidetumi Asano², Masaaki Matsui²; ¹Central Research Lab. Hitachi Ltd. Kokubunji, Tokyo Japan, ²Dept. of Cryst. Mater. Sci. Nagoya Univ., Nagoya, Japan

4:15 PM

**EE 08**
WITHDRAWN
EP
Recording Physics and Media for Perpendicular Recording

J.P. Wang
Data Storage Institute Singapore

Wednesday
1:15 PM

EP 01
EFFECT OF FAST HEAD FIELD RISE TIME IN PERPENDICULAR RECORDING
Lijie Guan, Jian-Gang Zhu, Data Storage System Center, Carnegie Mellon University, Pittsburgh, PA

EP 02
NOISE CHARACTERISTICS AND WRITEABILITY ON PERPENDICULAR MEDIA
Shaoping Li, Lei Wang, Wenzhong Zhu, Rick Michel, David Kaiser, Dean Palmer, Seagate Technology, Bloomington, MN

EP 03
ROLE OF M-H LOOP SLOPE OF MEDIA FOR RECORDING PROPERTIES IN PERPENDICULAR MAGNETIC RECORDING
Naoki Honda1, Takanori Kiya1, Jun Ariake1, Kazuhiro Ouchi1, Shun-ichi Iwasaki1, 2, AIT, Akita, Japan, 1Tohoku Institute of Technology, Sendai, Japan

EP 04
PHYSICS OF PERPENDICULAR RECORDING: EFFECTS OF MAGNETIC CHARGE DISTRIBUTION
Dmitri Litvinov, Andreas Lyberatos, Mark H. Kryder, Sakhrat Khizroev, Seagate Research, Pittsburgh, PA

EP 05
EFFECT OF EXCHANGE INTERACTION ON R/W PROPERTIES OF SINGLE LAYER PERPENDICULAR RECORDING MEDIA
Yasutaro Uesaka1, Hiraku Endo1, Yoshinobu Nakatani2, Nobuo Hayashi1, Hiroshi Fukushima1, 1College of Engineering, Nihon University, 2University of Electro-Communications, 1Honda, Midori, Chiba, Japan

EP 06
THERMAL STABILITY OF WRITTEN BITS IN DOUBLE-LAYERED PERPENDICULAR RECORDING MEDIA
Yoshinobu Nakatani1, Nobuo Hayashi1, Yasutaro Uesaka1, Hiroshi Fukushima1, 1University of Electro-Communications, 1College of Engineering, Nihon University, 13-73, Honda, Midori, Chiba, Japan

EP 07
STRUCTURAL AND MAGNETIC PROPERTIES OF FePt-Ag COMPOSITE FILM WITH PERPENDICULAR MAGNETIC ANISOTROPY
Takao Suzuki, Tao Yang, Kyongha Kang, ISML, Toyota Technological Institute, Nagoya, Japan

EP 08
FePt FCT-(001) TEXTURE PREPARED AT LOWER TEMPERATURE FOR PERPENDICULAR RECORDING
Yingfan Xu, Jingsheng Chen, Daoyang Dai, J.P. Wang, Data Storage Institute, NUS, Singapore

EP 09
IRRADIATION OF FePt AND FePt FILMS FOR PERPENDICULAR MAGNETIC RECORDING
Dafine Ravlosona1, Harry Bernas2, 1CNRS, Université Paris Sud, France, 2CSNSM, Université Paris Sud, France

EP 10
Co/Pt MULTILAYERS PERPENDICULAR MAGNETIC RECORDING MEDIA WITH THIN Pt LAYER AND HIGH PERPENDICULAR ANISOTROPY
Yasuuki Kawada, Fuji Electric Co.Ltd., Matsumoto, Nagano, Japan

EP 11
THERMAL AGITATION OF MAGNETIZATION AND RECORDING PERFORMANCE OF Co(B)/Pd SUPERLATTICE PERPENDICULAR RECORDING MEDIA
Takehito Shimagawa1, Masaru Terakawa1, Isao Watanabe1, Hiroaki Muraoka1, Yoshihisa Nakamura1, RIEC, Tohoku University, Sendai, Japan

EP 12
EXTREMELY THIN Sr-FERRITE FILMS WITH LARGE PERPENDICULAR MAGNETIC ANISOTROPY PREPARED BY FACING TARGETS SPUTTERING WITH MIXTURE GAS OF Ar AND Kr
Shigeki Nakagawa1, M. Mizuno1, Masaikio NAOE2, Tokyo Institute of Technology, Japan

EP 13
SIMULATIONS OF MAGNETIC RECORDING IN CGC PERPENDICULAR MEDIA WITH RANDOM PINNING SITES
Andrew Marc Goodman1, Simon John Greaves1, Yoshiaki Sonobe1, Hiroaki Muraoka1, Yoshihisa Nakamura1, 1RIEC, Tohoku University, Sendai, Japan, 2Hoya R&D Centre, Tokyo, Japan, 3IBM Almaden, San Jose, CA

EP 14
COMPUTER SIMULATION OF MAGNETIC WALL INDUCED IN UNDER-LAYER BY SPT HEAD FIELD
Kazuetsu Yoshida, Dept. of Electronics Engineering, Kogakuin University, Tokyo, Japan
EQ
Recording Physics and Thermal Stability

Hans Jürgen Richter
Seagate Recording Media, Fremont

Wednesday
1:15 PM

EQ 01
THE STUDY OF NON-SHIELD HEAD FOR PERPENDICULAR RECORDING
Takagishi Masayuki, Masatoshi Yoshikawa, Tomomi Funayama, Kohichi Tateyama, Masashi Sahashi, Toshiba Corp., R&D Center, Kawasaki, Japan

EQ 02
HEAD-FIELD RISE-TIME EFFECTS IN PERPENDICULAR RECORDING
Kazuhiro Nakamoto¹, H Neal Bertram², ¹Central Research Lab, Hitachi, Ltd., Japan, ²CMRR UCSD, La Jolla, CA

EQ 03
MODELING STUDY ON RING HEAD AND ADVANCED SINGLE POLE HEAD FOR PERPENDICULAR RECORDING
James Yungang Wang, Francis Liu, Kroum Stoev, Marcos Lederman, Mark Re, Read-Rite Corp, Fremont, CA

EQ 04
EFFECTS OF THE EXCHANGE STIFFNESS CONSTANT AND THE DISPERSION ON THE RECORDING CHARACTERISTICS OF PERPENDICULAR MEDIA
Eiichi Miyashita, Ryo Taguchi, Nobuhiko Funabashi, Takahiko Tamaki, Haruo Okuda, NHK, Setagaya-ku, Tokyo, Japan

EQ 05
DYNAMIC RECORDING PROPERTY SIMULATIONS OF PERPENDICULAR MAGNETIC RECORDING WITH RING HEAD AND SINGLE LAYERED MEDIA
Eunsik Kim, Samsung Advanced Institute of Technology, Storage Lab., Kyungi-Do, Korea

EQ 06
FREQUENCY DEPENDENCE OF OVERWRITE SATURATION
Pei Zou, David J. Seagle, Read-Rite Corp, Fremont, CA

EQ 07
MEDIA-TO-SENSOR DEMAGNETIZATION MATRIX AND ITS APPLICATIONS IN MICROMAGNETIC SIMULATION OF READBACK PROCESS
Lei Wang, Shaoping Li, Juan Fernandez-de-Castro, Seagate Technology, Bloomington, MN

EQ 08
PLAYBACK SIGNAL IN PERPENDICULAR RECORDING FOR AN OFF-CENTERED GMR ELEMENT
Bogdan Florin Valeu, H Neal Bertram, CMRR, UCSD, La Jolla, CA

EQ 09
APPROACHES TO EVALUATE THERMAL REVERSAL OF INTERACTING MAGNETIC GRAINS
Xiaobin Wang¹, H Neal Bertram¹, Roy W Gustafson², Eric D Boerner², Andreas Lyberatos², Vladimir L Safonov³, ¹CMRR UCSD, La Jolla, CA, ²Seagate Research, Pittsburgh, PA

EQ 10
HIGH-TEMPERATURE RECORDING MEDIUM TESTING AT A SPIN-STAND LEVEL
Albert Chekanov, MMC Technology, Sun Jose USA

EQ 11
SPIN TILTING PHENOMENON IN THE STRONGLY COUPLED AFC MEDIA
Y. W. Tahk¹, K. J. Lee², T. D. Lee³, ¹Dept. of Mater. Sci. and Eng., KAIST, Taegon, Korea, ²Storage Lab., SAIT, Suwon, Korea

EQ 12
OVERWRITE, NONLINEAR TRANSITION SHIFT OF LAMINATED ANTIFERROMAGNETICALLY COUPLED MEDIA
S. K. Chow, S. N. Piramanayagam, S. I. Pang, J. P. Wang, Data Storage Institute, Singapore
FREQUENCY DEPENDENCE OF MAGNETO-IMPEDANCE IN SPIN TUNNELING JUNCTION
Kazuo Shiki, Hideo Kajiu, Shigeo Fujita, Takeshi Morozumi, Keio University, Yokohama, Japan

EFFECT OF DIFFERENT OXIDATION METHODS ON MICROSTRUCTURES AND PROPERTIES OF AlO, IN MAGNETIC TUNNEL JUNCTION
Jun Soo Bae¹, Kyung Ho Shin², Taek Dong Lee¹, Hyuck Mo Lee¹, 'Mater. Sci. & Eng., KAIST, Taejon, South Korea, ²Thin Film Technology Research Center, KIST, Seoul, Korea

COMPUTER SIMULATION OF MAGNETORESISTANCE BEHAVIOR IN MAGNETIC TUNNEL JUNCTIONS EXCHANGE-BIASED BY SYNTHETIC ANTIFERROMAGNET
Young Rang Uhm, Sang Ho Lim, Nano Device Research Center, KIST, Seoul, Korea

HOT ELECTRON TRANSPORT IN 3-TERMİNAL DEVICES BASED ON MAGNETIC TUNNEL JUNCTIONS
Daniel Lacour¹, Michel Hehn², François Montaigne², Henri Jafřěs¹, Peter Rottländer², Frederic Nguyen Van Dau¹, Frederic Petroff², Alain Schuhl², ¹CNRS-Thales, Orsay, France, ²LPM, UMR CNRS, Vandoeuvre, France

EFFECTS OF DISORDER IN MAGNETIC TUNNEL JUNCTIONS
Yun Li, Ching Ray Chang, Physics Department, National Taiwan University, Taipei, Taiwan

TRANSPORT IN MAGNETICALLY-DOPED MAGNETIC TUNNEL JUNCTIONS
Shan Xiang Wang, Seung-Young Bae, Stanford University, CA

ALCVD AlO, BARRIER LAYERS FOR MAGNETIC TUNNEL JUNCTION APPLICATIONS
Randhir Bubber¹, Ming Mao¹, Thomas Schneider¹, Hari Hegde¹, Kyusik Sin², Shin Funada², Stone Shi², ¹Veeco Instruments, Inc, ²Read Rite Corp, Fremont, CA

INTERFACE MAGNETISATION OF La₀.₇Sr₀.₃MnO, THİN FILMS
Emmanuel Favre-Nicolin¹, Laurent Ranno¹, Frederic Ott², ¹Laboratoire Louis Neel, Grenoble, France, ²Laboratoire Léon Brillouin, Saclay, France

INFLUENCE OF ELECTRODE STRUCTURE ON MAGNETO TRANSPORT IN MAGNETIC TUNNEL JUNCTIONS
Harm Wieldraaijer, Patrick LeClair, Juergen T. Kohlhepp, Henk J.M. Swagten, Wim J.M. de Jonge, Department of Physics, Eindhoven University of Technology, The Netherlands

EFFECTS OF CoFe SURFACE OXIDATION ON TUNNELING MAGNETORESISTANCE
Kyusik Sin, Shin Funada, Matthew R Gibbons, William Jensen, Craig Hiner, Xizeng Shi, Hua-Ching Tong, Read Rite Corp, Fremont, CA

LOW RESISTANCE PINHOLE-FREE SPIN DEPENDENT TUNNELING MATERIALS
Kiseok Moon, Yingjian Chen, Changhe Shang, Yiming Huai, Read-Rite Corporation, Fremont, CA
ES
Exchange Bias Films
Amanda K. Petford-Long
University of Oxford

Wednesday
1:15 PM

ES 01
MAGNETISM OF $^{57}$Fe SPINS CLOSE TO THE $^{57}$FeO/Co INTERFACE
Lubien Argirov Kalev, Wilma Eerenstein, Tijjke Hbma, Lambertus Niesen, University of Groningen, Nijenborgh, The Netherlands

ES 02
CORRELATION BETWEEN MICROMAGNETISM AND MAGNETIC PROPERTIES OF HARD-SOFT Fe/Co/Cu/Co(Fe/It/CoFe] SENSORS
Dina Ariz, Colis Silviu, IPCMS-CNRS, ECPM-ULP, Strasbourg, France

ES 03
EXCHANGE COUPLING IN FeTaN/FeSm/FeTaN MULTILAYERS: A KERR EFFECT STUDY
Gianluca Gubbio,2 Giovanni Carlotti,2 Marco Madami,2 James Weston,1 Giovanni Zangari,1 Paolo Vavassori1, J. A. Barnard3,1 INFM, Unità di Perugia, Dipartimento di Fisica, Perugia, Italy, 1University of Alabama, MINT Center, Tuscaloosa, AL, 3 Dipartimento di Fisica, Ferrara, Italy, 2University of Pittsburgh, PA

ES 04
MICROSCOPIC DOMAIN STRUCTURE IN UNIDIRECTIONAL AND ISOTROPIC EXCHANGE-COUPLED NiO/NiFe BILAYERS
R. D. Gomez1, J. K. Kim2, S. S. Lee3, H. Koo1, S. H. Chung1, Michael Dreyer1,1 Dept. of ECE, University of Mayland, College Park, MD, 1Dept. of Physics, Sangji Univ. Wonju, Korea, 3Lab. f. Phys. Sci., College Park, MD

ES 05
REORIENTATION OF THE MAGNETIZATION IN COMPENSATED FI/AF BILAYERS.
Melquiisedec Lourenço Silva,1 Ana Lucia Dantas2, Artur S. Carriço2,1 Departamento de Física, UFRN, Natal/RN, 1DF - UERN, Campus Central, Mossoró/RN, Brazil

ES 06
DEPENDENCE OF NEEL “ORANGE-PEEL” COUPLING ON MAGNETIZATION REVERSAL PROCESS
Julio Camarero1, Yan Pennec2, Jan Vogel1, Marlio Bonfim1, Stefania Pizzini2, Armando Encinas2, Frederic Petroff3,1 Laboratoire Louis Néel, CNRS, BP Grenoble, France, 3 CNRS-Thales, Orsay, France

ES 07
SPIN-VALVE STRUCTURES WITH CoTb-BASED MULTILAYERS
Andrey V Svalov1, Peter A Savin2, Galina V Kurlyandskaya2, J. Gutierrez1, Vladimir O Vas’kovskiy4,1 Ural State University, 2University of Oviedo, Depto de Física, Spain, 3 Universidad del País Vasco UPV-EHU, Spain, 4 Ural State University, Ekaterinburg, Russia

ES 08
STRUCTURAL CHARACTERIZATION OF NANO-OXIDE LAYERS IN PtMn BASED SPECULAR SPIN VALVES
Lifan Chen, Zhitao Diao, Yiming Huai, Read-Rite Corporation, Fremont, CA

ES 09
EXCHANGE ANISOTROPY IN EPITAXIAL
Mn$_{x}$Pt$_{1-x}$/NiFe BILAYERS
Satoshi Iwata, Taisuke Kume, Etsushi Nagae, Takeshi Kato, Shigeru Tsunashima, Nagoya Univ., Dept of Electronics, Nagoya, Japan

ES 10
MAGNETORESISTANCE IN EXCHANGE-BIASED IrMn/NiFe/FeMn
Zaibing Guo, Date Storage Institute Singapore

ES 11
EFFECT OF MAGNETOSTRICTION AND UNIDIRECTIONAL INTERLAYER COUPLING ON SPIN-VALVE FREE LAYER REVERSAL
Chee K Lim1, John N Chapman1, Mahfuzur Rahman, Alan B Johnston2, Denis O’ Donnell1 Dept of Physics & Astronomy, University of Glasgow, UK, 1 Seagate Technology Ireland, Springtown, Derry, N. Ireland

ES 12
EFFECT OF UNDERLAYER MICROSTRUCTURE ON THE EXCHANGE COUPLING OF MUMETAL/AIO/Co MULTILAYER
YoungWoo Lee1, TaeHyo Lee1, CheolGi Kim1, ChongOh Kim1, TaeSick Yoon1, 1Dept of Materials Engineering, Chungnam National University, 2ReCAMM, Chungnam National University, Korea
HIGH EXCHANGE COUPLING FIELD AND THERMAL STABILITY OF FERROMAGNETIC IrMn-PINNED SPIN VALVE FILMS
J. R. Rhee¹, J. Y. Hwang¹, M. Y. Kim¹, S. S. Lee¹, D. G. Hwang², S. C. Yu¹, ¹Dept. of Physics, Sookmyung W. Univ., Seoul, Korea, ²Dept. of Physics, Sangji Univ., Wonju, Korea

DEPENDENCE OF COERCIVITY ON MAXIMUM APPLIED FIELD IN DYNAMIC MAGNETIZATION REVERSAL OF Co/NiO
Jan Vogel¹, Julio Camarero¹, Yann Pennecl¹, Marlio Bonfim¹, Stefania Pizzini¹, Mathilde Cartier², Frank Ernult², Farid Fettar², Bernard Dieny², ¹Laboratoire Louis Néel, CNRS, Grenoble, France, ²DRFMC, SP2M/NM, CEA Grenoble, France

MOKE AND AMR INVESTIGATIONS ON EXCHANGE BIAS FIELD STRENGTH AND DIRECTION IN FERROMAGNET/ANTIFERROMAGNET SYSTEMS
Kai-Uwe Bartholz, Roland Mattheis, IPHT Jena, Germany

EXCHANGE BIASING OF OXIDIZED NiFe 81/19
Christian Becker, Axel Bartos, HL Planartechnik GmbH, Dortmund, Germany

THERMAL RELAXATION IN EXCHANGE COUPLED FERROMAGNET/ANTIFERROMAGNET BILAYERS
Tong Zhao, Kuiang Zhang, Hideo Fujiiwara, MINT Center, University of Alabama, Tuscaloosa, AL

THERMALLY ACTIVATED REVERSAL IN EXCHANGE-COUPLED STRUCTURES
Y. G. Wang¹, A. K. Petford-Long¹, H. Laidler², K. O’Grady², M. T. Kief³, ¹Dept of Materials, University of Oxford, Oxford, UK, ²Dept of Physics, University of York, York, UK, ³Seagate Technology, Minneapolis, MN

TEMPERATURE DEPENDENT DOMAIN INVESTIGATIONS ON EXCHANGE BIASED NiFe/IrMn AND CoFe/IrMn SYSTEMS
Robert Seidel¹, Oliver de Haas¹, Ludwig Schultz¹, Rudolf Schaefer¹, Manfred Ruehlig², Joachim Wecker², ¹IFW-Dresden, Germany, ²Siemens AG, CT MM1, Erlangen, Germany

IRREVERSIBLE MAGNETIZATION PROCESSES IN EXCHANGE BIASED NiO-(Cu)-NiFe FILMS
Oliver de Haas, Rudolf Schaefer, Ludwig Schultz, Claus M Schneider, IFW-Dresden, Germany

SPIN DYNAMICS IN INTERDIFFUSED NiFe/Mn EXCHANGE BIASED BILAYERS
Jamal Ben Youssef, David Spenato, Henri Le Gall, LMB/CNRS/UBO Brest, France

MAGNETIC PROPERTIES IN PATTERNED FeMn/NiFe BILAYERS WITH DIFFERENT ETCHING DEPTH
Zhailing Guo, Date Storage Institute, Singapore
**EU**

**Patterned Films II**

**Russell P. Cowburn**

University of Durham

**Wednesday**

**1:15 PM**

**EU 01**

MAGNETIZATION REVERSAL OF DEEP SUBMICRON MAGNETIC ELEMENTS
Nobuki Tetzuka, Eiji Kitagawa, Koichirou Inomata, Satoshi Sugimoto, Graduate School of Engng., Tohoku Univ., Sendai, Japan

**EU 02**

VORTEX DOMAIN INTERACTION AND SURFACE PINNING EFFECTS OF 100 TO 800 nm MAGNETIC PATTERNED ISLANDS
Silas T. Hung, Y. J. Tang, C. Y. Wong, Magnetic Innovation Center (MAGIC), Kowloon, Hong Kong

**EU 03**

SHAPE DEPENDENT MAGNETIZATION REVERSAL PROCESSES OF MICROSTRUCTURED EPITAXIAL Fe (110) ELEMENTS
Christian König, II. Physikalisches Institut, RWTH Aachen, Germany

**EU 04**

MAGNETIC PROPERTIES OF EPITAXIAL Fe DOTS GROWN ON PRE-PATTERNED GaAs SUBSTRATES
Gottfried Wastlbaue1, Marina Tselepi1, Luis Lopez-Diaz2, Yongbing Xu1, Mathias Klaeu1, Marco Natali2, Yong Chen2, Francoise Rousseaux2, Tony Bland1, Cavendish Lab, University of Cambridge, UK, 1L2M/CNRS, Bagneux, France

**EU 05**

INTERELEMENT SPACING AND ANGLE EFFECTS ON MAGNETIC REVERSAL IN PERMALLOY ARRAYS
Hyuncheol Koo, C. Krafft, R.D. Gomez Dep. of Elec. and Comp. Eng., Univ. of Maryland, College Park, MD

**EU 06**

MAGNETIC NANOSTRUCTURE FABRICATION BY FOCUSED ION BEAM MILLING
Dan A Allwood, Xiong Gang, Michael D. Cooke, Del Atkinson, Russell P. Cowburn, Department of Physics, University of Durham, UK

**EU 07**

EFFECT OF MILLING PROCESS ON THE MAGNETIC PROPERTIES OF FIB PATTERNED MAGNETIC NANOSTRUCTURES
Dan You1, Zhiyong Liu1, Zaibing Guo1, Yuanhai Zheng1, Yihong Wu1, 1Data Storage Institute, Singapore, 2Department of Electrical and Computer Engineering, National University of Singapore

**EU 08**

MAGNETIC DOMAIN STRUCTURE OF MnIr/NiFe BILAYERS Patterned by FOCUSED ION BEAM
Takeshi Kato, Keigo Suzuki, Satoshi Iwata, Shigeru Tsunashima, Nagoya Univ., Dept of Electronics, Japan

**EU 09**

THE INFLUENCE OF CROSS-TIE WALL ON MAGNETORESISTANCE OF PATTERNED PERMALLOY FILMS
J.C. Wu, H. M. Lee, Physics, Nat'l Changhua Univ. of Ed., Changhua, Taiwan

**EU 10**

ANGULAR AND FIELD DEPENDENT MAGNETO-RESISTIVITY IN Ni80Fe20 ZIGZAG WIRES
J. L Tsai, Academia Sinica, Taipei, Taiwan

**EU 11**

MAGNETIC PROPERTIES OF MAGNETIC NANO-WIRE ARRAYS
Guchang Han, Data Storage Institute, National University of Singapore

**EU 12**

MAGNETIZATION REVERSAL PROCESSES IN AMORPHOUS AND POLYCRYSTALLINE CoSi1-x Patterned NanoWires
Jose I. Martin1, Rafael Morales1, Maria Velez1, Jose M. Alameda1, Fernando Briones2, Jose L. Vicent1, 1Dpto. Fisica, Univ. Oviedo, Spain, 2Instituto de Microelectronicas de Madrid, CNM, CSIC, Spain, 1Dpto. F. Materiales, Universidad Computense, Madrid, Spain

**EU 13**

EFFECT OF Pt SEED ON MAGNETIC PROPERTIES OF Co-Pt ALLOY DEPOSITED INTO ALUMINUM OXIDE PORES
Shigeru Shiomi, Toshiki Nishii, Hiroyuki Kohama, Faculty of Engineering, Mie University, Tsu, Japan

**EU 14**

ZERO-FIELD PHASE TRANSITION FROM NEARLY UNIFORM IN-PLANE TO OUT-OF-PLANE MAGNETIZATION STATE IN SOFT MAGNETIC CYLINDERS
Konstantin L. Metlov1, Konstantin Yu. Guslienko2, 1Inst. Physics, Prague, Czech Republic, 2School of Physics, KIAS, Seoul, Korea
EXPERIMENTAL CORRECTION OF THE AXIAL SHIELDING EQUATION
Paperno Eugene 1, Sasada Ichiro 2, Kunihisa Tashiro 2, E&CE Dept, Ben-Gurion University of the Negev, Israel, 2ASEM Dept, Kyushu University, Fukuoka, Japan

EFFECTS OF RESIDUAL MAGNETISM DUE TO MINOR LOOP ON MAGNETIC PROPERTY OF PERMANENT MAGNET TYPE OF MRI
Norio Takahashi 1, Ryousuke Sunaga 1, Koji Miyata 1, Ken Ohashi 1, 1Dpt. E.E., Okayama Univ. Okayama, Japan, 2R&D Center Shin-Etsu Chemical Co. Takefu, Japan

LOCAL EMI IN THE MONOLITHIC DC-DC CONVERTER WITH ON-CHIP PLANAR INDUCTOR
Toshiro Sato, Hiroshi Horiuchi, Kiyohito Yamasawa, Shinshu University, Nagano, Japan

LAMINATED IMPREGNATED TYPE MAGNETIC WOOD MANUFACTURING METHODS AND MAGNETIC CHARACTERISTICS FROM DC TO 13.5GHz BAND
Hideo Oka 1, Hironori Hayakawa 1, Hiroshi Osada 1, Kyoushirou Seki 1, Atsuko Kano 2, Hironori Tanuchi 2, 1Iwate University, Morioka, Japan, 2Iwate Pref. Forestry Technology Center, Japan

TRANSIENT MAGNETIC FEM ANALYSIS FOR THE PREDICTION OF ELECTRODYNAMIC FORCES IN TRANSFORMERS WITH MAGNETIC SHUNTS
Fabrizio Dughiero, Michele Forzan, University of Padova, Italy

CHARACTERISTICS OF THE DESK WITH CORD-FREE POWER SUPPLY
Koichi Hatanaka 1, Fumihiro Sato 1, Hidetoshi Matsuki 1, Shinki Kikkuchi 1, Junichi Murakami 1, Makoto Kawase 1, Tadakuni Sato 1, 1Graduate School of Tohoku University, Sendai, Japan, 2Tohoku Gakuen University, Tagajo, Japan, 3The Institute of Applied Energy, Tokyo, Japan, 4Tohoku Electric Power Co., Inc., Sendai, Japan, 5Tokin Corporation, Sendai, Japan

ANALYTICAL COMPUTATION OF MOLTEN METAL VELOCITY PATTERNS IN ALUMINUM REDUCTION ELECTROLYTIC CELLS
Amr Amin Adly, Cairo University, Giza, Egypt

HIGHLY EFFECTIVE, THIN SURFACE MOUNTING TYPE INDUCTOR
Fumiaki Nakao, FDK Corporation, Japan

HIGH PERFORMANCE BENCH-TO CYLINDRICAL MAGNETIC SHIELD WITH MAGNETIC SHAKING ENHANCEMENT
Kenji Nagashima, Sasada Ichiro, Kunihisa Tashiro, ASEM Dept, Kyushu University, Fukuoka, Japan
TEMPERATURE DEPENDENT RESISTANCE OF EXCHANGE BIASED SPIN VALVES WITH EXTREMELY THIN IrMn
James C. Eckert1, Nathaniel P. Stern1, Ariel E. Barton1,
Patricia D. Sparks3, Matthew J. Carey3, 1Physics Department, Harvey Mudd College, 3IBM Research, San Jose, CA

INTERLAYER DIFFUSION AND SPECULARITY ASPECTS OF AMORPHOUS CoNbZr BASED SPIN VALVES
Ho Gun Cho, Young Keun Kim, Seong-Rae Lee, Korea University, Seoul, Korea

THE IMPROVED GMR CHARACTERISTICS OF SPECULAR SPIN VALVE BY NANO-OXIDE LAYER FORMATION WITH MIXED GASES
S. H. Jang1, H. J. Kim2, T. Kang3, K. Y. Kim2, 1Seoul National University, 2KIST, Korea

OVERALL PERFORMANCE OF SPIN-VALVES USING
CoFe/Cu/CoFe AS FREE FM LAYERS
Kebin Li, Yihong Wu, Data Storage Institute, National University of Singapore

INFLUENCE OF ION DOSAGE ON EXCHANGE FIELD AND GMR OF IRRADIATED PtMn-BASED SPIN VALVES
Chih-Huan Lai, Cheng-Han Yang, National Tsing Hua University, Hsinchu, Taiwan.

PtMn CHARACTERISTICS FOR SPIN-VALVE APPLICATION
Abdal Al-Jibouri, Nordiko Ltd, UK

ANALYSIS OF ANGULAR DEPENDENT RESISTANCE MEASUREMENTS ON IrMn-BASED SPIN VALVES USING A FINITE PINNING MODEL
Chih-Ling Lee1, Shaoyan Chu1, James A Bain2, Michael E McHenry1, 1DSSC, Dept. of ECE, Carnegie Mellon Univ., Pittsburgh, PA, 2DSSC. Dept. of ECE, Carnegie Mellon Univ., Pittsburgh, PA

EXTRAORDINARY HALL EFFECT IN GRANULAR ALLOYS: TEMPERATURE DEPENDENCE AND SIZE-EFFECT
Alexander Granovsky1, Alan Kalitsov2, Alexander Khamkaev1, Hideuki Sato1, 1Moscow State University, 2Technical University, Moscow, Russia, 3Tokyo Metropolitan University, Tokyo, Japan

THE FREE LAYER REVERSAL OF SPIN VALVES STUDIES BY PLANAR HALL EFFECT
Zhengqi Lu, Institute of Physics, Chinese Academy of Science, China

NOISE POWER SPECTRAL DENSITY IN SINGLE STRIP NiFeCo/Cu GMR SENSORS
Anis Faridah1, Ernie W Hill2, 1Physics Dept., Univ. of Malaya, Kuala Lumpur, Malaysia, 2Dept. of Comp. Sc., Univ. of Manchester, UK

COMPARISON OF THE MAGNETOREFRATIVE EFFECT IN TRANSMISSION AND REFLECTION FOR GIANT MAGNETORESISTIVE Co-Ag THIN FILMS
D. Bozec, F. Canet, V.G. Kravets, S.M. Thompson and J.A.D. Matthew, Department of Physics, University of York, UK

THERMOPower AND GMR OF A SINGLE Co/Cu MULTILAYER NANOWIRE
Laurent Gravier, Jean-Eric Weegrowe, Jean-Philippe Ansermet, EPFL, PHB-Ecublens, 1015 Lausanne, Switzerland

NOISE MEASUREMENTS OF WHEATSTONE BRIDGES MADE FROM SPIN VALVES WITH PARALLEL AND CROSSED ANISOTROPIES
Thomas Eick, Roland Mattheis, IPHT Jena, Germany
Thursday
9:00 AM

**FA 01**
MAGNETIC/SEMICONDUCTOR HETEROSTRUCTURES FOR SPINTRONIC DEVICES [invited]
J. De Boeck¹, W. Van Roy¹, V.F. Motsnyi¹, Z. Liu¹, P. Van Dorpe¹, M. Nijboer¹, J. Das¹, E. Goovaerts², V.I. Safarov¹, G. Borghi¹, ¹IMEC, Leuven, Belgium, ²Univ. of Antwerp-UIA, Antwerpen, Belgium, ³GPEC, Departement de Physique, Luminy, France

9:30 AM

**FA 02**
ELECTRICAL SPIN INJECTION FROM A MAGNETIC SCHOTTKY TUNNEL CONTACT INTO A SEMICONDUCTOR [invited]
B. T. Jonker¹, A. T. Hanbicki², G. Itskos², G. Kioseoglou², A. Petrou³, ¹Naval Research Laboratory, Washington, DC, ²State University of New York, Buffalo, NY

10:00 AM

**FA 03**
SEMICONDUCTOR SPINTRONICS USING FERROMAGNETIC SEMICONDUCTOR HETEROSTRUCTURES [invited]
Hideo Ohno, Laboratory for Electronic Intelligent Systems, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan

10:30 AM

**FA 04**
MAGNETIC AND ELECTRICAL PROPERTIES OF Mn-DOPED GaN [invited]
Saki Sonoda¹, Hidenobu Hori¹, Yoshiyuki Yamamoto², Takahiko Sasaki², Saburo Shimizu¹, Ken-ichi Suga³ and Koichi Kindo³, ¹ULVAC, Inc., Chigasaki, Kanagawa, Japan, ²JAIST, Tatsunokuti, Ishikawa, Japan, ³Kyokugen, Osaka University, Toyonaka, Osaka, Japan

11:00 AM

**FA 05**
SPIN INJECTION: MATERIALS SPECIFIC THEORY [invited]
P.J. Kelly, Faculty of Applied Physics and MESA+ Research Institute, U. of Twente, Enschede, The Netherlands

11:30 AM

**FA 06**
SPIN-VALVE TRANSISTOR FORMED ON GaAs (001) SUBSTRATE [invited]
K. Mizushima and R. Sato, Corporate Research and Development Center, Toshiba Corporation 1, Komukai Toshiba-cho, Saiwai-ku, Kawasaki, Japan
FB
Inductive Recording Heads and Materials II

Rob Hardeman
Seagate Technology, Ireland

Thursday
9:00 AM

FB 01
DESIGN CONSIDERATIONS FOR SINGLE-POLE TYPE WRITE HEADS
Joshua Michael Schare\textsuperscript{1}, Lijie Guan\textsuperscript{1}, Jian-Gang Zhu\textsuperscript{1}, Mark H Kryder\textsuperscript{2}, \textsuperscript{1}DSSC, Carnegie Mellon University, Pittsburgh, PA, \textsuperscript{2}Seagate Research, Pittsburgh, PA

9:00 AM

Forum

9:00 AM

FB 02
A PERPENDICULAR HEAD DESIGN FOR AN AREAL DENSITY OF 1 TBPSI
Mohammed Shariat Ullah Patwari, Randall Victoria, \textsuperscript{1}MINT, Dept. of Electrical and Computer Engineering, U. of Minnesota, Minneapolis, MN

9:15 AM

FB 03
CUSP FIELD SINGLE POLE HEAD WITH HIGH RECORDING RESOLUTION
Kazuyuki Isc\textsuperscript{1}, Kiyoshi Yamakawa\textsuperscript{1}, Naoki Honda\textsuperscript{1}, Kazuhiro Ouchi\textsuperscript{1}, Hiroaki Muraoka\textsuperscript{2}, Yoshihisa Nakamura\textsuperscript{2}, \textsuperscript{1}Akita Res. Inst. of Adv. Tech., Akita, Japan, \textsuperscript{2}RIEC, Tohoku Univ., Sendai, Japan

9:30 AM

FB 04
MICROMAGNETICS OF NARROW TRACK WIDTH SINGLE POLE WRITE HEADS

9:45 AM

FB 05
HIGH LINEAR DENSITY STUDY OF ADVANCED SINGLE POLE HEAD \textsuperscript{[invited]}
Kroum Stoev, Francis Liu, Yingjian Chen, Xiaozhong Dang, James Wang, Yiming Huai, Hai Jiang, Shan Fan Gu, Lien-Chang Wang, Ron Esch, John Chen, Marcos Lederman, Mark Re, Read-Rite Corp., Fremont, CA

10:00 AM

FB 06
FABRICATION PROCESSING OF A TRAPEZOIDAL MAIN POLE OF SINGLE-POLE-TYPE HEADS \textsuperscript{[invited]}
Tomohiro Okada, Yoshiaki Kawato, Chiseki Haginoya, Isao Nunokawa, Kimitoshi Etoh, Moriaki Fuyama, Central Research Laboratory, Hitachi, Ltd., Odawara, Kanagawa, Japan

10:30 AM

FB 07
THE ROLE OF THE GAP IN SINGLE POLE HEADS IN PERPENDICULAR RECORDING
Dmitri Litvinov\textsuperscript{1}, Jason Wolfson\textsuperscript{1}, James A. Bain\textsuperscript{2}, Roy W. Gustafson\textsuperscript{1}, Mark H. Kryder\textsuperscript{1}, Sakhrat Khizroev\textsuperscript{1}, \textsuperscript{1}DSSC, Carnegie Mellon University, Pittsburgh, PA, \textsuperscript{2}Seagate Research, Pittsburgh, PA

11:00 AM

FB 08
RF SPUTTERED FeCoN SOFT MAGNETIC THIN FILMS WITH HIGH RESISTIVITY
Hai Jiang, Yingjian Chen, Yiming Huai, Read-Rite Corporation, Fremont, CA

11:15 AM

FB 09
SOFT MAGNETIC PROPERTIES OF HIGH MOMENT FeCoV/CoNbZr MULTILAYERS
Genhua Pan, Huan Du, CRIST, DCEE, University of Plymouth, UK

11:30 AM

FB 10
HIGH B, LOW H, FILMS WITH BCC SINGLE-PHASE STRUCTURE FOR WRITE HEAD
Yasuuki Okada, Kazue Kudo, Moriaki Fuyama, Hiroyuki Hoshiya, STR Branch, Hitachi CRL, Odawara, Japan

11:45 AM
Thursday
9:00 AM  Room A

FC 01  FABRICATION OF MAGNETIC DOT ARRAYS BY ION BEAM INDUCED CHEMICAL VAPOR DEPOSITION (IBICVD)
Adam Lapicki, Takao Suzuki, ISML, Toyota Technological Institute, Nagoya, Japan
9:00 AM

FC 02  SYNTHESIS OF AIR-STABLE IRON-IRON CARBIDE NANOCRYSTALLINE PARTICLES SHOWING VERY HIGH SATURATION MAGNETIZATION
Aharon Gedanken¹, Gad Gorodetsky², ¹Dept. of Chemistry, Bar-Ilan University, Ramat-Gan, Israel, ²Depart. Of Physics, Ben-Gurion University, Israel
9:15 AM

FC 03  SYNTHESIS AND MAGNETIC PROPERTIES OF CORE-SHELL STRUCTURED (NiCo)O(AFM)/(NiCo)(FM) MAGNETIC NANOPARTICLES
Jeyadevan Balachandran, Akira Hobo, Oscar Perales-Perez, C. N. Chinnasamy, Kozo Shinoda, Kazuyuki Tohji, Atsuo Kasuya, Tohoku University, Sendai, Japan
9:30 AM

FC 04  EXCHANGE-COUPLED FePt NANOPARTICLE ASSEMBLY
Shouheng Sun Sun, IBM Research, Yorktown Heights, NY
9:45 AM

FC 05  MAGNETIC COBALT NANOCRYSTALS ORGANIZED IN PATCHES AND CHAINS
Andreas Hüttgen, University of Bielefeld, Department of Physics, Germany
10:00 AM

FC 06  HYSTERESIS BEHAVIOR OF CoPt NANOPARTICLES
Yunhe Huang¹, Yong Zhang², George C. Hadjipanayis³, D Weller², ¹Dept. of Physics & Astronomy, Univ. of Delaware, Newark, DE, ²Seagate Research, Pittsburgh, PA
10:15 AM

FC 07  RF DYNAMICS IN NANOPARTICLE SYSTEMS WITH TUNED STRENGTH OF INTERACTIONS
Leonard Spinu¹, Alexandru Stancu², Tung Le Duc¹, Jiye Fang¹, Harisharan Srikanth³, Charles J. O’Connor³, ¹AMRI, University of New Orleans, LA, ²Alexandru Ioan Cuza University, Iasi, Romania, ³Department of Physics, University of South Florida, Tampa, FL
10:30 AM

FC 08  AC SUSCEPTIBILITY OF Co CLUSTERS IN A BIAS MAGNETIC FIELD: QUANTUM TUNNELING VERSUS NON-LINEAR EFFECTS
Fernando M. Luis-Vitalla¹, José M. Torres-Bruna¹, Luis M. García-Vinuesa¹, Frederic Petroff², Juan Bartolomé-Sanjuequito¹, ¹ICMA, Zaragoza, Spain, ²CNRS-Thales, Orsay, France
10:45 AM

FC 09  MAGNETO-OPTICS OF NANOPARTICLE SYSTEM
Beata Kalska-Szostko; Freie Universität Berlin, Germany
11:00 AM

FC 10  SPIN-GLASS BEHAVIOUR OF Zn³⁺Fe₂O₄ NANOPARTICLES DISPERSED IN A ZnO MATRIX
Gerardo Fabián Goya, Physics Institute - Sao Paulo University, Brazil
11:15 AM

FC 11  TUNNELING MAGNETOTRANSsport IN NANO-GRANULAR-IN-GAP STRUCTURE
M. B. A. Jalil, ISML lab, National University of Singapore
11:30 AM
High Frequency Properties of Soft Materials

Hywel A. Davies
University of Sheffield

Thursday
9:00 AM

Room B

FD 01
PERMEABILITY OF SOFT MAGNETIC COMPOSITES
ELABORATED FROM FLAKES OF NANOCRYSTALLINE RIBBONS
Frédéric Mazaleyrat1, Valérie Léger1, Richard Raymond Lebourgeois2, Richard Barrué1, 1LESiR, ENS Cachan, France, 2Thales R&T, Orsay, France

9:15 AM

FD 02
HIGH FREQUENCY BEHAVIOR OF MAGNETIC COMPOSITES BASED ON FeSiBCuNb PARTICLES FOR POWER ELECTRONICS
Francisco Alves1, Clément Ramariinjaona1, Serge Berenguer1, Richard Lebourgeois2, Thierry Waeckerle1, 1LESiR, ENS Cachan, France, 2Thales, LCR, Domaine de Corbeville, France

9:30 AM

FD 03
NANOSTRUCTURED CORES WITH EXTREMELY LOW LOSS AND CONTROLLED PERMEABILITY
Masaki Nakano1, Hirotoshi Fukunaga1, Takeshi Yanai1, Ken-ichiro Takashashi1, Yoshihito Yoshizawa2, Kazushi Ishiyama1, Ken-ichi Arai1, Fac. of Engineering, Nagasaki University, Japan, 1Advanced Electronics Research Laboratory, Hitachi Metals, 2RIEC, Tohoku University, Sendai, Japan

9:45 AM

FD 04
FREQUENCY-DEPENDENT COMPLEX PERMEABILITY IN Zr-SUBSTITUTED PERMALLOY THIN FILMS
Jamal Ben Youssef, LMB, CNRS UMR 6135, Brest-FR

10:00 AM

FD 05
INVESTIGATION ON MICROSTRUCTURE-MAGNETIC PROPERTY RELATIONSHIP OF NANOCRYSTALLINE Fe-Zr-B-Ag MAGNETIC FILMS USING HIGH RESOLUTION TRANSMISSION ELECTRON MICROSCOPY AND X-RAY DIFFRACTION
W.J. Lee1, Bok-Ki Min1, J.S. Song1, S.J. Jeong1, G.S. Chung1, 1KERI, Korea, 1School of Information System Engineering, Dongse University, Korea

10:15 AM

FD 06
CONTROLLING THE INDUCED ANISOTROPY IN SOFT MAGNETIC FILMS FOR HIGH FREQUENCY APPLICATIONS

10:30 AM

FD 07
HIGH FREQUENCY PERMEABILITY OF FeCoV THIN FILMS DEPOSITED ON THIN FLEXIBLE SUBSTRATES
Olivier Valls, David Damiani, Olivier Acher, LMMH, CEA / Le Ripault - France

10:45 AM

FD 08
ULTRA-HIGH ELECTRICAL RESISTIVITY AND HETERO-AMORPHOUS STRUCTURE OF GHz SOFT MAGNETIC (CoFeB)-(SiO2) THIN FILM
Makoto Munakata1, Mashio Motoyama2, Masaaki Yagi1, Tetsuo Itoh1, Yutaka Shimada1, Masahiro Yamaguchi1, Ken-ichi Arai2, 1Sojo Univ., Energy Electron. Lab., Kumamoto, Japan, 2DeltaWorks, Kumamoto, Japan, 1Tohoku Gakuen Univ., Tagajo, Miyagi, Japan, 1Tohoku Univ., Inst. of Multi. Res. for Advanced Mater., Japan, 1Tohoku Univ., Res. Inst. of Elec. Commun., Japan, 2RIEC, Tohoku University, Sendai, Japan

11:00 AM

FD 09
ANTIFERROMAGNETIC COUPLED HIGH-FREQUENCY CARRIER-TYPE MAGNETIC SENSOR USING NiFe/FeMn MULTILAYER Masaaki Takezawa, Jiro Yamasaki, Kyushu Institute of Technology, Japan

11:15 AM

FD 10
ANALYSIS OF RADIOFREQUENCY POWER LOSSES OF FERROMAGNETIC COMPOSITE MATERIALS
Richard Raymond Lebourgeois, Thales R&T-France - domaine de Corbeville – Orsay, France

11:30 AM

FD 11
HIGH FREQUENCY CONDUCTIVITY OF SPIN-SPRAY PLATED Ni-Zn FERRITE THIN FILMS
C.M. Fu1,2, H.S. Hsu1, N. Matsushita1, C. P. Chong1, T. Mizutani2, and M. Abe2, 1Physics department, National Kaoshiung Normal University, Taiwan, 2Department of Physical Electronics, Tokyo Institute of Technology, Japan

11:45 AM

FD 12
HIGH RATE, LOW TEMPERATURE (90° C) DEPOSITION OF Ni-Zn FERRITE FILMS HIGHLY PERMEABLE IN GHz RANGE
Nobuhiro Matsushita, Chee Ping Chong, Tomohiro Mizutani, Masanori Abe, Tokyo Institute of Technology, Japan
Thursday

9:00 AM

FE 01
TRANSIENT MAGNETIC MODELLING OF SENSORLESS CONTROLLED INDUCTION MACHINES [invited]
Thomas M. Wolbank, Reinhard Woehrmann, Hans Hauser, Vienna University of Technology Austria

9:30 AM

FE 02
IRON LOSS IN PM BRUSHLESS AC MACHINES UNDER MAXIMUM TORQUE PER AMPERE AND FLUX WEAKENING

9:45 AM

FE 03
A NEW TSF METHOD FOR SWITCHED RELUCTANCE MOTORS
Changhwan Choi, KAERI, Taejeon, Korea

10:00 AM

FE 04
EFFECTS OF MAGNET TOPOLOGY ON THE HARMONICS OF SLOTLESS-IRONLESS AXIAL FLUX PERMANENT MAGNET GENERATORS
Patrick Chi-Kwong Luk, Tareq S El-Hasan, University of Hertfordshire, Hatfield, Herts, UK

10:15 AM

FE 05
LINEAR INDUCTION MOTOR APPLICATION TO THIN STEEL PLATE
Keisuke Fujisaki, Plant Engineering Technology, Nippon Steel Corp., Chiba, Japan

10:30 AM

FE 06
EFFECT OF OPTIMAL TORQUE CONTROL ON ROTOR LOSS OF FAULT TOLERANT PERMANENT MAGNET BRUSHLESS MACHINES
J. D. Ede, K. Atallah, J. B. Wang, D. Howe, Department of Electronic and Electrical Engineering, The University of Sheffield, Sheffield, UK

10:45 AM

FE 07
EXPERIMENTAL AND NUMERICAL INVESTIGATIONS ON ROTATIONAL FLUXES IN STATOR CORES OF THREE-PHASE MOTORS
Oriano Bottauscio¹, Mario Chiampi², Mauro Zucca¹, ¹IEN Galileo Ferraris, Torino, Italy, ²Dept. Ingegneria Elettrica, Politecnico di Torino, Italy

11:00 AM

FE 08
ANALYTICAL MODELLING OF THE COGGING TORQUE OF AN AXIAL FLUX PERMANENT MAGNET SYNCHRONOUS MACHINE
Georges Barakat, GREAH, Univ. Le Havre, France

11:15 AM

FE 09
IMPROVEMENT OF BLDC MOTOR PERFORMANCE THROUGH MAGNETIZATION PATTERN CHANGE IN PERMANENT MAGNETS
Taeyong Yoon, Dennis K. Lieu, PREM Hanyang Univ., Seoul, Korea

11:30 AM

FE 10
DEVELOPMENT OF AN AXIAL-GAP SPINDLE MOTOR FOR COMPUTER HARD DISK DRIVES USING PCB AND DUAL AIR GAP
Gunhee Jang, Junghwan Chang, PREM, Hanyang Univ., Seoul, Korea

11:45 AM

FE 11
COMPARISON WITH THE LOSSES OF A MOVING-MAGNET-TYPE LINEAR OSCILLATORY ACTUATOR UNDER TWO DRIVING METHODS
Makoto Utuño¹, Masaki Takai¹, Tsutomu Mizuno¹, Hajime Yamada², ¹Faculty of Engineering Shinshu University, ²Doctors International Collaboration Institute, Nagano, Japan
FP Longitudinal, AFC and Patterned Media

Helen Laidler
University of York

Thursday
8:15 AM

FP 01
EXTENDIBILITY OF SYNTHETIC FERRIMAGNETIC MEDIA FOR RECORDING DENSITIES BEYOND 100 GB/IN²
B. Ramamurthy Acharya, E. Noel Abbar, Akihiro Inomata, Iwao Okamoto, Fujitsu Laboratories, Atsugi, Japan

FP 02
ORIGIN OF THERMAL STABILITY IN LAMINATED ANTIFERROMAGNETICALLY COUPLED MEDIA
S. N. Piramanayagam, Ching Hian Hee, S.I. Pang, J.P. Wang, Data Storage Institute, Singapore

FP 03
AFC MEDIA MAGNETOMETRY
Ning Li, Steve Kimble, Brian Zak, Seagate Technology, Shapokee, MN

FP 04
MINOR-LOOPS STUDIES OF MAGNETIC PROPERTIES FOR SAF MEDIA BY AGFM
Zhengsheng Shan, Sudhir Malhotra, Donald Stafford, Gerardo Bertero, David Eugene Wachenschwanz, Komag, Inc., San Jose, CA

FP 05
ANISOTROPY FIELD DISTRIBUTION MEASUREMENTS FOR THIN FILM MEDIA
Cristian Papusoi, Takao Suzuki, ISML, Toyota Technological Institute, Nagoya, Japan

FP 06
MEASUREMENT OF OUT-OF-PLANE DEMAGNETIZATION IN THIN FILM MEDIA
Philip Raymond Bissell¹, Richard D Cookson¹, Marian Vopsaroiu¹, Alexandru Stancu¹, Leonard Spino¹, ¹University of Central Lancashire, Preston, UK, ²Alexandru Ioan Cuza University, Iasi, Romania, ³AMRI, University of New Orleans, LA

FP 07
EFFECT OF IN-PLANE AND OUT-OF-PLANE CRYSTALLOGRAPHIC ORIENTATION ON THERMAL STABILITY AND RECORDING CHARACTERISTICS OF CoCrPtB ALLOY
Geon Choe, Min Zheng, Kenneth E Johnson, MMC Technology, San Jose, CA

FP 08
DEPENDENCE OF THIN FILM MEDIA MICROSTRUCTURE AND RECORDING PROPERTIES ON COMPOSITION OF Cr-BASED VERY THIN SEEDLAYER
Satoru Yoshimura¹, D. D. Djayaprawira¹, Masaki Mikami¹, Migaku Takahashi¹, Kazuya Komiyama¹, ¹Electronic Engng., Tohoku Univ., Sendai, Japan, ²Fuji Electric Storage Device Co., Ltd., Japan

FP 09
HIGH COERCIVITY AND SMALL GRAINS OF Fe₈₀Pt₃₀Cu₇ TERNARY THIN FILMS
Jong-Gab Na¹, Kyung-Hwan Na¹, Kyung-Min Park¹, Pyung-Woo Jang², Hi-Jung Kim¹, ¹Korea Institute of Science and Technology, Seoul, Korea, ²Chongju University, Korea

FP 10
NEW TECHNIQUE FOR PRODUCING PATTERNED MAGNETIC MEDIA
Boris A Gurovich, Dmitrii I Dolgii, Evgenii Z Melikhov, Evgenia A Kuleshova, Russian Research Center "Kurchatov Institute," Moscow, Russia

FP 11
SIGNAL AND NOISE CHARACTERISTICS OF PATTERNED MEDIA
Mustafa Makki Aziz¹, C. D. Wright¹, B. K. Middleton².
H Da¹, V Vorathirikul¹, J Valera-Perez¹, I Gonzalez-Accelus¹, ¹University of Exeter, UK ²University of Manchester, UK

FP 12
FINITE ELEMENT SIMULATION OF DISCRETE MEDIA WITH GRANULAR STRUCTURE
Rok Dittrich, Werner Scholz, Dieter Suess, Hermann Forster, Vassilios Tsiantos, Thomas Schrefl, Josef Fidler, Vienna University of Technology, Austria

FP 13
DIRECT MAGNETIC PATTERNING OF NON-MAGNETIC Co/C THIN FILMS BY ELECTRON-BEAM RADIATION
Tiejun Zhou¹, Zhao Yan¹, J.P. Wang¹, John T. L. Thong², T C Chong¹, ¹Data Storage Institute, Singapore, ²CICFAR, Faculty of Engineering, Singapore

FP 14
MAGNETISATION REVERSAL AND THERMAL ACTIVATION IN CoCrPt PATTERNED MEDIA
Tom Thomson, Simone Anders, Charles T Retter, Margaret E Best, Bruce D Terris, IBM Almaden Research Center, San Jose, CA
Thursday
8:15 AM
FQ 01 MAGNETIZATION REVERSAL OF PERPENDICULAR RECORDING MEDIA CHARACTERIZED USING A PULSE MAGNETOMETER
Takehito Shimatsu¹, Hiroyuki Uwazumi¹, Hiroaki Muraoka¹, Yoshihisa Nakamura¹, ¹RIEC, Tohoku Univ., Sendai, Japan, ²Fuji Electric Co., Ltd., Matsumoto, Nagano, Japan

FQ 02 MICROSTRUCTURE AND MAGNETIC PROPERTIES OF CoPtCr-SiO₂ PERPENDICULAR RECORDING MEDIA
Tadaaki Oikawa¹, Miyabi Nakamura¹, Hiroyuki Uwazumi¹, Takehito Shimatsu², Hiroaki Muraoka², Yoshihisa Nakamura², ¹Fuji Electric Co., Ltd., Matsumoto, Nagano, Japan, ²RIEC, Tohoku Univ., Sendai, Japan

FQ 03 SEEDLAYER AND PRE-HEATING EFFECTS ON CRYSTALLOGRAPHY AND RECORDING PERFORMANCE OF CoCrPtB PERPENDICULAR MEDIA
Min Zheng, Geon Choe, Kenneth E Johnson, MMC Technology, San Jose, CA

FQ 04 Co-Cr-Pt-Nb DOUBLE LAYERED PERPENDICULAR MAGNETIC RECORDING MEDIA WITH Pt/Ti INTERMEDIATE LAYER
Jun Ariake¹, Takanori Kiya¹, Naoki Honda¹, Kazuhiro Ouchi¹, Shun-ichi Iwasaki², ¹AIT, Akita, Japan, ²Tohoku Inst. of Tech., Sendai, Japan

FQ 05 THE EFFECTS OF Ni-Fe-O SEEDLAYER IN Co-Cr-Ta-Pt PERPENDICULAR MAGNETIC RECORDING MEDIA
S.H. Kong, T. Okamoto, S. Nakagawa, Tokyo Institute of Technology, Japan

FQ 06 EFFECTS OF VERY THIN CARBON LAYER ON FORMATION OF HCP PHASE FOR CoCrPtB PERPENDICULAR MEDIA WITH Co₆₀Cr₄₀ INTERMEDIATE LAYER
Shin Saito, Fumikazu Hoshi, Migaku Takahashi, Electronic Engng., Tohoku Univ., Sendai, Japan

FQ 07 MODELING NEIGHBORHOOD INDUCED TRANSITION SHIFT IN PERPENDICULAR MEDIA WITH A SOFT UNDERLAYER
Eric D Boerner, Thomas A. Roscamp, Seagate Technology, Pittsburgh, PA

FQ 08 MAGNETIC MOMENT OF SOFT UNDERLAYERS FOR PERPENDICULAR MEDIA
Johannes van Ek, Martin Plumber, Seagate Technology, Bloomington, MN

FQ 09 INDUCED IMAGE FIELDS IN A PERPENDICULAR RECORDING MEDIUM FROM THREE-DIMENSIONAL WRITE HEAD FIELDS
Jay Reecer Hoinville, Euxine Technologies, Broomfield, CO

FQ 10 HIGH EXCHANGE BIAS FIELD AND LOW NOISE IrMn/CoZrNb LAYERS ACHIEVED BY RAPID THERMAL ANNEALING FOR PERPENDICULAR RECORDING MEDIA
Shunji Takenoiri, Kazuo Enomoto, Yasushi Sakai, Sadayuki Watanabe, Fuji Electric Co., Ltd., Matsumoto, Nagano, Japan

FQ 11 A STUDY OF DOMAIN NOISE FROM THE SOFT UNDERLAYER IN PERPENDICULAR MEDIA
David Eugene Wachenschwanz, Yan Wu, Komag, Inc., San Jose, CA

FQ 12 RECORDING LAYER INFLUENCE ON THE DYNAMICS OF A SOFT UNDERLAYER
Sakheat Khizroev¹, Dmitri Litvinov¹, Andreas Lyberatos¹, Mark H. Kryder¹, Jason Wolfson¹, James A. Bain², ¹Seagate Research, Pittsburgh, PA, ²DSC, Carnegie Mellon University, Pittsburgh, PA

FQ 13 [Fe-Co/Si]N MULTILAYERS WITH HIGH SATURATION MAGNETIZATION FOR BACKLAYER OF PERPENDICULAR MAGNETIC RECORDING MEDIA
S.H. Kong, T. Okamoto, S. Nakagawa, Tokyo Institute of Technology, Japan
Thursday 8:15 AM

FR 01  EFFECT OF BUFFER LAYER ON [00L] TEXTURE AND CMR OF SPUTTERED La-Ca-Mn-O THIN FILMS ON SILICON SUBSTRATE
Jau Shiung Pang1, Fang Wen Tsai2, Tsung Shune Chin3, 1NHIT, Taiwan, 2NTU, Taiwan

FR 02  STRUCTURE EFFECT ON THE POLARONS IN La0.7Ca0.3BaMnO3 MANGANITES
A. N. Ulyanov1, Dong-Seok Yang2, Seong-Cho Yu3, 1Chungbuk National University, Donetsk Phys.-Techn. Institute, 2School of Science Education, Chungbuk National University, Cheongju, Korea, 3Department of Physics, Chungbuk National University, Cheongju, Korea

FR 03  EFFECT OF OXYGEN PARTIAL PRESSURE IN THE La-Sr-Mn-O GRANULAR THIN FILMS
Geun Young Ahn, In-Bo Shim, Chul Sung Kim, Dept. of Physics Kookmin Univ., Seoul, Korea

FR 04  NANOPARTICLES OF La0.5Sr0.5MnO3 COMPOUNDS
Rodrigo Fernando Costa Marques1, Miguel Jafelice Santos1, 1Carlos Oliveira Paiva-Santos1, Renato de Figueiredo Jardim1, Jose Antonio Souza1, Ricardo Henrique Moreton Godoi1, Laudemir Carlos Varanda1, 1Instituto de Química - Araraquara - UNESP, Brasil 2IF - USP - São Paulo, Brasil, 3University of Antwerp – Dept. of Chemistry, Belgium

FR 05  COMPOSITIONAL, MAGNETIC AND MAGNETORESISTIVE PROPERTIES OF FILMS SPUTTERED FROM La0.5Sr0.5MnO3 TARGET
Koichi Aso, Takayoshi Shiota, Shinya Kitazaki, Yukihiro Ono, Hideyuki Hatanaka, Polytechnic University, Sagamihara, Kanagawa, Japan

FR 06  EFFECT OF IONIC ORDERING ON MAGNETIC PROPERTIES OF Ln1-xCaxMnO3. (Ln=La, Pr, Nd; A=Ca, Ba; X=0.3, 0.5) ANION-DEFICIT PEROVSKITE MANGANITES
Sergei Valentilovich Trukhanov1, Igor O Troyanchuk1, Henrik Szymczak2, Klaus Baerner1, 1Institute of Solids and Semiconductor Physics, NASB, Minsk, Belarus, 2Institute of Physics, PAS, Warsaw, Poland, 3IV Institute of Physics, GETtingen

FR 07  EFFECTS OF Ba DOPING ON PHYSICAL PROPERTIES OF La-Ca-Mn-O THIN FILMS
Hoa Hong Nguyen, Syo zo Imai, Joe Sakai, Hideo Iwasaki, JAIST, Japan

FR 08  OPTIMIZED PULSED LASER DEPOSITION OF MANGANITE THIN FILMS FROM A SHOCK WAVE (P-D) SCALING LAW
Anne-Marie Haghiiri-Gosnet, Institut d'Electronique Fondamentale–IEF, Université Paris Sud, France

FR 09  Co0.5MnX (X=Si,Ge,Sn) HEUSLER COMPOUNDS: AN AB-INITIO STUDY
Alessandra Continenza1, Silvia Picozzi1, Arthur J. Freeman1, 1INFM - Dip. Fis. Univ. L’Aquila – Italy, 2Dept. of Phys. and Astron. and MRC, Northwestern Univ., IL

FR 10  UNUSUAL BEHAVIOUR OF MAGNETIZATION, MAGNETOSTRICATION AND MAGNETORESISTANCE OF Eu0.5Sr0.5MnO3 MANGANITE
Anna Ivanova Abramovich, Alexey Vladimirovich Michurin, Moscow State University, Russia

FR 11  ENHANCEMENT OF ROOM TEMPERATURE MAGNETORESISTANCE IN LaSr(Mn,Cr)O
Jifan Hu, Hongwei Qin, Juan Chen, Weiwei Xiao, Yu Pei, Kang An, Dept. of Phys., Shandong University, Jinan, China

FR 12  EPR STUDY OF La0.6Sr0.4Ba(Ca)3.5MnO3 MANGANITES: ADIABATIC POLARON HOPPING MODEL
A. N. Ulyanov1, Phan Manh Huong2, Nguyen Chau3, Seong-Cho Yu3, 1Chungbuk National University, Donetsk Phys.-Techn. Institute, Vietnam, 2Chungbuk National University, National University of Hanoi, Vietnam 3Center for Mater. Sci., Nat’l University of Hanoi, Vietnam, 3Department of Physics, Chungbuk National University, Hanoi, Vietnam

FR 13  SPIN HOPPING IN ULTRATHIN La0.7Ca0.3MnO3 FILMS
Michael Ziese, Kyoo-hyun Han, Pablo Esquinazi, University of Leipzig, Germany

FR 14  FORMATION OF STRIPE DOMAINS IN THIN INSULATING La0.7Ca0.3MnO3 FILMS
Michael Ziese, University of Leipzig, Germany

FR 15  ENHANCED INTERGRAIN MAGNETORESISTANCE IN Sr2FeMoO6
M. Venkatesan, C. B. Fitzgerald, J.M. D. Coey, Physics Department, Trinity College, Dublin 2, Ireland

FR 16  EFFECT OF SPACER LAYER THICKNESS ON THE MAGNETIC AND ELECTRICAL PROPERTIES OF La0.5Sr1.5MnO3/SrTiO3 SUPERLATTICES
Mungila Sahana, Kathrin Dörre, Teresia Walter, Konstantin Nenkov, Dieter Eckert, Karl-Hartmut Müller, IFW Dresden, Germany

FR 17  OBSERVATION OF HIGH SPIN POLARIZATION OF HALF-METALLIC FERROMAGNETIC Fe3O4 AND Cr2O3 BY SPIN-RESOLVED PHOTOELECTRON SPECTROSCOPY AT ROOM TEMPERATURE

FR 18  FERROMAGNETIC-ANTIFERROMAGNETIC STATE IN MANGANITES
Ludmila Ivanovna Koroleva1, Ritta Szymczak2, Roman Vladimirovich Demin1, 1MSU Phys. Dep. Moscow Russia, 2Institute of Physics, Warsaw, Poland

FR 19  USE OF AC SUSCEPTOMETRY TO STUDY MAGNETORESISTIVE PROPERTIES OF CERAMIC SAMPLES
Paulo Noronha Lisboa-Filho, DF-UFSCar, Portugal

FR 20  NOISE IN THIN HALF-METALLIC OXIDE FILMS
Guenole Jan, Oscar Cespedes, Clara Fitzgerald, Mazhar Bari, J M D Coey, Trinity College Dublin 2, Ireland

FR 21  EVOLUTION OF MAGNETIC PROPERTIES AND CANTED SPIN BEHAVIOR OF THE La0.5Pr0.5MnO3 MANGANITE
Lance Horng1, S. L. Young2, 1National Chugua University of Education, Taiwan, 2Dep. Electrical Engineering, Hsuing Institute of Technology, Taiwan
Hysteresis Modeling

Ed Della Torre
Institute for Magnetics Research, George Washington University

Thursday 8:15 AM

FS 01  A NEW VECTORIAL HYSTERESIS MODEL FOR CUBE TEXTURED NiFe SHEET BASED ON A CHEMICAL REACTION ANALOGY
Nourdine Amir, Kedous-Lebouc Aef, Meunier Gérard, LEG INPG/UJF - CNRS UMR5529, France

FS 02  DYNAMICAL HYSTERESIS IN MAGNETOSTRICTIVE AMORPHOUS MICROWIRES
Serghei Sandacci Ivan, A. N. Grigorenko, L. V. Panina, D. J. Mapps, DECE, University of Plymouth, UK

FS 03  ANALYTICAL EXPRESSIONS OF PREISACH DISTRIBUTION FUNCTION
Carlo Ragusa, DIEI, Politecnico di Torino, Torino, Italy

FS 04  PREISACH PARAMETER IDENTIFICATION FOR SYSTEMS WITH NEGATIVE MEAN FIELD INTERACTIONS
Mihai Cerchez1, Mariana Diaconu1, Alexandru Stancu1.
Philip Raymond Bissell2, 2Alexandru Ioan Cuza University, Iasi, Romania., 2UCLanCshire, Preston, UK

FS 05  AN INTERPRETATION OF PREISACH-KRASNOSELSKII HYSTERESIS MODEL WITH THE USE OF ARTIFICIAL NEURAL NETWORKS
AliReza Sadeghian, MPCS, Ryerson University, Toronto, Canada

FS 06  THERMAL VARIANCE PREISACH-NEEL MODEL
Ion D Borcia1, Leonard Spins2, Alexandru Stancu1, 1Alexandru Ioan Cuza University, Iasi, Romania., 2AMRI, University of New Orleans, New Orleans

FS 07  MODELING OF STRESS EFFECTS ON MAGNETIC HYSTERESIS AND BARKHAUSEN EMISSION USING AN INTEGRATED HYSTERETIC-STOCHASTIC MODEL
Chester C.H. Lo, Seong Jae Lee, Lu Li, L.C. Kerdus, David C. Jiles, Ames Laboratory, Iowa State University, Ames, IA

FS 08  PREISACH’S FUNCTION IDENTIFICATION BY NEURAL NETWORK
Marco Trapanese, Dept. of Electrical Eng. v.l.e delle Scienze Palermo, Italy

FS 09  PREDICTION OF DYNAMIC HYSTERESIS LOSSES UNDER NONSINUSOIDAL EXCITING FIELD
Alessandro Salvini, Christian Cottelli, Università Roma, Rome, Italy

FS 10  MODELLING AND ANALYSIS OF A HYSTERESIS MOTOR USED IN SPACE APPLICATION
K. R. Rajagopal, Electrical Engineering Department, Indian Institute of Technology, New Delhi, India

FS 11  INVERSE APPROACH FOR PREISACH FUNCTION CALCULATION
Hisashi Endo, Seiji Hayano, Yoshifuru Saito, Hosei Univ., Koganei, Tokyo, Japan

FS 12  THE PREISACH-ARRHENIUS MODEL FOR AFTEREFFECT
E. Della Torre, L.H. Bennett, R. Fry, O. Alejos George Washington University, Washington, DC
Thursday
8:15 AM

**FT 01** CALIBRATION OF AN INDUSTRIAL PULSED FIELD MAGNETOMETER
Roland Grössinger¹, John Dudding², ¹E-131, Techn. Univ. Vienna, Austria, ²Hirst Magnetic Instr. Ltd., Cornwall, UK

**FT 02** MAGNET SHAPING FOR MINIMAL MAGNET VOLUME IN MACHINES
Maxime R. Dubois, Henk Polinder, Jan A. Ferreira, TU Delft, Electrical Power Processing, The Netherlands

**FT 03** NdFeB MAGNETS FOR ELECTRIC POWER STEERING (EPS) APPLICATIONS
Anthony Charles Morcos, David N. Brown, Peter Campbell, Magnenequench Tech. Ctr., Research Triangle Park, NC

**FT 04** IN-SITU MAGNETIZATION OF ISOTROPIC PERMANENT MAGNETS
Yuriy N Zhilichev, Magnenequench TechCenter, Research Triangle Park, NC

**FT 05** DESIGN OF PERMANENT MAGNET FLUX SOURCE FOR A ROTARY MAGNETIC REFRIGERATING SYSTEM
Seong-Jae Lee, John Kenkel, David C. Jiles, Ames Laboratory, USDAE, Iowa State University, IA

**FT 06** THE CHARACTERISTICS ANALYSIS OF EDDY CURRENT BRAKE SYSTEM USING THE LINEAR HALBACH ARRAY
Sang-Do Chu, Seok Myeong Jang, Sung-Ho Lee, Sang Sub Jeong, Dept. of Electrical Engineering, Chungnam National University, Daejeon, Korea

**FT 07** COMPARISON OF HALBACH MAGNETISED BRUSHLESS MACHINES HAVING DISCRETE MAGNET SEGMENTS OR SINGLE RING MAGNET

**FT 08** DEVELOPMENT OF BRUSHLESS AND SENSORLESS VIBRATION MOTOR
Shi-Uk Chung, Sang-Moon Hwang, School of Mechanical Engineering, Pusan National University, Korea

**FT 09** COMPUTER AIDED DESIGN OF AN AXIAL-FIELD PM BRUSHLESS DC MOTOR FOR AN ELECTRIC VEHICLE
Parag R. Upadhyay, K. R. Rajagopal, B. P. Singh, EE Dept., I.I.T. Delhi, New Delhi, India

**FT 10** NON-LINEAR ANALYSIS OF 2 PHASE HYBRID STEPPING MOTOR USING 3D EQUIVALENT MAGNETIC CIRCUIT NETWORK
Chang-Sung Jin¹, Youn-Hyun Kim¹, Ju Lee¹, Tae-Bin Im¹, Yun-Hyun Cho¹,¹Dept. of Elec. Eng. Hanyang University, Seoul, Korea, ²Bucheon Techno-Park, Yakdae, Wonmi, Bucheon, Korea, ³Dept.of Elec. Eng. Donga University, Busan, Korea

**FT 11** DESIGN, ANALYSIS, AND MANUFACTURE OF LARGE LINEAR MOTOR DAMPER FOR STRUCTURAL VIBRATION CONTROL SYSTEM
Seok Myeong Jang, Sang Sub Jeong, Sung-Ho Lee, In-Ki Yoon, Dept. of Electrical Engineering, Chungnam National University, Taejeon, Korea

**FT 12** NOVEL AXIAL FLUX MACHINE FOR AIRCRAFT PROPELLER DRIVE: DESIGN AND MODELLING
John Fred Eastham¹, Francesco Profumo², Alberto Tenconi², Roger Hill-Cottingham¹, Phil Coles¹, Giuseppe Gianolio², ¹Enigma Tech Ltd, ²Politecnico di Torino - Dipartimento di Ingegneria Elettrica, Italy

**FT 13** ELECTRIC POWER GENERATING SYSTEM USING MAGNETIC COUPLING, FOR MEDICAL ELECTRONIC DEVICES IMPLANTED DEEPLY
Shin-nosuke Suzuki, Tamotsu Katane, Hideo Saotome, Osaka Saito, Faculty of Eng, Chiba Univ., Japan

**FT 14** A NOVEL ACTUATOR WITH Nd-Fe-B MAGNETS SWIMMING TOWARD THE MAGNETIC FIELD
Hideo Saotome, Faculty of Eng., Chiba Univ., Japan
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<td>Koichi Kobayashi¹, Yoshinori Uchikawa², Kenji Nakai³, Masato Yoshizawa⁴, ¹Tokyo Denki Univ.,</td>
<td>¹Applied Superconductivity Res. Lab., ²Tokyo Denki Univ., ³College of Science and Engineering, ⁴Iwate Medical University, Laboratory Medicine, ⁵Iwate University, Faculty of Engineering, Japan</td>
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<td>Shiann-Fong Huang, Keiji Iramin, Masato Yumoto, Shoogo Ueno, Graduate School of Medicine, University of Tokyo, Japan</td>
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<td>DISCRIMINATION OF MULTIPLE SOURCES OF ALPHA BRAIN ACTIVITY WITH 3-D</td>
<td>Bong-Soi Kim, Yoshinori Uchikawa, Tokyo Denki Univ., College of Science and Engineering, Saitama, Japan</td>
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<td>MEG MEASUREMENT</td>
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<td>FU 03</td>
<td>EFFECTS OF THE TRANSCRANIAL MAGNETIC STIMULATION ON EEG ACTIVITIES</td>
<td>Keiji Iramina, Yasuyuki Kowatari, Shoogo Ueno, Graduate School of Medicine, University of Tokyo, Japan</td>
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<td>FU 04</td>
<td>AUTOMATIC POWER CONTROLLER FOR IMPLANTED ARTIFICIAL SPHINCTER</td>
<td>Masahiro Inoue¹, Fumihiro Sato¹, Hidetoshi Matsuki¹, Tadakuni Sato², Luo Yun², Toshiyuki Takagi²,</td>
<td>¹Graduate School of Tohoku University, Sendai, Japan, ²Tokin Corporation, Sendai, Japan, ³IFO of Tohoku University, Sendai, Japan, ⁴IDAC of Tohoku University, Sendai, Japan</td>
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<td>UTILIZING TEMPERATURE SENSITIVE FERRITE CORE</td>
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<td>FU 05</td>
<td>NEUROMAGNETIC SIGNALS ASSOCIATED WITH NUMBER COMPARISON TASK</td>
<td>Osamu Hiwaki, Satoshi Takae, Akira Hashizume, Kaoru Kurisu, Hiroshima City University, Japan</td>
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<td>FU 06</td>
<td>THE EFFECT OF IRRADIATION ON THE PROPERTIES OF SOME FERROFLUIDS USED</td>
<td>Vasilie Badescu, Virgilii Craciun, Ghiorghie Calugaru, NIRDTP, Mag, Romania</td>
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<td>IN HYPERTHERMIA</td>
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<td>FU 07</td>
<td>GRADUAL DECREASE OF ELECTRIC RESISTIVITY IN WATER TRIGGERED WITH</td>
<td>K. Mohri¹, M. Fukushima², M. Matsumoto³, ¹Nagoya University, Japan, ²Kyoto University, Japan, ³Jyoui RBP Labs., Nara, Japan</td>
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<td>MILLI GAUSS LOW FREQUENCY PULSED MAGNETIC FIELD</td>
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<td>FU 08</td>
<td>3D SIMULATION OF SAR INDUCED BY MOBILE PHONES IN THE HUMAN HEAD</td>
<td>Jaime Arturo Ramirez¹, Ana Oliveira Rodrigues⁰, Ernest Michael Freeman⁰, Tim Green⁰, ¹UFMG - Belo Horizonte, MG, Brazil, ²Imperial College, London</td>
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<td>FU 09</td>
<td>DIRECTION AND INDIVIDUAL CONTROL OF MAGNETIC MICRO-MACHINE</td>
<td>Masahiko Sendoh, Kazushi Ishiyama, Ken-Ichi Arai, RIEC, Tohoku Univ., Sendai, Japan</td>
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<td>FU 10</td>
<td>FABRICATION OF MAGNETIC MICRO-MACHINE FOR LOCAL HYPERTHERMIA</td>
<td>Masahiko Sendoh¹, Kazushi Ishiyama¹, Ken-Ichi Arai¹, Masayuki Jojo², Fumihiro Sato¹, Hidetoshi Matsuki², ¹RIEC, Tohoku Univ., Sendai, Japan, ²School of Engineering, Tohoku Univ., Sendai, Japan, ³Graduate School of Tohoku University, Sendai, Japan</td>
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<td>FU 11</td>
<td>OPERATION OF THE MAGNETIC MICRO-MACHINE WITH THE HYPERTHERMIA</td>
<td>Fumihiro Sato, Graduate School of Engng., Tohoku Univ., Sendai, Japan</td>
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<td>MECHANISM AND ITS EXOTHERMIC CHARACTERISTIC</td>
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8:15 AM

FV 01

ELECTROMAGNETIC MEASUREMENT OF THE RAIL
DISPLACEMENT BY THE TWO TRIANGLE COILS
Shigemi Enoki¹, Takafumi Asahi¹, Seiichi Watanabe³, Tutomu Mizuno³, Kenio Takeshita⁴, ¹Shinkawa Sensor Technology Inc., ²Nagano National College of Technology, ³Shinshu University, ⁴Hitachi Electronics Engineering Co., Japan

FV 02

MEASUREMENT OF SINGULAR JOINT GAP OF THE RAILS BY MEANS OF RAIL JOINT GAP SENSOR WITH DETECTING COIL WHICH IS CROSSED TO THE EXCITING COIL
Tutomu Mizuno¹, Dai Mochizuki¹, Shinya Kawasaki¹, Seiichi Watanabe³, Shigemi Enoki¹, Hajime Yamada⁴, ¹Faculty of Engineering Shinshu University, ²Nagano National College of Technology, ³Shinkawa Sensor Technology Inc., ⁴Doctors International Collaboration Institute, Nagano, Japan

FV 03

HIGH ACCURACY ELECTROMAGNETIC SENSOR
Keisuke Fujisaki, Plant Engineering Technology, Nippon Steel, Futtsu-city, Chiba, Japan

FV 04

ANALYSIS OF CHARACTERISTICS OF A MAGNETOSTRICTIVE TORQUE SENSOR WITH HELICAL KNURLS
Renshiro Ishino, Yoshikazu Takekoto, Kubota Corporation, Amagasaki City, Hyogo, Japan

FV 05

ESTIMATION OF THE RESIDUAL STRAIN IN MAGNETIC METALS BY USING THE ULTRASONIC METHOD
H. Hatafuku, Chizuru Sarudate, Atsushi Konno, Iwate Univ. Morioka, Japan

FV 06

BIAXIAL MAGNETOMETRIC SENSOR
Carlos Morón Fernández, Alfonso García, E.U. Informática (U.P.M.), Madrid, Spain

FV 07

IMPROVEMENT OF THE SENSING SIGNAL IN GEOMETRY PIG CALIPER SYSTEM
Sang Ho Park¹, S. H. Cho², H. R. Yoo², D. J. Park³, Y. W. Ryo⁴, Gwan Soo Park⁵, ¹Dept. Electrical Engineering, Korea Maritime Univ, Korea, ²KOGAS R&D Ctr, Ansan, Korea

FV 08

A NEW TRACKING SYSTEM OF JAW MOVEMENT USING TWO MAGNETS
Shin Yabukami¹, Hiroyasu Kanetaka¹, Naoya Tsuji², Atsushi Itagaki¹, Masahiro Yamaguchi¹, Ken-Ichi Arai¹, ¹RIEC, Tohoku Univ., Sendai, Japan, ²Graduate School of Dentistry, Tohoku University, ³Ryowa Electronics Co., Japan

FV 09

EXAMINATION OF HOW TO DETECT TWO CRACKS BY ALTERNATING FLUX LEAKAGE TESTING
Yuji Gotoh¹, Norio Takahashi², ¹Dept. Elec. Eng, Chugoku Polytechnic College Japan, ²Dpt. E.E., Okayama Univ. Okayama Japan

FV 10

MHD SOLIDIFICATION CALCULATION IN DARCY FLOW
Keisuke Fujisaki, Plant Engineering Technology, Nippon Steel, Futtsu-city, Chiba, Japan

FV 11

CONSIDERATION FOR THE DESIGN OF THE LINEAR PARAMETRIC MOTOR WITH OPEN MAGNETIC CIRCUIT
Yasuaki Kimura, Shinki Kikuchi, Tohoku Gakuin University, Tagajo, Japan

FV 12

ELECTROMAGNETIC FIELD AND FORCE ANALYSES OF A NON-CONTACTING CONVEYANCE SYSTEM FOR STEEL MILL APPLICATION
Cheng-Tsung Liu¹, Sung-Yi Yao², ¹EE Dept. National Sun Yat-Sen Univ. Taiwan, ²Dept. EE. of NSYSU, Kaohsiung, Taiwan

FV 13

MAGNETIC NONDESTRUCTIVE DETECTION IN DETERIORATION IN DISTRIBUTION LINE
Takashi Nonaka¹, Hideyuki Yoshimi¹, Fumihiro Sato², Hidetoshi Matsuki², Tadakuni Sato³, ¹Graduate School of Tohoku University, Sendai,Japan, ²Tokin Corporation, Sendai, Japan
GA
SYMPOSIUM
The Future of Magnetic Recording Technology

Alan B Johnston
Seagate Technology, Ireland

Thursday 2:00 PM
Auditorium

2:00 PM
GA 01
AREAL DENSITY LIMITS FOR PERPENDICULAR MAGNETIC RECORDING [invited]
R H Victoria, K Senanan, J Xue, University of Minnesota, MN

2:30 PM
GA 02
STATUS AND PROSPECTS FOR PERPENDICULAR MAGNETIC RECORDING [invited]
M H Kryder, Seagate Research, Pittsburgh, PA

3:00 PM
GA 03
CAPABILITY OF HYBRID RECORDING TOWARD TERA BIT/IN² AND TERA BPS WRITE SPEED [invited]
N Ota¹, M Sekine¹, H Awano¹, J Hofield², T Rasing², ¹R&D Division, Hitachi Maxell Ltd, Japan, ²Research Institute for Materials, University of Nijmegen, The Netherlands

3:30 PM
GA 04
MAGNETIC TUNNELING MATERIALS AND DEVICES FOR MAGNETIC RECORDING [invited]
S S P Parkin, IBM Almaden Research Center, CA

4:00 PM
GA 05
HIGHLY SENSITIVE CPP HEADS USING SPIN-VALVE FILM WITH NANO-OXIDE LAYERS FOR OVER 100 GBIT/IN² RECORDING [invited]
Y Shimizu, Y Seyama, K Nagasaka, H Kishi, H Oshima, R Kondo, C Kamata, J Ikeda, H Ashida, T Sugawara, S Eguchi, A Tanaka, Advanced Magnetic Recording Lab, Fujitsu Laboratories Ltd., Japan

4:30 PM
GA 06
PATTERNED MEDIA RECORDING SYSTEMS - THE POTENTIAL AND THE PROBLEMS [invited]
G F Hughes, CMRR, UCSD, La Jolla, CA
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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
<th>Institutions</th>
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<tr>
<td>2:00 PM</td>
<td>GB 01</td>
<td>MODULATED MAGNETIC STRUCTURES IN CHEMICALLY HOMOGENEOUS FILMS</td>
<td>Wen-Siang Lew¹, S.P. Li¹, L. Lopez-Diaz¹, C.A.F. Vaz¹, J.A.C. Bland¹, M. Natali¹, Y. Chen¹</td>
<td>Cavendish Laboratory, University of Cambridge, UK, ¹L2M, Bagneux, France.</td>
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<td>2:15 PM</td>
<td>GB 02</td>
<td>SWITCHING BEHAVIOUR OF SINGLE NANOWIRES INSIDE DENSE NICKEL NANOWIRE ARRAYS</td>
<td>Kornelius Nielsch¹, Riccardo Hertel¹, Ralf B. Wehrsphohn¹, Jochen Barthel¹, Jürgen Kirschner¹, Ulrich Gösele¹, Saskia F. Fischer², Helmut Kronmüller⁴, Thomas Schweinböck⁵, Dieter Weiss⁶</td>
<td>Max Planck Inst. of Microstructure Physics, Halle, Germany, ³Max Planck Inst. of Metal Research, Stuttgart, Germany, ¹Inst. of Applied Physics, University of Regensburg, Germany</td>
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<td>2:30 PM</td>
<td>GB 03</td>
<td>STRUCTURAL TRANSITION OF ELECTRODEPOSITED Co NANOWIRES AS A FUNCTION OF THE ELECTROLYTIC BATH ACIDITY</td>
<td>Armando Encinas¹, Marc Demand¹, Luc Piraux¹, Jean Marie George², Jean Luc Maurice², ¹UCL-PCPM Louvain La Neuve Belgium, ²UMR CNRS/Thales Orsay France</td>
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<td>2:45 PM</td>
<td>GB 04</td>
<td>TRANSPORT AND MAGNETIC PROPERTIES OF COBALT NANO WIRES: FROM ARRAY TO SINGLE ELEMENT</td>
<td>Laurent Vila¹, Luc Piraux¹, Jean Marie George², Giancarlo Fanti¹, Adriana Popa³, Ursula Ebels³, Kamel Oumadjela¹, ¹UCL-PCPM Louvain La Neuve Belgium, ³UMR CNRS/Thales Orsay France, ³CNRS/LPN, Bagneux, France, ⁴IPCMS-Strasbourg France</td>
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<td>3:00 PM</td>
<td>GB 05</td>
<td>CONTROL OF COERCIVITY AND MEMORY EFFECT IN MAGNETIC NANOWIRES</td>
<td>Dan A Allwood, Gang Xiong, Del Atkinson, Michael D. Cooke, Russell P. Cowburn, Department of Physics, University of Durham, UK</td>
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<td>3:15 PM</td>
<td>GB 06</td>
<td>EFFECT OF EDGE STRUCTURE ON SWITCHING OF PATTERNED ELEMENTS</td>
<td>Stephen McVitie¹, J N Chapman¹, Margit Herrmann¹, ¹Department of Physics and Astronomy, University of Glasgow, UK ²Infineon Technologies, Regensburg, Germany</td>
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<td>3:30 PM</td>
<td>GB 07</td>
<td>INFLUENCE OF EDGE ROUGHNESS ON DOMAIN WALL PROPAGATION IN A MESOSCOPIC WIRE</td>
<td>Dafine Ravelosona, Fenglei Cayssol, Claude Chappert, CNRS, Université Paris Sud, France</td>
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<td>3:45 PM</td>
<td>GB 08</td>
<td>MAGNETIZATION PROCESS OF A SINGLE CHAIN OF NANOMAGNETS</td>
<td>A O Adeyeye¹, M E Welland², ¹ISML, ECE Department, National University of Singapore, ²Nanoscale Science Lab., Dept. of Engineering, Cambridge, UK</td>
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<td>4:00 PM</td>
<td>GB 09</td>
<td>MAGNETIZATION REVERSAL IN GRANULAR NANOWIRES</td>
<td>Hermann Forster, Thomas Schreff, Josef Fidler, Vienna University of Technology, Inst. of Applied Physics, Austria</td>
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<td>4:15 PM</td>
<td>GB 10</td>
<td>DOMAIN WALL DYNAMIC ON NANOMETER SCALE (A SINGLE PINNING CENTER COERCIVITY)</td>
<td>Konstantin S. Novoselov, High Field Magnet Laboratory, Nijmegen, The Netherlands</td>
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<td>4:30 PM</td>
<td>GB 11</td>
<td>SURFACE ANISOTROPY AND VORTEX STATES IN FERROMAGNETIC WIRES</td>
<td>Ulrich K. Rossler, Alexej N. Bogdanov, Karl-Hartmut Muller, IFW Dresden, Germany</td>
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<td>2:00 PM</td>
<td>TRANSITION TO SUPERPARAMAGNETISM IN A Cr-CONTAINING FINEMET ALLOY</td>
<td>V. Franco1, C.F. Conde1, A. Conde1, L.F. Kiss1, T. Kemény1, I. Vincze2. Condensed Matter Physics Department ICMSE-CSIC, Seville Univ., Spain 1Research Institute for Solid State Physics and Optics, Budapest, Hungary</td>
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<td>2:30 PM</td>
<td>RATE-DEPENDENT COERCIVITY AND ACTIVATION VOLUMES IN NANOCRYSTALLINE FeZrCu ALLOYS</td>
<td>Vittorio Basso1, Cinzia Beatrice1, Martino LoBue1, Paola Tiberto1, Giorgio Bertotti1, Roland Grossinger2, Djoko Triyono2, 1IEN Galileo Ferraris, Torino, Italy, 2TU Wien, Vienna, Austria</td>
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<td>2:45 PM</td>
<td>AN IMAGE SYNTHESIS METHOD FOR EDDY CURRENT TESTING BASED ON EXTRACTION OF DEFECT ORIENTATION</td>
<td>Tetsuki Taniguchi1, Kazunori Nakamura2, Sotoshi Yamada2, Masayoshi Iwahara2, 1The University of Electro-Communications, Tokyo, Japan, 2Kanazawa University, Japan</td>
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<td>3:00 PM</td>
<td>NANOCRYSTALLIZATION AND SOFT MAGNETIC PROPERTIES OF Fe_{35.4}Zr_{2.8-x}Nb_{2.6}Cu (x=0, 1) ALLOYS</td>
<td>Jacek Olszewski, Techn. Univ. of Czestochowa, Poland</td>
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<td>3:15 PM</td>
<td>MAGNETICALLY SOFT NANOMATERIALS FOR HIGH-TEMPERATURE APPLICATIONS</td>
<td>Tadeusz Kulik, Warsaw University of Technology, Woloska 141 Warsaw, Poland</td>
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<td>3:30 PM</td>
<td>MICROSTRUCTURAL AND MAGNETIC PROPERTIES OF NICKEL-RICH NANOCRYSTALLINE Ni_{88}Fe_{12}Zr_{10}B_{6}Cu ALLOYS</td>
<td>B. Idzikowski1, J.-M. Greneche2, Cs.S. Daróczi3, Z.E. Horváth3, 1Institute of Molecular Physics PAS, Poznan, Poland, 2LPEC, Université du Maine, Le Mans, France, 3Research Inst. Techn. Phys. Materials Sci, Budapest, Hungary</td>
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<td>3:45 PM</td>
<td>THERMAL DEPENDENCE OF COERCIVITY IN GRANULAR CoNiCu GLASS-COATED MICROWIRES</td>
<td>Jesus F. Gonzalez1, Antonio Mañeru Hernando2, Federico Cebollada2, Juan Jose del Val3, Arcady P. Zhukov3, Julian E. Gonzalez3, 1Dept. Materials Physics, Faculty of Chemistry, 2Instituto de Magnetismo Aplicado - RENFE-UCM, Madrid, Spain, 3Dpto Fis. Apl. a las Telecom., EUTT - UPV, 3Centro Mixto CSIC- UPV/EHU San Sebastián, Spain, 3Donostia International Physics Centre, San Sebastián, Spain</td>
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<td>4:00 PM</td>
<td>STRUCTURE AND MAGNETIC PROPERTIES OF AMORPHOUS Co_{0.6}Si_{0.4} ALLOY FILMS</td>
<td>Maria Velez, Secundino M. Valvidares, Javier Diaz, Rafael Morales, Jose M. Alameda, Dpto. Fisica, Univ. Oviedo, Spain</td>
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<td>4:15 PM</td>
<td>STATIC AND DYNAMIC MAGNETIC PROPERTIES OF NANOCRYSTALLINE FINEMET RIBBONS</td>
<td>Gabriel Suran, Lab Louis Néel Grenoble, France</td>
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<td>4:30 PM</td>
<td>ANISOTROPIC MAGNETORESISTANCE IN a Fe_{30-x}Mn_{20}Zr_{10} ALLOYS (0<em>x</em>12)</td>
<td>Alagarsamy Perumal, Department of Physics, Indian Institute of Technology, Kharagpur, India</td>
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<td>4:45 PM</td>
<td>THERMAL STABILITY OF MAGNETIC PROPERTIES OF AMORPHOUS AND NANOCRYSTALLINE Fe_{45.4-x}Co_{5.6}Zr_{x}B_{6}Cu (x=0 OR 42.7) ALLOYS</td>
<td>Jacek Olszewski, Techn. Univ. of Czestochowa, Poland</td>
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<td>GD 01</td>
<td>2:00</td>
<td>HIGHLY COERCIVE MELT-SPUN Sm(Co, Fe, Cu, Zr)(_2) MAGNETS PREPARED BY SIMPLE PROCESSING</td>
<td>A. Yan, K. H. Müller and O. Gutfeldisch, Institute of Solid State and Materials Research, Dresden, Germany</td>
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<td>GD 02</td>
<td>2:15</td>
<td>RELATIONSHIP OF ABNORMAL TEMPERATURE DEPENDENCE OF COERCIVITY TO COMPOSITION IN Sm(Co,Fe,Cu,Zr)(_2) MAGNETS</td>
<td>Wei Tang, Yong Zhang, George C. Hadjipanayis, Dept. of Physics &amp; Astronomy, Univ. of Delaware, Newark, DE</td>
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<td>GD 03</td>
<td>2:30</td>
<td>Sm(Co,Fe,Cu,Zr)(_2) MAGNETS FOR HIGH TEMPERATURE APPLICATIONS: MICROSTRUCTURAL AND MICROMAGNETIC ANALYSIS</td>
<td>Thorsten Matthias(^1), Werner Scholz(^1), Josef Fidler(^1), Thomas Schrefl(^1), T. S. Rong(^2), I. P. Jones(^2), Rex Harris(^2), (^1)Vienna University of Technology, Inst. of Applied Physics, Vienna, Austria, (^2)University of Birmingham, Institute of Metallurgy and Materials, UK</td>
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<td>GD 04</td>
<td>2:45</td>
<td>STRUCTURE AND MAGNETIC PROPERTIES OF Sm(C(<em>{0.4})Fe(</em>{0.6})Ti(<em>{0.1})Cu(</em>{0.1})(<em>2) AND Sm(CO(</em>{0.4})Fe(<em>{0.6})Ti(</em>{0.1})Cu(_{0.1})(_2) MAGNETS (x=0-0.4)</td>
<td>Meiqing Huang(^1), Raja Swaminathan(^2), Frank Johnson(^2), Michael e McHenry(^2), Zafer Turgut(^1), (^1)UES Inc. Dayton-Xenia RD, Dayton, OH, (^2)Dept. MSE, Carnegie Mellon University, Pittsburgh, PA</td>
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<td>GD 05</td>
<td>3:00</td>
<td>MAGNETIC PROPERTIES OF THICK SPUTTER DEPOSITED SmCo FILMS FOR MEMS-APPLICATIONS</td>
<td>Thomas Budde, Hans H. Gatzen, Institute for Microtechnology, Hanover University, Germany</td>
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<td>GD 06</td>
<td>3:15</td>
<td>HARD MAGNETIC NdFeB AND SmCo FILMS: INFLUENCE OF THE Cr BUFFER ON THE MAGNETIC TEXTURE</td>
<td>Ullrich Hannemann, IFW Dresden, Germany</td>
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<td>GD 07</td>
<td>3:30</td>
<td>PREPARATION AND PROPERTIES OF [NdFeB(<em>{x})Nb(</em>{3})](_3) MULTI-LAYER FILMS</td>
<td>J. L. Tsai, Academia Sinica, Taipei, Taiwan</td>
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<td>GD 08</td>
<td>3:45</td>
<td>MOSSBAUER INVESTIGATION OF Sr-Fe-O HEXAFERRITES WITH La-Co ADDITION</td>
<td>Jean-Marie Le Breton, GPM - UMR CNRS 6634 - Universite de Rouen – France</td>
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<td>GD 09</td>
<td>4:00</td>
<td>MAGNETIC PROPERTIES OF BULK AMORPHOUS</td>
<td>RE(<em>{0.5})Fe(</em>{1.5})Al(<em>{1})T(</em>{x}) (x = 0-5, RE = Nd-Pr, T = B, Cu, Zr) Israel Betancourt, Raul Valenzuela, IIM-UNAM, Cto Ext CU, Mexico DF, Mexico</td>
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<td>GD 10</td>
<td>4:15</td>
<td>OUTLOOK OF CHINA RARE EARTH MAGNET INDUSTRY IN 21(^{ST}) CENTURY</td>
<td>Yang Luo, Yuan Zhou, Beijing, China</td>
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Thursday
2:00 PM

**GE 01**
A BIOCHIP SENSOR BASED ON GIANT AND TUNNEL MAGNETORESISTANCE
Joerg Schotter, Paul-Bertram Kamp, Anke Becker, Alfred Puehler, Dirk Brinkmann, Willi Schepper, Hubert Brueckl, Günter Reiss, University of Bielefeld, Germany

2:00 PM

**GE 02**
NEW BIOCHIP DEVELOPMENT BASED ON THE DETECTION OF SINGLE SUPERPARAMAGNETIC MICROSPPHERES USING INTEGRATED SPIN VALVE SENSORS
Hugo Alexandre Ferreira, Daniel Leonard Graham, José Bernardo, Paulo P. Freitas, Joaquim M.S. Cabral, INESC, Lisbon, Portugal

2:00 PM

**GE 03**
A THIN FILM TECHNOLOGY EDDY CURRENT MICROSENSOR
Hans H. Gatzen, Heri Iswahjudi, Ekaterina Andreeva, Institute for Microtechnology, Hanover University, Germany

2:45 PM

**GE 04**
THICK FILM SHIELDED-LOOP COIL FOR HIGH FREQUENCY NEAR FIELD MEASUREMENTS
Bu Jin Ching, Masahiro Yamaguchi, Ken-Ichi Araì, Naoya Tamaki, Norio Masuda, Toshihide Kuriyama, RIEC, Tohoku Univ., Sendai, Japan

3:00 PM

**GE 05**
MEMS MICROBRIDGE DEFLECTION MONITORING USING INTEGRATED SPIN VALVE SENSORS AND MICROMAGNETS
Haohua Li, J Gaspar, V Chu, Paulo P Freitas, J Ponde, INESC Lisbon Portugal, IST, Lisbon, Portugal

3:00 PM

**GE 06**
SIMULTANEOUS DETECTION OF BLOOD VESSEL PULSATION WAVES AT TEMPLE AND FINGER TIP USING CoSiB AMORPHOUS WIRE CMOS IC SI SENSOR
T. Dezaki, K. Muramatsu, L. P. Shen, C M Cai, K. Mohri, M. Mori, Nagoya University, Graduate School of Electrical Eng, Nagoya University, Japan Science and Technology Corp., Tokyo, Japan

3:30 PM

**GE 07**
WITHDRAWN

3:45 PM

**GE 08**
TWO AXIS MAGNETIC CAMERA BASED ON AMR SENSORS
Baroini Ahamada, Francisco Alves, Richard Barrue, Gwenaëlle Julie, Benoit Bélié, Anne-Lise Coutrot, Emile Martinicé, Elisabeth Dufour-Gergam, LESIR-ENSC, IEF, Université Paris XI, France

4:00 PM

**GE 09**
CODED LABELS WITH AMORPHOUS MAGNETOElastIC RESONATORS
Michael Arndt, Lothar Kiesewetter, BTU-Cottbus, Dept. of Microsystems Eng., Cottbus, Germany

4:15 PM

**GE 10**
SYMMETRIC RESPONSE OBTAINED WITH AN ORTHOGONAL FLUXGATE OPERATING IN FUNDAMENTAL MODE
Sasada Ichiro, ASEM Dept, Kyushu University, Fukuoka, Japan

4:15 PM

**GE 11**
EXPERIMENTAL DETERMINATION OF OPTIMUM COIL PITCH FOR A PLANAR MESH TYPE MICRO-MAGNETIC SENSOR FOR THE EVALUATION OF NEAR-SURFACE MATERIAL PROPERTIES
Subhas Chandra Mukhopadhyay, S Nunome, Sotoshi Yamada, Masayoshi Iwahara, Kanazawa University, Japan

4:45 PM

**GE 12**
CHARACTERISTICS OF LOW FREQUENCY PARAMATRIC MAGNETIC SENSOR
Koichi Karasawa, Nagano National College of Technology, Nagano, Japan
Thursday
1:15 PM

**GP 01**
GENERAL TRANSFORM FILTERS IN PERPENDICULAR RECORDING ARCHITECTURES
Mehmet Fatih Erdem, Inci Ozgunes, Erozan Kurtas, Seagate Technology, Pittsburgh, PA

**GP 02**
HILBERT FILTER FOR DOUBLE-LAYER PERPENDICULAR RECORDING MEDIA
Hiroaki Muraoka¹, Martin Hassner², Yoshiaki Sonobe², Hideaki Nemoto¹, Satoshi Yamamoto², David Berman³, Augusto Rossi¹, Yoshihisa Nakamura¹, ¹RIEC, Tohoku Univ., Sendai, Japan, ²IBM Almaden, San Jose, CA, ³STMicroelectronics, San Jose, CA

**GP 03**
GENERALIZED PARTIAL RESPONSE TARGETS FOR PERPENDICULAR RECORDING
Fiya Kovintavewat¹, Inci Ozgunes², Erozan Kurtas², John Barry³, Steven McLaughlin¹, ¹Georgia Institute of Technology, Atlanta, GA, ²Seagate Technology Pittsburgh, PA

**GP 04**
ADVANCED DUAL DECISION FEEDBACK EQUALIZER FOR PERPENDICULAR MAGNETIC RECORDING CHANNEL
Choongchae Woo¹, Hangyu Cho², Daesik Hong³, ¹Information and Telecommunication Lab., ²Dept. Electrical & Electronic Engineering, Yonsei Univ., Seoul, Korea

**GP 05**
REGULAR LATTICE LDPC CODES IN PERPENDICULAR MAGNETIC RECORDING
Alexander V Kuznetsov¹, Erozan Kurtas¹, Bane Vasic², ¹Seagate Technology, Pittsburgh, PA, ²Arizona University, Tucson, AZ

**GP 06**
PERFORMANCE COMPARISON OF DETECTORS FOR PERPENDICULAR RECORDING SYSTEM
Seonghwan Kim, Jun Lee, Jaejin Lee, Dept. of Electronic Engineering, Dongguk University, Korea

**GP 07**
JITTER-LIKE NOISE CANCELLATION USING AR MODEL OF PR CHANNEL IN PERPENDICULAR MAGNETIC RECORDING
Yoshihiro Okamoto¹, Noriyuki Masunari¹, Hisashi Osawa¹, Hitotoshi Saito¹, Hiroaki Muraoka², Yoshihisa Nakamura², Hirofumi Yamamoto¹, ¹Dept. of E.&E., Faculty of Eng., Ehime Univ., ²RIEC, Tohoku University, Sendai, Japan

**GP 08**
ON THE CAPACITY OF DATA DEPENDENT NOISE CHANNELS
Shaohua Yang, Aleksandar Kavcic, Division of Engineering and Applied Science, Harvard Univ., CT
Thursday
1:15 PM

GQ 01 FIELD MODULATION MICRO COILS FOR MAGNETO-OPTICAL RECORDING
Eishu Sugawara1, Naoki Wako1, Masahiro Satoh1, Hideo Suzuki1, Kiwamu Shirakawa1, Tuyoshi Masumoto2, 1Tokin, Sendai, Japan, 2RIEMM, Taihaku-ku, Sendai, Japan

GQ 02 THERMAL STABILITY DEPENDENCE ON Tb CONTENT IN TbFeCo THIN FILM
Mitsunori Mochida, Takao Suzuki, Toyota Technological Institute, Nagoya, Japan

GQ 03 EXPERIMENTAL INVESTIGATION OF DOMAIN EXPANSION SPEEDS IN MAMMOS
Philipp Herget1, Hans W van Kesteren1, Coen A Verschuren2, 1Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, PA, 2Philips Research Labs, Eindhoven, The Netherlands
Thursday
1:15 PM

GR 01 EFFECTIVE SINGLE-DOMAIN DIAMETER OF A FINE NON ELLIPSOIDAL PARTICLE
Nickolai A. Ussov1, Lubak G. Kurkina1, John W. Tucker2, 1Troitsk Institute for Innovation and Fusion Research, Russia, 2Dept. of Physics, University of Sheffield, U.K.

GR 02 ANALYSIS OF SWITCHING IN UNIFORMLY MAGNETIZED BODIES
Michael J. Donahue, Donald G. Porter, NIST, Gaithersburg, MD

GR 03 USE OF 2D LOGARITHMIC MESHES FOR A SPIN-VALVE SENSOR
Ping He, Department of Computer Science, University of Manchester, UK

GR 04 CROSS-TIE WALLS IN 25-45 nm-THICK PERMALLOY FILMS
Makhlouf Redjda1, Attila Kakay2, Mike F Ruane3, Floyd B. Humphrey1, 1Boston University, ECE Dept., Boston, MA, 2Res. Inst. for Solid State Physics, Budapest, Hungary

GR 05 NUMERICAL SIMULATIONS OF REMAGNETIZATION PROCESSES IN EXTENDED THIN FILMS AND PERIODIC NANODOT ARRAYS
Dmitri Vladimirovich Berkov, Natalia Lvovna Gorn, INNOVENT e.V., Jena, Germany

GR 06 STEP-LIKE ENERGY BARRIER VARIATIONS OF HIGH K, MATERIAL
K. J. Lee2, T. D. Lee2, N. Y. Park3, 1Storage Lab., SAIT, Suwon, Korea, 2Dept. of Mater. Sci. and Eng., KAIST, Taejon, Korea

GR 07 MULTIDIMENSIONAL SELF-ORGANISATION STRUCTURES IN SUPERSONIC DYNAMICS OF DOMAIN WALL IN ORTHOFERRITES
Alexander Pavlovich Kuzmenko, Khabarovsk State University of Technology, Khabarovsk, Russia

GR 08 EFFECT OF THERMAL ACTIVATION ON THE ANGULAR DEPENDENCE OF MICROMAGNETIC SWITCHING IN NANOSQUARES
Luis Torres, Luis Lopez-Diaz, Eduardo Martinez, Univ. de Salamanca, Spain

GR 09 COMPUTER SIMULATION OF MAGNETIZATION SWITCHING OF MAGNETIC PARTICLES WITH VARIOUS SHAPES
Hiraku Endo1, Yasutaro Uesaka2, Yoshinobu Nakatani2, Nobuo Hayashi2, Hiroshi Fukushima1, 1College of Engineering, Nihon University, Japan, 2University of Electro-Communications, Chofu, Tokyo, Japan, 3-73, Honda, Midori, Chiba, Japan

GR 10 SELF-ORGANISED MAGNETISATION IN ARRAYS OF BISTABLE NANOWIRES
Julian Velazquez1, Manuel Vazquez2, 1CAI Diffraction Rayos X - Fac. CC. Quimicas - UCM, Madrid, 2ICMM, CSIC, Madrid, Spain

GR 11 SINGLE MOLECULE DETECTION WITH MAGNETIC BEADS-COMPUTER SIMULATION
Willi Schepper, Dirk Brinkmann, Joerg Schotter, Hubert Brueckl, Günter Reiss, University of Bielefeld, Germany
GS 1:15 PM

GS 01
STUDY OF THE CRYSTALLOGRAPHIC TEXTURE AND INTERFACE ROUGHNESS ON CoCrPt/Ti MAGNETIC THIN FILM USING X-RAY SCATTERING AND X-RAY REFLECTIVITY
Chengjun Sun1, Gan-Moog Chow1, J.P. Wang2, Eng Wei Soo3, J H Je3, 1Dept. of Materials Science, National University of Singapore, 2Data Storage Institute, Singapore, 3Pohang Univ. of Science and Technology, S. Korea

GS 02
TEM ANALYSIS OF LATTICE STRAIN IN EPITAXIAL Co/Pd MULTILAYERS
Akihiro Maesaka, Hiroiyuki Ohmori, Sony Corporation, Hodogaya-ku Yokohama, Japan

GS 03
MAGNETOCRYSTALLINE ANISOTROPY ENHANCEMENT VIA EPITAXIAL GROWTH OF Ni/Co/Cu THIN FILMS ON MgO (001) AND (111) SUBSTRATES
Vladimir Alexandru Stoica1, Rosa Alejandra Lukaszew2, Codrin Cionca1, Roy Clarke1, 1U. of Michigan, Ann Arbor, MI, 2Physics and Astronomy-University of Toledo, OH

GS 04
MAGNETIC PROPERTIES AND MICROSTRUCTURE OF Co/C MULTILAYER FILMS
Yan Zhao, J.P. Wang, T.C. Chong, T.J. Zhou, Data Storage Institute, Singapore

GS 05
CORRELATION OF MAGNETORESISTANCE WITH DEPOSITION PARAMETERS AND ANNEALING CONDITIONS IN CoFe/Cu MULTILAYERS
Yong Qing Mu1, Alfred Cerezo1, Alexander Georgalakis1, Amanda K Petford-Long1, David J Larson2, Steve P Bozeman2, Heather Brown2, Peter H Clifton3, 1Dept of Materials, U. of Oxford, UK, 2Seagate Technology, Minneapolis, MN, 3Seagate Technology Ireland, Londerderry, N. Ireland

GS 06
MODIFICATION OF INTERLAYER COUPLING BY INSERTING THIN Al LAYER IN Fe/Si MULTILAYERS
S. F. Lee1, Wei-Chuan Chen1, Chih-Huang Lai1, S.F. Lee1, Y.D. Yao2, 1Institute of Physics, Academia Sinica, NanKang, Taiwan, 2National Tsing Hua University, Hsinchu, Taiwan

GS 07
PROPERTIES OF CoFe NOLS PREPARED BY ATOMIC AND NATURAL OXIDATION
Peter H Clifton, Denis O'Donnell, Thomas K McLaughlin, Seagate Technology Ireland, Londerderry, UK

GS 08
LOW FIELD MAGNETIZATION IN CoFe-Al2O3 MULTILAYERS
Joao A. M. Santos1, Yuri G. Pogorelov1, Joao Bessa Sousa1, Paulo P Freitas2, Susana Cardoso1, Natalia A. Lesnik4, Philip E. Wigen4, 1IFIMUP, Department of Physics, University of Porto, Portugal, 2CFP, Department of Physics, University of Porto, 3INESC Lisbon Portugal, 4Institute of Magnetism, Kiev, Ukraine, 5Department of Physics, The Ohio State University, OH

GS 09
MAGNETIC AND TRANSPORT PROPERTIES OF SPUTTERED NiFe/SiO2/NiFe TRILAYERS
Jacek Gieraltowski, C. Tannous, LMB-UMR 6135 CNRS, Brest, France

GS 10
MAGNETIZATION PROCESS IN SmFe-NiFe EXCHANGE SPRING FILMS
Dmitry Chumakov,1, Rudolf Schaefer1, Ludwig Schultz1, Shi-shen Yan2, J. A. Barnard3, 1IFW-Dresden, Germany, 2Florida State Univ., Tallahassee, FL, 3University of Pittsburgh, PA

GS 11
MAGNETIC COUPLING IN Fe3s/Sm0.08Fe0.92TaN MULTILAYERS
Alejandro Butera1, James Weston2, J. A. Barnard3, 1Centro Atómico Bariloche - Bariloche - Argentina, 2University of Alabama, MINT Center, Tuscaloosa, AL, 3University of Pittsburgh, PA

GS 12
MAGNETIZATION REVERSAL PROCESSES AND INTERLAYER EXCHANGE COUPLING IN Gd,Co1-x, BILAYERS
Rafael Morales, Jose I. Martin, Luis M. Alvarez-Prado, Jose M Alameda, Universidad de Oviedo, Spain
NANOPARTICLE PREPARED BY LASER-INDUCED PYROLYSIS
O. Bomati, M.P. Morales, C.J. Serna and S. Veintemillas-Verdaguer, ICMM, CSIC, Madrid, Spain

PULSED LASER ABLATION DEPOSITION OF NANOPARTICULATE Fe FILMS: MORPHOLOGY AND MAGNETIC PROPERTIES
Antonio Hernando-Manera, Federico Cebollada, Antonio Hernando, Francisco Javier Palomares, Carmen Ocal, Jesus Maria Gonzalez, ICMM-CSIC, Madrid, IMA-RENEFE-Spain

FABRICATION OF METAL-OXIDE FERROMAGNETIC GRANULAR FILMS BY METAL-OXIDE Co-DEPOSITION
N. Fujita, Y. Mori, Y. Yagi, M. Izaki, M. Inoue, Osaka Prefectural College of Technology, Neyagawa, Japan, Osaka Municipal Technical Research Institute, Osaka, Japan, EEE, Toyohashi University of Technology, Japan

THE MAGNETIC PROPERTIES OF MAGNETIC NANOPARTICLES PRODUCED BY MICROWAVE FLASH SYNTHESIS OF FERROUS ALCOHOLIC SOLUTIONS
J N Niepe, D Stuerga, T Caillot, J P Clerk, Nikolai S Perov, Alexander Granovsky, M Inoue, G Pourroy, A Radkovskaya, CNRS-Université de Bourgogne, Dijon France, USTL, University of Provence, Marseille, France, Toyohashi University of Technology, Toyohashi, Japan, Moscow State University, EEE, Toyohashi University of Technology, Japan, IPCM Strasbourg, France

YTTRIUM IRON GARNET HETEROCOAGULATED BY SILICA
Ricardo Henrique Moreton Godoi, Rodrigo Fernando Costa Marques, Lautemir Carlos Varanda, Miguel Jafelici Jr., University of Antwerp - Department of Chemistry, Belgium, Instituto de Química de Araraquara – UNESP, Araraquara, São Paulo, Brazil

CRYSTALLOGRAPHIC AND MAGNETIC PROPERTIES IN CoAl8Fe18O30 THIN FILMS PREPARED BY A SOL-GEL METHOD
Sam Jin Kim, Kwang-Ho Jeong, Chul Sung Kim, Dept. of Physics, Kookmin University, Seoul, Korea, Dept. of Physics, Yonsei University, Seoul, Korea

STRUCTURE AND MAGNETIZATION BEHAVIOR OF NANOPARTICLES Co80Cs20
Kyeongsup Kim, Seongcho Yu, Dongseok Yang, Jangroh Rhee, Dept. of Physics, Chungbuk Univ. Cheongju, Korea, Div. of Sci. Education, Chungbuk Univ. Cheongju, Korea, Dept. of Physics, Sookmyung W. Univ. Seoul, Korea

INFLUENCE OF PARTICLE SIZE DISTRIBUTION IN CERMET NANOCOMPOSITES ON MAGNETORESISTANCE SENSITIVITY

SURFACE MAGNETISM OF PdFe FINE PARTICLES
Takao Shimohara, Masayuki Shigemune, Tetsuya Sato, Tomoya Taniyama, Keio Univ., Kohoku, Yokohama, Keio University, Hiyoshi, Yokohama, Japan, Tokyo Institute of Technology, Yokohama, Japan

APPROACH TO SATURATION IN NANOMAGNETIC SYSTEMS
Roberto Iglesias, Honorio Rubio, Departamento de Física, Universidad de Oviedo, Spain

GROUND STATE FOR LATTICES OF NONSPHERICAL FERROMAGNETIC GRANULES WITH DIPOLE-DIPOLE MAGNETIC INTERACTION
Evgenii Melikhov, Rimma Farzetdinova, Kurchatov Institute, Moscow, Russia

DENSITY OF ENERGY BARRIERS IN FINE MAGNETIC PARTICLE SYSTEMS
Dmitri Vladimirovich Berkov, INNOVENT e.V., Jena, Germany

MONTE CARLO STUDY OF THE MAGNETIC BEHAVIOR OF SELF-ASSEMBLED NANOPARTICLES
Dimitris Kecharaks, Kallipoli Trohidou, IMS, NCSR Demokritos, Athens, Greece

UNUSUALLY HIGH COERCIVITY AT ROOM TEMPERATURE IN CoFe2O4 NANOPARTICLES
C. N. Chinnasamy, Balachandran Jeyadevan, Oscar Juan Perales-Perez, Tohji Kazuyuki, Kogo Shinoda, Atsuo Kasuya, Tohoku University, Sendai, Japan
RELIABILITY AND EXPERIMENTAL EVALUATION OF A NEW NEURO-FUZZY TORQUE RIPPLE COMPENSATOR FOR SWITCHED RELUCTANCE MOTORS
Luis Oscar Henriquez, Paulo Costa Branco, Luis Guilherme Rolim, Walter I. Suemitsu, COPPE/Federal University of Rio de Janeiro, Brazil, Laboratório de Mecatrónica, Instituto Superior Técnico, Brazil

FEM CALCULATION OF ROTOR LOSSES IN A MEDIUM SPEED DIRECT TORQUE CONTROLLED PM SYNCHRONOUS MOTOR AT DIFFERENT LOAD CONDITIONS
Janne Nerg, Markku Niemelä, Juha Pyrhönen, Jarmo Partanen, LUT, Dept. El. Eng, Lappeenranta, Finland

FUNDAMENTAL INVESTIGATION OF AN X-Y LSM
Shigeri Inui, Masanori Naduka, Yoichi Ohira, Nihon University, Fukushima, Japan

DESIGN AND ANALYSIS OF A NEW MULTIPHASE POLYGONAL-WINDING PERMANENT-MAGNET BRUSHLESS DC MACHINE
Yong Wang, K.T. Chau, C.C. Chan, J.Z. Jiang, University of Hong Kong, Hong Kong

MATHEMATICAL MODELS OF SWITCHED RELUCTANCE MACHINE SYSTEM
Hao Chen, Yifeng Zhu, Dong Zhang, Dept. of Automation, China University of Mining & Technology, Xuzhou, China

DESIGN CRITERIA FOR DETENT FORCE REDUCTION OF PERMANENT MAGNET LINEAR SYNCHRONOUS MOTOR WITH HALBACH ARRAY
Seok Myeong Jang, Sung Ho Lee, In Ki Yoon, Jung Ho Lee, Dept. of Electrical Engineering Chungnam Nat’l University, Korea, Dept. of Energy System Engineering, Chungbuk Provincial Univ, Cheongju, Korea

COMPARISON OF TWO TYPES OF PM LINEAR SYNCHRONOUS SERVO AND MINIATURE MOTOR WITH AIR-CORED FILM COIL
Seok Myeong Jang, Sung Ho Lee, Dept. of Electrical Engineering, Chungnam Nat’l University, Korea

TAILORING FORCE-STROKE CHARACTERISTICS IN MEDIUM-STROKE LINEAR RELUCTANCE ACTUATORS
Richard Edward Clark, Geraint Jewell, Paul Stewart, David Howe, Department of Electronic and Electrical Engineering, University of Sheffield, UK

MATHEMATICAL MODELING AND FIELD-ORIENTED CONTROL OF A DISC-TYPE SURFACE-MOUNTED PERMANENT MAGNET MOTOR
Cheng-Tsung Liu, Kun-Chin Chuang, EE Dept. National Sun Yat-Sen Univ. Taiwan

AN IMPROVED SENSORLESS DRIVING METHOD OF SWITCHED RELUCTANCE MOTORS: SPEED CONTROL CASE
Hai-Jiao Guo, Wen-Bin Lee, Tadaaki Watanabe, Osamu Ichinokura, Tohoku University, Sendai, Japan

REDUCTION OF ARMATURE REACTION AND INDUCTANCE IN THE MOVING COIL LINEAR ACTUATOR FOR A HIGH PERFORMANCE DRIVE
Seok Myeong Jang, Seok Myeong Jang, Sang Sub Jeong, Dept. of Electrical Engineering Chungnam Nat’l University, Korea

SIMPLE END EFFECT COMPENSATOR FOR LINEAR INDUCTION MOTOR
Nobuo Fujii, Takeshi Kayasuga, Toshiyuki Hoshi, Kyushu University, Japan

X-Y LINEAR SYNCHRONOUS MOTOR WITHOUT FORCE RIPPLE AND CORE LOSS FOR PRECISION TWO-DIMENSIONAL DRIVE
Nobuo Fujii, Kinjiro Okinaga, Kyushu University, Japan

OPTIMIZATION OF 1MM PERMANENT MAGNET AXIAL-FIELD MICROMOTOR
Mingsheng Zhang, Bingchu Cai, Chunsheng Yang, Information Storage Research Center, Shanghai Jiao Tong Univ., China

DESIGN SOLUTIONS TO MINIMIZE IRON CORE LOSS IN SYNCHRONOUS RELUCTANCE MOTORS USING PREISACH MODEL & FEM
Jung Ho Lee, Dong Seok Hyun, Seok Myeong Jang, Dept. of Energy System Engineering, Chungbuk Provincial Univ, Dept. of Electrical Engineering, Chungnam Nat. Univ., Korea

THREE DIMENSIONAL ANALYTICAL COMPUTATION OF MAGNETIC FIELD IN SINGLE PHASE AXIAL FLUX PERMANENT MAGNET SYNCHRONOUS MACHINE
Georges Barakat, GREAH, Univ. Le Havre, France
SWITCHING DYNAMICS IN SUB-MICROMETER SPIN-VALVES
Shehzaad Kaka, Stephen E. Russek, NIST/CU Boulder, CO

FE-SIMULATION OF FAST SWITCHING BEHAVIOR OF GRANULAR NANOELEMENTS
Josef Fidler, Thomas Schrefl, Vassilios Tsiantos, Hermann Forster, Dieter Suess, Werner Scholz, Rok Dittrich, Vienna University of Technology, Inst. of Applied Physics, Austria

SWITCHING SIMULATIONS IN PERPENDICULAR MEDIA: SPIN WAVE INSTABILITIES
Pieter B Visscher, Dmitry M Apalkov, Xuebing Feng, MINT Center and Physics Dept., U of Alabama, Tuscaloosa, AL

NANOSECOND PULSED FIELD MAGNETIZATION REVERSAL IN THIN-FILM PERMALLOY STUDIED BY KERR EFFECT MAGNETOMETRY
Del Atkinson, Dan A Allwood, Michael D. Cooke, Russell P. Cowburn, Dept. of Physics, Univeristy of Durham, UK

MAGNETIC PERIODIC STRUCTURES-MAGNETO-PHOTONIC AND MAGNONIC CRYSTALS
Sergei A. Nikitov1, Philippe Tailhaedges2, 1Institute of Radioengineering & Electronics, RAS, 2CIRIMAT-UMR CNRS 5085, Toulouse, France

DYNAMICS OVER 4 GHz OF SPRING-MAGNET TYPE NiFe/CoFe BILAYERS WITH HIGH PERMEABILITY
Henri Le Gall1, Jamal Ben Youssef2, Nicolas Vukadinovic2, Jean Ostoroero1, 1LMB/CNRS/UBO Brest France, 2Dassault-Aviation, Saint Cloud France, 3LCMT-CNRS, Thiais, France

BLOCH POINT MEDIATED VORTEX SWITCHING
Andrė Thivaille, Lab. Physique Solides, CNRS-U. Paris-sud, Orsay, France

DYNAMICS OF ANTIFERROMAGNETIC VORTICES
Mikhail Vasil'evich Chetkin, Yu. N. Kurbatova, Moscow State University, Russia

ULTRAFAST OPTICAL DESTRUCTION OF ANTIFERROMAGNETIC ORDER IN FeBO3
Alexey Voldemarovich Kimel1, Roman V Pisarev1, Julius Hohlfeld1, Theo Rasing1, 1Ioffe Physical Technical Institute, 2University of Nijmegen, The Netherlands

FERROMAGNETIC RESONANCE AND RELAXATION IN LPE-GROWN BISMUTH SUBSTITUTE EUROPIUM IRON GARNET FILMS
Lakshmi Narayan Singh, B.A.Technological University, Lonere, India

FMR STUDIES OF DIFFUSION ON FERRO-MAGNETICALLY COUPLED Co/Zr SYSTEMS
Shiva Prasad1, Antony Ajan2, R. Krishnan3, 1IIT Bombay, India, 2Fujitsu Laboratories Ltd., Japan, 3LMOV-CNRS, France

FINITE SIZE EFFECTS IN ARRAYS OF PERMALLOY SQUARES
Salim Mourad Cherif, LPMTM (CNRS UPR 9001), Université Paris-Nord, France

DYNAMIC PROPERTIES OF SUBMICRON CIRCULAR PERMALLOY DOTS
Gianluca Gubbiotti1, Giovanni Carlotti1, Fabrizio Nizzoli1, Roberto Zivieri1, Takuya Okuno1, Teruya Shinjo1, 1INFN, Unità di Perugia, 1Dipartimento di Fisica, Perugia, Italy, 2Dipartimento di Fisica, INFN, Ferrara, Italy, 3Institute for Chemical Research, Kyoto University, Japan
GW Semiconductors for Spin Electronics

Bernd Beschoten
RWTH Aachen

Thursday 1:15 PM

GW 01 SPIN-POLARIZED ELECTRON INJECTION FROM FERROMAGNET INTO SEMICONDUCTOR
Hiroshi Ohno¹, Kanji Yoh², Yoshito Katano¹, Kazuhisa Sueoka¹, Koichi Mukasa¹, ¹Graduate School of Eng. Hokkaido University, Sapporo, Japan, ²RCIQE, Hokkaido University, Sapporo, Japan

GW 02 A CHANGE IN RESISTANCE OF CuFe WIRES INDUCED BY SPIN INJECTION
Tomoyasu Taniyama, Naoto Fujiwara, Yoshitaka Kitamoto, Yohtaro Yamazaki, Tokyo Institute of Technology, Yokohama, Japan

GW 03 THERMODYNAMIC PROPERTIES OF SAMARIUM HEXABORIDE
Claudio Andrade Macedo, Andre Mauricio Conceicao de Souza, Universidade Federal de Sergipe, Brazil

GW 04 MAGNETIC INTERACTION IN TWO-DIMENSIONAL AlMnAs/GaAs MAGNETIC SEMICONDUCTOR HETEROSTRUCTURES
Zhiyu Liu, IMEC, Leuven, B-3001 Belgium, Belgium

GW 05 LIGHT INDUCED EFFECTS IN SEMICONDUCTING FERROMAGNETICS
Vladimir Petrovich Sohatsky, Valery Fadeevich Kovalenko, T.Shevchenko Kiev University, Ukraine

GW 06 ROOM TEMPERATURE MAGNETISM IN SPUTTERED Co₉₀Zn₁₀O FILMS
Shao Guang Yang, A. B. Pakhomov, S. T. Hung, B. Ma, C. Y. Wong, Magnetic Innovation Center (MAGIC), Hong Kong University of Science and Technology, Kowloon, Hong Kong

GW 07 CHARACTERISTICS OF COBALT-DOPED ZINC OXIDE THIN FILMS PREPARED BY PULSED LASER DEPOSITION
Jae Hyun Kim¹, Jae Bong Lee¹, Hyojin Kim¹, Dojin Kim¹, Young Eon Ihm¹, Woong Kil Choo¹, ¹Dept. Mater. Sci. & Eng., KAIST, Korea, ²Dept. Mater. Eng.& ReCAMM, Chungnam Nat'l Univ., Korea

GW 08 THREE ROUTES TO INCREASE THE OUTPUT CURRENT OF THE SPIN-VALE TRANSISTOR
Olaf M.J. van ’t Erve, R. Jansen, F M Postma, J C Lodder, SMI, MESA Research Institute, University of Twente, Enschede, The Netherlands

GW 09 RESONANCES IN HYBRID MAGNETIC/SEMICONDUCTOR ELECTRON WAVEGUIDES
Mhairi A Crawford¹, Andrew R Long¹, Peter J Wright², John N Chapman¹, Mahfuzur Rahman¹, ¹Dept of Physics & Astronomy, University of Glasgow, Glasgow, ²Quinetiq, Malvern, UK