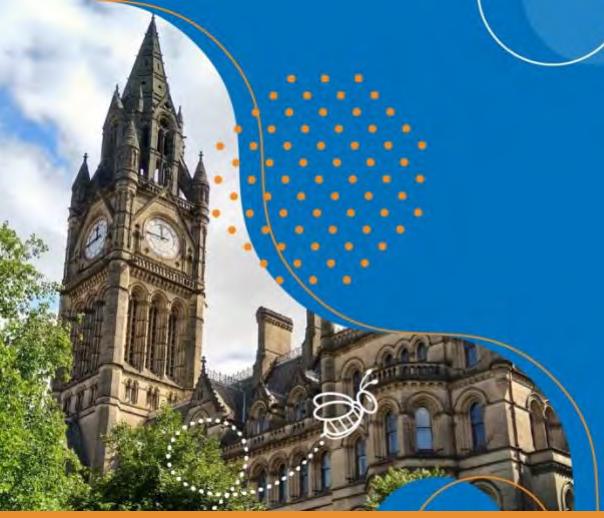


IEEE MAGNETICS SOCIETY

INTERMAG 2026

MANCHESTER | 13-17 APRIL 2026

IEEE International Magnetics Conference 2026

intermag2026.org

Manchester Central Convention Complex

Digest Book

Sponsored by the IEEE Magnetics Society, ieeemagnetics.org

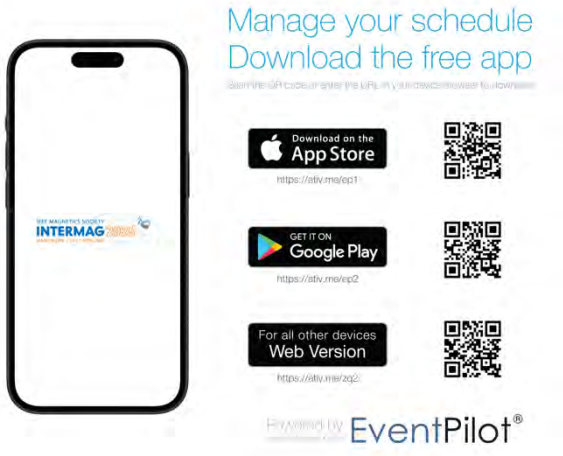
SCOPE OF THE CONFERENCE

It is our great pleasure to invite researchers in all aspects of magnetism to Manchester U.K. for the IEEE International Magnetics Conference (INTERMAG 2026). The conference will take place 13 – 17 April 2026 and will cover the latest research across the broad spectrum of fundamental and applied magnetism. The conference will feature invited symposia and contributed talks, a plenary presentation together with poster sessions allowing presenters to discuss their results in detail. The Intermag conference series has been a key component of the annual magnetism calendar since 1963, but this is only the third occasion that it has come to the U.K. – the last being in 1990.

The conference will include a number of special sessions designed to focus on particular areas within the broad magnetics community as well as the Symposium on Integrated Magnetics (SiM) which will take place directly before Intermag 2026 at Manchester Central. Intermag 2026 highlights include a full day workshop designed to connect the design/manufacturing and simulation of electric machines; an industry day with dedicated symposia and roundtables focused on advanced spintronic devices and a half day symposium to mark the 150th anniversary of the Magneto-Optic Kerr Effect.

CONFERENCE INFORMATION

LOCATION: Manchester Central Convention Complex



MOBILE APP:
The **MyItinerary by ScholarOne** mobile app and online desktop planner provide attendees with instant access to the entire Conference program including digests, speakers, and the schedule of events. You can also use it to build your customized schedule and to get in touch with other attendees. Download the free app before you arrive!

CONFERENCE MATERIALS:

- Online Planner: For Desktop / For Mobile
- Program Overview
- Symposia and Invited Speakers
- Program/Digest Book

SOCIAL MEDIA LINKS:

CONFERENCE SUPPORTERS & EXHIBITORS: View Confirmed Partners & Exhibitors

CONFERENCE ORGANIZATION

ORGANIZING COMMITTEE

Conference Chair
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University of Manchester, UK

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Eric Fullerton, UCSD, USA

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Ivan Vera Marun, University of Manchester, UK (Outreach)

IEEE Magnetics Society Representative
Atsufumi Hirohata, Tohoku University, Japan

PCO Conference Management – Simran Budesha, Conference Partners International (CPI), UK
IEEE Magnetics Society Event Support - Molly Bartkowski, Simply Vintage, USA
Abstracts/Publications Manager - Regina Mohr, Simply Vintage, USA

PROGRAM COMMITTEE

(Name in blue indicates Team Lead)

Assigned Categories	Name	Institution
1. Fundamental Properties and Cooperative Phenomena	**Krisztian Palotas**	**HUN-REN Wigner Research Center for Physics**
	Igor Zutic	**University at Buffalo**
	Amilcar Bedoya Pinto	University of Valencia
	Anna Delin	KTH Royal Institute of Technology
	Arti Kashyap	Indian Institute of Technology Mandi
	Elton Santos	University of Edinburgh
2. Magnetoelectronic Materials and Phenomena	**Yoshinori Onose**	**Tohoku University**
	Francesca Casoli	IMEM - CNR
	Jordi Sort	Universitat Autonoma de Barcelona
3. Soft Magnetic Materials	**Nicoleta Lupu**	**National Institute of R&D for Technical Physics**
	John Xiao	**University of Delaware**
	Paula Bercoff	Universidad Nacional de Córdoba
	Enzo Ferrara	INRIM - Divisione ML
	Damir Pajić	University of Zagreb Faculty of Science
	Adrian Quesada	Institute of Ceramics and Glass (CSIC)
4. Hard Magnetic Materials	**Ping Liu**	**University of Texas at Arlington**
	Debraj Choudhury	Indian Institute of Technology Kharagpur
	César de Julián Fernández	Istituto dei Materiali per l'Elettronica ed il Magnetismo Consiglio Nazionale delle Ricerche
5. Structured Materials	**Piotr Kuswik**	**Institute of Molecular Physics of the Polish Academy of Sciences**
	Kleber Pirota	**University of Campinas**
	Oscar Iglesias	University of Barcelona
	Surendra Singh	Bhabha Atomic Research Centre
	Gonzalo Vallejo Fernandez	University of York
	Huali Yang	Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences
6. Materials with Coupled Magnetic Functionality	**Yi Li**	**Argonne National Laboratory**
	Satoru Emori	Virginia Tech
	Ferran Macia	Universitat de Barcelona
7. Spintronics	**Kaiming Cai**	**Huazhong University of Science and Technology**
	Grégoire de Loubens	**CEA Paris-Saclay**
	Takahiro Moriyama	**Nagoya University**
	Elvira Paz	**INL - International Iberian Nanotechnology Laboratory**
	Subhankar Bedanta	NISER, Bhubaneswar
	Alexander Chekhov	Freie Universität Berlin
	Shun Kanai	Tohoku University
	Dominik Kriegner	Academy of Sciences of the Czech Republic
	Anjan Soumyanarayanan	National University of Singapore
	Giacomo Talmelli	Imec
	Angela Wittmann	Johannes Gutenberg Universität in Mainz
	Hiromi Yuasa	Kyushu University
8. Magnetization Dynamics and Micromagnetics	**Emanuelle Jal**	**CNRS, Sorbonne Université**
	Pedro Landeros	**Universidad Técnica Federico Santa María**
	Hans Nembach	**NIST**
	Dmytro Afanasiev	Institure for Molecules And Materials
	Bivas Rana	Adam Mickiewicz University
	Nicolas Reyren	CNRS
	Silvia Tacchi	Consiglio Nazionale delle Ricerche
	Riccardo Tomasello	Politecnico di Bari
	Jakob Walowski	Greifswald University
9. Magnetic Recording, Sensors and Energy Harvesting Applications	**SN Piramanayagam**	**Nanyang Technological University**
	Simon Greaves	Tohoku University
	Paul Stevenson	Northeastern University

Assigned Categories	Name	Institution
10. Microscopy, Imaging and Magnetic Characterization	**Agustina Asenjo**	**Consejo Superior de Investigaciones Cientificas**
	Valeria Lauter	ORNL
	Valerio Scagnoli	ETH/PSI
11. Biomedical Applications and Magneto-Fluidics	**Paola Tiberto**	**INRIM**
	Ravi Hadimani	Virginia Commonwealth University
	Bijoy Kuanr	Jawaharlal Nehru University
12. Non-Conventional Computing with Magnetic Devices, Materials and Systems	**Pedram Khalili Amiri**	**Northwestern University**
	Katrin Schultheiss	Helmholtz-Zentrum Dresden-Rossendorf
	Philippe Talatchian	SPINTEC
13. Electrical Machines, Electromagnetic Devices and Systems	**Po-Wei Huang**	**National Cheng Kung University**
	Kenji Nakamura	**Tohoku University**
	Wei Xu	**Chinese Academy of Sciences**
	Masahiro Yamaguchi	**Tohoku University**
	Ming Cheng	Southeast University
	Satoru Emori	Virginia Tech
	Youguang Guo	University of Technology Sydney
	Anh Huynh	University of Nottingham
	Gang Lei	University of Technology Sydney
	Xiaodong Sun	Jiangsu University
	Lei Yao	Zhejiang University
14. Simulation and Design Optimization of Electromagnetic Systems	**Zhuoxiang Ren**	**Sorbonne University**
	Hajime Igarashi	Hokkaido University
	Shiyou Yang	Zhejiang University
15. Emergent and Interdisciplinary Topics in Magnetism	**Carlo Stefano Ragusa**	**Politecnico di Torino**
	Thiago Mori	Brazilian Center for Research in Energy and Materials
	Arcady Zhukov	IKERBASQUE, Basque Foundation for Science

SESSION CHAIRS

Session		First Name	Last Name	Institution
AA	Advanced Soft Magnetic Materials and Devices Bridging Magnetics and Power Electronics	Satoshi	Okamoto	Tohoku University
		Luigi	Solimene	Politecnico di Torino
AB	Antiferromagnets: From Fundamentals to Devices	Hariom	Jani	University of Oxford
		Richard	Evans	University of York
AC	Spintronic Devices for Emerging Information and Communication Technologies	Alex	Jenkins	International Iberian Nanotechnology Laboratory
AD	Altermagnets	Kirill	Belashchenko	University of Nebraska-Lincoln
		Enrique	Del Barco	University of Central Florida
AE	NdFeB and Others RE Compounds for Hard Magnetic Materials	Petra	Jenuš Belec	Jozef Stefan Institute
AF	Exploring Complex Magnetic States with Advanced Magnetic Imaging	Aurelio	Hierro-Rodriguez	Universidad de Oviedo
AG	Magnetic Nanoparticles	Elin	Winkler	Centro Atómico Bariloche
		Lourdes	Marcano	Oviedo University
AH	Engineering Magnetism in Thin Films and Multilayers	Anuj	Dhiman	Institute of Molecular Physics, Polish Academy of Sciences
		José Miguel	Garcia-Martin	CSIC
AP	Advances in 2D and Molecular Magnets	Igor	Rozhansky	University of Manchester
AQ	Electromagnetic Design and Modeling of Linear Actuators and Suspension Systems	Po-Wei	Huang	National Cheng Kung University
		Alexander	Sutor	UMIT TIROL
AR	Permanent Magnet Machines and Magnetically Geared Machines I	Jiaxin	Yuan	Wuhan University
AS	Magnetization Dynamics and Micromagnetics I	Riccardo	Tomasello	Politecnico di Bari
AT	Magnetic Thin Films and Multilayers	Abhishek	Talapatra	GlobalFoundries
AU	Spin-Orbit and Orbital Torques I	Zhifeng	Zhu	ShanghaiTech University
BA	Next-Generation Spintronics based on Two-Dimensional Materials	Ivan Jesus	Vera Marun	University of Manchester
BB	From Heuslers to High-Entropy Alloys: Disorder, Topology, and Tunable Magnetotransport	Manuel	Vázquez	CSIC, Spain
BC	Voltage-Controlled Magnetic Anisotropy and Magneto-Ionics	Robbie	Hunt	Uppsala University
		Larissa	Ishibe Veiga	Diamond Light Source Ltd
BD	Antiferromagnetic Dynamics	Badih	Assaf	Univesity of Notre Dame
		Yuta	Yamane	Tohoku University
BE	NdFeB Based Hard Magnetic Materials	Alex	Aubert	TU Darmstadt
BF	3D Magnetism and Topologically Non-Trivial Spin Textures	Joo-Von	Kim	Université Paris-Saclay
BG	Magnetic Recording and Media	SN	Piramanayagam	Nanyang Technological University
		Chris	Rea	Seagate
BH	Bulk Soft Magnetic Materials and PM Motor Architectures for High-Power Systems	Jan	Fuzer	P. J. Šafárik University
BP	Permanent Magnet Machines and Magnetically Geared Machines II	Wenting	Wang	University of Nottingham
		Xiao	Liu	Hunan University
BQ	Radial-Flux Permanent Magnet Motors	Min-Fu	Hsieh	National Cheng Kung University
BR	Soft Magnetics Materials	Samuel	Dobák	P. J. Šafárik University
BS	Magnetotransport	Takeshi	Kato	Nagoya University
BT	Fundamental Properties	Alexander	Shick	Institute of Physics, the Czech Academy of Scuences
BU	Neuromorphic, Probabilistic, and Quantum Computing I	Andrea	Grimaldi	Politecnico di Bari
CA	Accelerating Innovation: The Industry-Academia Synergy in Magnetic-based Critical Technologies (PART A)	Paolo	Bortolotti	Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay
CB	Inertial Spin Dynamics and Nutation	Rostislav	Mikhaylovskiy	Lancaster University
CC	Unconventional Spin-Orbit Torques	Luis	Avilés Félix	Centro Atomico Bariloche
CD	Topological Quantum Matter	Arti	Kashyap	Indian Institute of Technology Mandi
CE	Rare-Earth Free Hard Magnetic Materials	Imants	Dirba	TU Darmstadt
CF	2D and 3D Individual Nanostructures and their Arrays	Troy	Dion	Tohoku University
		Joseph	Askey	Cardiff University
CG	Sensors (Non-Recording) I	Shin	Yabukami	Tohoku University

Session		First Name	Last Name	Institution
CH	Soft Magnetic Materials: Crystalline and Disordered Alloys	Enzo	Ferrara	INRIM - Divisione ML
CP	Special Machines I	Elena	Lomonova	Technische Universiteit Eindhoven
		Metin	Aydin	Kocaeli University
CQ	Permanent Magnet Machines and Magnetically Geared Machines III	Bram	Daniels	Eindhoven University of Technology
CR	Magnetic Nanostructures and Nanoparticles	Patricia	de la Presa	Complutense University of Madrid
CS	Spintronic Devices for More Efficient Technologies	Andrea	Migliorini	Max Planck Institute of Microstructure Physics
CT	Ferromagnetic Resonance and Spin Waves I	Jan	Masell	Karlsruhe Institute of Technology
CU	Neuromorphic, Probabilistic, and Quantum Computing II	Riccardo	Tomasello	Politecnico di Bari
DA	Accelerating Innovation: The Industry-Academia Synergy in Magnetic-based Critical Technologies (PART B)	Florin	Ciubotaru	imec
DB	Artificial Spin Ice: New Pathways in Strongly-Interacting Nanomagnetic Networks	Laura	Heyderman	ETH Zurich - Paul Scherrer Institute
DC	Spin-Orbit and Orbital Torques II	Axel	Hoffmann	University of Illinois Urbana-Champaign
DD	Alternative Computing Architectures with Spintronic Devices	Avinash Kumar	Chaurasiya	University of Gothenburg
DE	Advanced Modeling and Design of Linear Machines and Magnetic Suspension Systems	Hamed	Hamzehbahmani	Durham University
		Chenguang	Yan	Xi'an Jiaotong University
DF	Vortices and Domain Walls	Ricardo	Rama-Eiroa	The University of Edinburgh
DG	Electronic Structure and Spin Dynamics	Jens	Wiebe	University of Hamburg
DH	Ferromagnetic Resonance and Spin Waves II	Khrystyna	Levchenko	University of Vienna
DP	Advanced Analysis and Design of Permanent Magnet Motors	Anh	Huynh	University of Nottingham
DQ	Simulation and Design Optimization of Electromagnetic Systems I	Shuangxia	Niu	The Hong Kong Polytechnic University
DR	Soft Magnetic Amorphous and Nanocrystalline Materials	Arcady	Zhukov	IKERBASQUE, Basque Foundation for Science
		Rastislav	Varga	RVmagnetics a.s.
DS	Spintronic Devices	Mahmoud	Rasly	Neuranics
DT	Sensors (Non-Recording) II	Sonal	Shreya	Aarhus University
DU	Antiferromagnetic Spintronics I	Xiufeng	Han	Institute of Physics, Chinese Academy of Sciences
EA	Low-Dimensional Quantum Magnets on Surfaces	Amilcar	Bedoya Pinto	University of Valencia
		Jeison	Fischer	University of Cologne
EB	Frontier Research in Magnetism Using Neutrons and Muons	Sean	Langridge	Rutherford Appleton Laboratory
		Russell	Ewings	ISIS Pulsed Neutron and Muon Source
EC	Development of Spintronic Devices	Fanfan	Meng	Imec
ED	All Optical Switching and Ultrafast Magnetization	Mikhail	Cherkasskii	RWTH Aachen University
		Hideki	Hirori	Kyoto University
EE	Simulation and Design Optimization of Electromagnetic Systems II	Wei	Gao	Harbin Institute of Technology Shenzhen Graduate School
		Jiaxin	Yuan	Wuhan University
EF	Magnetic Nanostructures for Biomedical Applications	Montserrat	Rivas	Universidad de Oviedo
EG	Soft Magnetic Materials: From Oxides to Nanocrystalline Alloys	Natalia	Shkodich	University of Duisburg-Essen
EH	Ferromagnetic Resonance and Spin Waves III	Charles	Swindells	NIST
EP	Advanced Magnetics for Transformers, Power Electronics, and Suspension Components	Tsung-Wei	Chang	National Kaohsiung University of Science and Technology
		Po-Wei	Huang	National Cheng Kung University
EQ	Magnetization Dynamics and Micromagnetics II	Nicolas	Reyren	CNRS
ER	Magneto-Elastics and New Coupled Magnetic Phenomena I	Maciej	Krawczyk	Adam Mickiewicz University
ES	Recording Media and Sensors	Ting-Yi	Wu	Huawei Technologies Co., Ltd.

Session		First Name	Last Name	Institution
ET	Antiferromagnetic Spintronics II	Takayuki	Shiino	Institut de Ciència de Materials de Barcelona (ICMAB-CSIC)
		Dominik	Kriegner	Academy of Sciences of the Czech Republic
FA	Kerr Anniversary Symposium	Robert	Hicken	University of Exeter
FB	Electron Spins for Quantum Computing and Sensing	José Carlos	Abadillo-Uriel	Instituto de Ciencia de Materiales de Madrid (ICMM)
FC	Magnetic Order and Control in Two-Dimensional Magnets	Amilcar	Bedoya Pinto	University of Valencia
FD	Innovations in Magnetic Measurements: From Nano to Macroscale Techniques	Valeria	Lauter	ORNL
FE	Permanent Magnet Machines and Magnetically Geared Machines IV	Riham	Hilal	Egypt Japan University of Science and Technology
		Min-Fu	Hsieh	National Cheng Kung University
FF	Emerging Magnetic Materials and Functional Magnetism	Cristina	Favieres	Public University of Navarre
		Javier	Palomares	ICMM-CSIC
FG	Magneto-Caloric Materials	Oliver	Gutfleisch	TU Darmstadt
FH	Magnetic Layered Systems and Their Applications	Christian	Kinane	Rutherford Appleton Lab
GA	Magnetism and Nanomaterials: A Perfect Match for Life Science Applications	Maria	Salvador	Institute of Materials Science of Madrid (ICMM-CSIC)
GB	Today's Debates in Orbitronics	Nicolas	Reyren	CNRS
GC	Antiferromagnetic and Ferrimagnetic Spintronics	Vincent	Baltz	SPINTEC
		Alexander	Chekhov	Freie Universität Berlin
GD	Quantum, Magnonic, and Unconventional Computing	Jayasimha	Atulasimha	Virginia Commonwealth University
GE	Induction and Special Machines	Hamed	Hamzehbahmani	Durham University
GF	Magneto-Elastics and New Coupled Magnetic Phenomena II	Nicola	Morley	University of Sheffield
GG	Energy, Microwave and Sensing Applications I	Karthik	Srinivasan	Boise State University
GH	New Approaches in Simulations of Magnetic Materials	Sergiu	Ruta	Sheffield Hallam University
GP	Hard Magnetic Materials	César	de Julián Fernández	Istituto dei Materiali per l'Elettronica ed il Magnetismo Consiglio Nazionale delle Ricerche
GQ	High-Speed, Induction, and Reluctance Machines	Shuangxia	Niu	The Hong Kong Polytechnic University
		Fei	Zhao	Harbin Institute of Technology (Shenzhen)
GR	Data-Driven and Functional Magnetism: From Quantum Materials to Electromagnetic Systems	Andrea	Meo	Politecnico di Bari
GS	Advances in Magnetic Sensing	Diana	Leitao	Eindhoven University of Technology
GT	Magnetoelectric Materials and Phenomena	Hideki	Kuwahara	Sophia University
HA	Magnetization Dynamics from Spin-Phonon Coupling to Ultrafast	Mara	Strungaru	University of Manchester
HB	Magnetism for Biomedical Applications	Ravi	Hadimani	Virginia Commonwealth University
		Kai	Wu	Texas Tech University
HC	Field-Free Magnetization Switching	Yuqing	Zhou	Huazhong University of Science and Technology
		Van Dai	Nguyen	Interuniversitair Micro-Elektronica Centrum
HD	Ising, Probabilistic, and Unconventional Computing	Victor	González	University of Cambridge
HE	Manipulation of Magnetotransport in Hybrid Structures	Mohammad	Haidar	American University of Beirut
HF	Magnetoresistance in 2D Materials and Textures	Keisuke	Yamada	Gifu University
HG	Magnetoelectric Materials and Complex Oxides	Rocio	Ranchal	Universidad Complutense de Madrid
HH	Ferromagnetic Resonance and Spin Waves IV	Rostyslav	Serha	University of Vienna
HP	Simulation and Design Optimization of Electromagnetic Systems III	Fei	Zhao	Harbin Institute of Technology (Shenzhen)
HQ	Biomedical Application and Magnetofluids	Paola	Tiberto	INRIM
		Yuko	Ichiyanagi	Yokohama National University

Session		First Name	Last Name	Institution
HR	Magneto-Caloric and Nanocomposite Materials	Bethanie	Stadler	University of Minnesota
HS	Ferromagnetic Resonance and Spin Waves V	Susmita	Saha	Ashoka University
VP1	Emerging Technologies in Linear Actuators, Magnetic Bearings, and Wireless Charging	Po-Wei	Huang	National Cheng Kung University
VP2	Energy, Microwave and Sensor Applications II	Simon	Greaves	Tohoku University
VP3	High-Speed Machines	Jonathan	Bird	Portland State University
VP4	Permanent Magnet Machines and Magnetically Geared Machines V	Varun	Chaudhary	Chalmers University of Technology
VP5	Simulation and Design Optimization of Electromagnetic Systems IV	Zhuoxiang	Ren	Sorbonne University
VP6	Soft Magnetic Materials and Devices	Kornel	Richter	Technical University of Kosice
		Satoru	Kobayashi	Iwate University
VP7	Special Machines II	Noboru	Niguchi	Osaka University
		Junichi	Asama	Shizuoka University
VP8	Structure, Dynamics, and Functionality in Magnetic Materials	Nikita	Liedienov	Jilin University
		Kaiming	Cai	Huazhong University of Science and Technology
VP9	Surface and Interior Permanent Magnet Machines	Mohamed	Ibrahim	University of Ghent

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Robert Streubel, *University of Nebraska, Lincoln, USA*
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Guoqiang Yu, *Chinese Academy of Science, China*
Xiaoyu (Criss) Zhang, *Northeastern University, USA*
Zhenyi Zheng, *National University of Singapore, Singapore*

FUTURE CONFERENCES

71st Annual Conference on Magnetism and Magnetic Materials
November 2 - 6, 2026, Honolulu, HI, USA

2027 Intermag Conference
May 10 - 14, 2027, Jeju Island, South Korea

23rd International Conference on Magnetism (ICM)
June 14 – 18, 2027, San Juan, Puerto Rico

73rd Annual Conference on Magnetism and Magnetic Materials
October 30 – November 3, 2028, San Antonio, TX, USA

ISIM
Sunday, April 12, 2026
09:00 AM-06:00 PM
Exchange 9

ISIM
Monday, April 13, 2026
09:00 AM-01:00 PM
Exchange 9

ELECTRICAL MACHINES: ARE REAL WORLD CHALLENGES BEING ADDRESSED BY SIMULATION SYSTEMS?
Monday, April 13, 2026
09:00 AM-05:00 PM
Charter 1

IEEE MILESTONE AWARD EVENT "MANCHESTER CODE 1948 - 1949"
Chair(s): T. Thomson, *Dept. of Computer Science, University of Manchester, Manchester, United Kingdom*
Monday, April 13, 2026
02:00 PM-05:00 PM
Offsite - University of Manchester: Kilburn Building

TU: TUTORIAL
Chair(s): H. Yang, *National University of Singapore, Singapore, Singapore*
Monday, April 13, 2026
02:30 PM-05:00 PM
Exchange Auditorium

02:30 PM-02:35 PM
Welcome and Introductions

02:35 PM-03:10 PM
TU-01: AI in Magnetism: Impact, Challenges and Risks – Addressing Fundamental Problems in Magnetism Research Through Artificial Intelligence
Peter Fischer
Lawrence Berkeley National Laboratory, Berkeley CA, USA

03:10 PM-03:45 PM
TU-02: Accelerating Discovery and Synthesis of Novel Magnetic Materials: Why and How AI/ML Can Help?
Cai-Zhuang Wang
Ames National Laboratory, IA, USA

03:45 PM-04:20 PM
TU-03: Magnonics for AI and AI for Magnonics
Gyorgy Csaba
Faculty of Information Technology and Bionics, Pázmány Péter Catholic University, Budapest, Hungary

04:20 PM-04:55 PM
TU-04: Physics-Informed AI for Elucidating Magnetism: Extended Free Energy Framework
Masato Kotsugi
Faculty of Advanced Engineering, Tokyo University of Science

WELCOME RECEPTION
Monday, April 13, 2026
05:00 PM-06:30 PM
Exchange Hall

YOUNG PROFESSIONALS LIGHTNING TALKS
Monday, April 13, 2026
06:30 PM-08:00 PM
Charter 1

SESSION AA: ADVANCED SOFT MAGNETIC MATERIALS AND DEVICES BRIDGING MAGNETICS AND POWER ELECTRONICS
Co-Chair(s): S. Okamoto, *Tohoku University, Sendai, Miyagi, Japan* and L. Solimene, *DENERG, Politecnico di Torino, Torino, Torino, Italy*
Tuesday, April 14, 2026
08:30 AM-12:00 PM
Exchange Auditorium

08:30 AM-09:00 AM
AA-01. Core Loss Measurement Techniques for Inductors under Practical Power Electronics Circuit
K. Wada
Tokyo Metropolitan University, Hino, Tokyo, Japan
View Digest Text

09:00 AM-09:30 AM
AA-02. Advances in Magnetics to Meet the Challenges of Powering AI from Grid to Chip
M. Wilkowski
Wurth Elektronik, Rockwall, Texas, United States
View Digest Text

09:30 AM-10:00 AM
AA-03. MagNet Roadmap for Data-Driven Power Magnetics Design
S. Wang, H. Kwon, D. Grigoryan, M. Chen
Princeton University, Princeton, New Jersey, United States
View Digest Text

10:00 AM-10:30 AM
Break

10:30 AM-11:00 AM
AA-04. Power Magnetics for High-Efficiency and High-Power-Density Converters
Z. Ouyang
Technical University of Denmark, Kgs.Lyngby, Denmark
View Digest Text

11:00 AM-11:30 AM
AA-05. Effect of magnetostriction on AC soft magnetic properties of Fe-based nanocrystalline alloys
Z. Tang[1], H. Tsukahara[2], J. J. Garitaonandia[3], N. Ito[4], A. Kato[5, 6], S. Okamoto[2], K. Suzuki[1]
[1]Materials Science and Engineering, Monash University, Clayton, Victoria, Australia, [2]Institute of Multidisciplinary Research for Advanced Materials,, Tohoku University, Sendai, Japan, [3]Zientzia eta Teknologia Fakultatea, Euskal Herriko Unibertsitatea, UPV/EHU, Bilbao, Spain, [4]CBMM Europe B.V., Amsterdam, Netherlands, [5]Toyota Motor Corporation, Shizuoka, Japan, [6]National Institute for Materials Science (NIMS), Tsukuba, Japan
View Digest Text

11:30 AM-12:00 PM

AA-06. Unique Hexaplana Ferrites and Composites for HF to VHF Power Management

V. G. Harris[1, 2, 3], V. Nguyen[1, 3], C. Taylor[1, 2, 3], K. A. Kelley[1, 3, 4], T. T. Pham[1, 3], Y. Chen[4], O. Fitchorova[1, 3, 4]

[1]Electrical and Computer Engineering, Northeastern University, Boston, Massachusetts, United States, [2]Chemical Engineering, Northeastern University, Boston, Massachusetts, United States, [3]Center for Microwave Magnetic Materials and Integrated Circuits, Northeastern University, Burlington, Massachusetts, United States, [4]Kostas Research Institute of Northeastern University, Burlington, Massachusetts, United States

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SESSION AB: ANTIFERROMAGNETS: FROM FUNDAMENTALS TO DEVICES

Co-Chair(s): H. K. Jani, *Physics, University of Oxford, Oxford, United Kingdom* and R. F. Evans, *School of Physics, Engineering and Technology, University of York, York, United Kingdom*

Tuesday, April 14, 2026

08:30 AM-12:00 PM

Charter 1

08:30 AM-09:00 AM

AB-01. Antiferromagnetic spintronics advantage demonstrated in electrical driving of noncollinear antiferromagnet

S. Fukami

Research Institute of Electrical Communication, Tohoku University, Sendai, Miyagi, Japan

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09:00 AM-09:30 AM

AB-02. Magnetic Transistor with Antiferromagnetic Semiconductor Channel

L. Liu

Massachusetts Institute of Technology, Cambridge, Massachusetts, United States

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09:30 AM-10:00 AM

AB-03. Addressing The Readout Problem In Antiferromagnets With Altermagnetic Spintronics

O. Gomonay

Institute of Physics, Johannes Gutenberg University Mainz, Mainz, Deutschland (DEU), Germany

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10:00 AM-10:30 AM

Break

10:30 AM-11:00 AM

AB-04. THz Spin Dynamics and Magnon Torques in Antiferromagnets

H. Yang, C. Xu, H. Park, Y. Pu, G. Shi

National University of Singapore, Singapore, Singapore

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11:00 AM-11:30 AM

AB-05. Antiferromagnetic magnonics in the GHz and sub-THz regimes

A. El Kanj[1], S. Mantion[1], S. Massabeau[1], A. Abdelsamie[1], P. gemeiner[4], K. Bouzehouane[1], S. Dhillon[2], J. George[1], H. Jaffrès[1], I. Boventer[1], V. Cros[1], P. Bortolotti[1], B. dkhil[4], S. Fusil[1], V. Garcia[1], A. Anane[1], O. Gomonay[3], R. Lebrun[1]

[1]Unité mixte de Physique CNRS/Thales, Palaiseau, France, [2]Laboratoire de physique de l'Ecole Normale Supérieure, Paris, France, [3]Johannes Gutenberg University, Mainz, Germany, [4]Ecole Centrale Supelec, Gif sur Yvette, France

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11:30 AM-12:00 PM

AB-06. Paradoxes of ultrafast antiferromagnetism and writing of antiferromagnetic bits

A. Kimel

Radboud Universiteit, Nijmegen, Netherlands

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SESSION AC: SPINTRONIC DEVICES FOR EMERGING INFORMATION AND COMMUNICATION TECHNOLOGIES

Chair(s): A. Jenkins, *Spintronics, International Iberian Nanotechnology Laboratory, Braga, Portugal*

Tuesday, April 14, 2026

08:30 AM-12:00 PM

Charter 2

08:30 AM-09:00 AM

AC-01. Ultralarge Spin Hall Nano-Oscillator Networks: Nanosecond Phase Ordering with Logarithmic Size Scaling

A. Chaurasiya[1], N. Behera[1], A. Kumar[1, 2, 3], R. Khymyn[1], A. Litvinenko[1], A. A. Awad[1, 2, 3], J. Akerman[1, 2, 3]

[1]Physics, University of Gothenburg, Gothenburg, Sweden, [2]Research Institute of Electrical Communication (RIEC), Tohoku University, Sendai, Japan, [3]Centre for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan

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09:00 AM-09:30 AM

AC-02. High Density STT-MRAM for Space Computing Platforms

Y. Huai

Avalanche Technology, Fremont, California, United States

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09:30 AM-09:45 AM

AC-03. A comprehensive framework for evaluating magnetic field induced failure in MRAM and the strategies to achieve superior magnetic immunity

Z. Yan

Zhejiang Hikstor Technology Company Ltd., Hangzhou, Zhejiang, China

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09:45 AM-10:00 AM

AC-04. Field-free spin Hall nano-oscillators using an exchange-biased antiferromagnet/ferromagnet heterostructure

Y. Yoshida[1], K. Vihanga De Zoysa[1], H. Iida[1], A. Sud[1], T. Dohi[1], A. Kumar[1, 2], A. A. Awad[1, 2], S. Kanai[1], H. Ohno[1], J. Akerman[1, 2], S. Fukami[1]

[1]Research Institute of Electrical Communication, Tohoku University, Sendai Shi, Miyagi Ken, Japan, [2]Physics, University of Gothenburg, Gothenburg, Sweden

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10:00 AM-10:30 AM

Break

10:30 AM-10:45 AM

AC-05. Oxygen vacancy-driven spin-transfer torque across MgO magnetic tunnel junctions

M. Bowen

IPCMS, Strasbourg, France

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10:45 AM-11:00 AM

AC-06. Radiofrequency Spintronic Neural Network Enabled by Electrically Modulated Magnetic Tunnel Junctions

Z. Wang[1], Y. Duan[1], C. Chen[1], A. Du[1], Z. Chen[1], S. Lu[1], K. Cao[1], K. Shi[1, 2], W. Cai[1, 2], W. Zhao[1, 2]

[1]School of Integrated Circuit Science and Engineering, Beihang University, Beijing, Beijing, China, [2]International Innovation Institute, Beihang University, Hangzhou, Zhejiang, China

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11:00 AM-11:15 AM

AC-07. Spin-Orbit-Torque Magnetic Tunnel Junction-based Monolithic 3D Integration System for One-Shot Learning

Y. Wang[1], J. Yuan[1], B. Yang[1], J. Xu[3], A. Chen[2], X. Zhang[3], J. Tang[1]

[1]Tsinghua University, Beijing, China, [2]University of Electronic Science and Technology of China, Chengdu, China, [3]King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia

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11:15 AM-11:30 AM

AC-08. Experimental Study of a Vortex Spin-Torque Oscillator in an MTJ with a Vortex Polarizer

M. Stebliy, A. Jenkins, L. C. Benetti, R. Ferreira

INL- International Iberian Nanotechnology Laboratory, Braga, Portugal

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11:30 AM-11:45 AM

AC-09. Controlling the encirclement of an exceptional point in coupled spintronic nano-oscillators

N. Phan[2], K. Ho[2], S. Perna[1], S. Wittrock[3], S. Tsunegi[4], H. Kubota[4], S. Yuasa[4], P. Bortolotti[2], M. d'Aquino[1], C. Serpico[1], V. Cros[2], R. Lebrun[2]

[1]Department of Electrical Engineering and ICT, University of Naples Federico II, Naples 80125, Italy, [2]Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, Palaiseau 91767, France, [3]Helmholtz-Zentrum Berlin Fur Materialien und Energie GmbH, Hahn-Meitner-Platz 1, Berlin 14109, Germany, [4]National Institute of Advanced Industrial Science and Technology (AIST), Ibaraki 305-8568, Japan

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11:45 AM-12:00 PM

AC-10. A Programmable In-Situ Logic-in-Memory with Full Boolean and Arithmetic Functions through Voltage-Gated Spin-Orbit Torque

Z. Liu[1, 3, 4], J. Lu[2], L. Jiahao[1, 3, 4], W. Li[2], X. Gui[1], S. Lu[1], H. Zhang[1], K. Cao[1], W. Xue[5], X. Xu[5], W. S. Zhao[1, 3, 4], S. Peng[1, 3, 4]

[1]Fert Beijing Institute, School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China, [2]National Innovation Institute of Defense Technology, Academy of Military Sciences, Beijing, China, [3]National Key Laboratory of Spintronics, Hangzhou International Innovation Institute, Beihang University, Hangzhou, China, [4]Hefei Innovation Research Institute, Beihang University, Hefei, China, [5]School of Chemistry and Materials Science, Shanxi Normal University, Taiyuan, China

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SESSION AD: ALTERMAGNETS

Co-Chair(s): K. Belashchenko, *Department of Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, Nebraska, United States* and E. Del Barco, *University of Central Florida, Orlando, Florida, United States*

Tuesday, April 14, 2026

08:30 AM-12:00 PM

Charter 3

08:30 AM-09:00 AM

AD-01. Symmetry-Driven Spin Phenomena in Mn5Si3 Thin Films: Unveiling Altermagnetic Behavior

J. Rial[1], M. Leiviska[2], A. Badura[3], I. Kounta[4], G. Skobjin[5], S. Beckert[6], C. Pfaff[1], J. Mencos[7], R. Lopes Seeger[1], G. Gaudin[1], F. Disdier[1], R. Schlitz[5], D. Kriegner[2], A. Thomas[6], E. Schmoranzerová[3], M. Petit[4], F. Casanova[7], L. Šmejkal[8], J. Sinova[9], T. Jungwirth[2], S. Goennenwein[5], H. Reichlova[2], L. Michez[4], O. Gomonay[9], V. Baltz[1]

[1]SPINTEC, Grenoble, France, [2]Czech Academy of Sciences, Prague, Czechia, [3]Charles University, Prague, Czechia, [4]CINaM, Marseille, France, [5]Universität Konstanz, Konstanz, Germany, [6]IFW, Dresden, Germany, [7]CIC nanoGUNE, Donostia-San Sebastián, Spain, [8]MPI, Dresden, Germany, [9]JGU, Mainz, Germany

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09:00 AM-09:15 AM

AD-02. Large Intrinsic Spin Hall Effect Enabled by Spin-Orbit Coupling in the Altermagnet CrSb

N. Menai[1], C. Woodgate[1], P. Shukla[2], D. Stewart[2], M. Gradhand[3]

[1]University of Bristol, Bristol, Bristol, United Kingdom, [2]Western Digital, San Jose, California, United States, [3]Johannes Gutenberg University, Mainz, Germany

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09:15 AM-09:30 AM

AD-03. Altermagnetic magnons in CrSb: where is the predicted energy splitting?

M. dos Santos Dias[1], N. Biniskos[2], S. Agrestini[3], D. Sviták[2], K. Zhou[3], J. Pospíšil[2], P. Čermák[2]

[1]Scientific Computing, STFC Daresbury Laboratory, Warrington, United Kingdom, [2]Condensed Matter Physics, Charles University, Prague, Czechia, [3]Diamond Light Source Ltd, Harwell, United Kingdom

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AD-04. Non-Altermagnetic Origin of Exchange Bias Behaviors at RuO_2/Ferromagnet Interfaces

S. Fields[1], J. Prestigiacomo[1], C. Cress[1], N. Combs[1], O. M. van 't Erve[1], P. Callahan[1], K. Knipling[1], M. E. Jamer[2], F. M. Abel[2], F. Ye[3], A. Minelli[3], Z. Morgan[3], H. Ambaye[3], M. matsuda[3], A. Maity[3], V. Lauter[3], S. P. Bennett[1]

[1]The U.S. Naval Research Laboratory, Washington, District of Columbia, United States, [2]The U.S. Naval Academy, Annapolis, Maryland, United States, [3]Oak Ridge National Laboratory, Oak Ridge, Tennessee, United States

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09:45 AM-10:00 AM

AD-05. Metallic p-wave magnetism realized by a commensurate spin helix

R. Yamada[1], M. Birch[2], S. Okumura[1], J. Masell[3, 2], M. M. Hirschmann[2], M. Hirschberger[1, 2]

[1]The University of Tokyo, Bunkyo-ku, Japan, [2]Center for Emergent Matter Science, RIKEN, Wako, Japan, [3]Institute of Theoretical Solid State Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany

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10:00 AM-10:30 AM

Break

10:30 AM-11:00 AM
AD-06. Spontaneous symmetry lowering and tunable anomalous Hall effect in epitaxial MnTe grown on GaAs(111)
B. A. Assaf, S. Bey
Physics, University of Notre Dame, Notre Dame, Indiana, United States
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11:00 AM-11:15 AM
AD-07. Quantum Geometry of Altermagnetic Magnons Probed by Light
R. Yuan[1], W. J. Jankowski[1], K. Shen[2], R. Slager[3, 1]
[1]TCM Group, Cavendish Lab, University of Cambridge, Cambridge, United Kingdom, [2]Beijing Normal University, Beijing, China, [3]Physics, University of Manchester, Manchester, United Kingdom
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11:15 AM-11:30 AM
AD-08. Epitaxial Growth of Altermagnetic Thin Films via Magnetron Co-sputter Deposition
D. Scheffler, S. P. Bommanaboyena, C. Mueller, F. Krizek, A. Badura, H. Reichlova, T. Jungwirth, D. Kriegner
Academy of Sciences of the Czech Republic, Prague, Czechia
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AD-09. Magnon transport and surface effect in an altermagnetic toy model
M. Kundu[1], R. Schmidhuber[2], M. Duelli[1], L. Szunyogh[3], U. Nowak[1]
[1]Physics, University of Konstanz, Konstanz, Baden Württemberg, Germany, [2]Physics, Ludwig-Maximilians-University Munich, Munich, Bavaria, Germany, [3]Theoretical Physics, Budapest University of Technology and Economics, Budapest, Budapest, Hungary
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11:45 AM-12:00 PM
AD-10. Piezomagnetism in altermagnets
M. Khodas[1], S. Mu[2], I. Mazin[3], K. Belashchenko[4]
[1]Racah Institute of Physics, The Hebrew University of Jerusalem, Jerusalem, Israel, [2]Department of Physics and Astronomy, University of South Carolina, Columbia, South Carolina, United States, [3]Department of Physics and Astronomy, George Mason University, Fairfax, Virginia, United States, [4]Department of Physics and Astronomy, University of Nebraska-Lincoln, Lincoln, Nebraska, United States
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SESSION AE: NDFEB AND OTHERS RE COMPOUNDS FOR HARD MAGNETIC MATERIALS

Chair(s): P. Jenuš Belec, *Department for Nanostructured Materials, Jozef Stefan Institute, Ljubljana, Slovenia*

Tuesday, April 14, 2026

08:30 AM-12:00 PM

Charter 4

08:30 AM-09:00 AM

AE-01. Development of high-performance anisotropic magnetic powders

Q. Gao, Z. Lin, T. Zhu, D. Liang, W. Yang, J. Han, J. Yang

School of Physics, Peking University, Beijing, China

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09:00 AM-09:15 AM

AE-03. DFT calculations of magnetocrystalline anisotropy energy with fixed spin moment

J. Snarski-Adamski[1], J. Marciniak[1, 2], W. Marciniak[1, 2, 3], J. Rychly-Gruszecka[1], M. Werwinski[1]

[1] Department of Theory of Nanostructures and Quantum Materials, Institute of Molecular Physics Polish Academy of Sciences, Poznan, Poland, [2]Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden, [3]Faculty of Materials Engineering and Technical Physics, Poznan University of Technology, Poznan, Poland

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09:15 AM-09:30 AM

AE-04. Rapid Heating Process for High-Density Nd-Fe-B Magnet Plates via Electrically Heated Powder Rolling: Microstructure and Magnetic Properties

J. Kim[1], Y. Hirayama[1], S. Sugimoto[1, 2], A. Suzki[3], M. Nozaki[3]

[1]National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Aichi, Japan, [2]Tohoku University, Sendai, Miyagi, Japan, [3]S. S. Alloy Co., Ltd., Higashi-hiroshima, Hiroshima, Japan

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09:30 AM-09:45 AM

AE-05. Determining the anisotropy field of permanent magnets: A comparison of current methodologies

A. Aubert, K. Skokov, O. Gutfleisch

Technische Universitat Darmstadt, Darmstadt, Germany

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09:45 AM-10:30 AM

Break

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AE-06. Perfecting RE-TM permanent magnets: First-principles calculations of consequences of lattice imperfections on magnetic properties

C. Patrick

Physics, University of Warwick, Coventry, United Kingdom

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11:00 AM-11:15 AM

AE-07. New insights into the magnetism of $DyCo_5$

A. Vishina[1], K. Skokov[2], H. Tsuchiura[3], O. Eriksson[1], H. C. Herper[1]

[1]Uppsala Universitet, Uppsala, Sweden, [2]Technische Universität Darmstadt, Darmstadt, Germany, [3]Tohoku University, Sendai, Japan

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11:15 AM-11:30 AM
AE-08. A combinatorial study of the formation of high coercivity $Sm(Fe,V)_{12}$ in a post-deposition annealed compositionally graded film
H. Jaballah, P. Le Berre, W. Rigaut, L. Fink, R. Haettel, E. Bellec, N. Blanc, T. Devillers, N. Dempsey
Institut Néel CNRS, Grenoble, France
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11:30 AM-11:45 AM
AE-09. Cold Spray Additive Manufacturing of SmFeN Magnets
F. Bernier[1], B. Guerreiro[1], J. Lamarre[1], J. Giguère[2], F. Sirois[2]
[1]Automotive and Surface Transportation, National Research Council Canada, Boucherville, Quebec, Canada, [2]Génie Electrique, Polytechnique Montréal, Montreal, Quebec, Canada
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11:45 AM-12:00 PM
AE-10. Ultrahigh coercivities in Sm_5Fe_{17}-based composite magnets
I. Dirba[1], S. Ener[1], A. Kovács[2], R. K. Paul[1], H. Sepehri-Amin[3], K. Skokov[1], Y. Skourski[4], K. Hono[3], O. Gutfleisch[1]
[1]Institute of Materials Science, Technical University of Darmstadt, Darmstadt, Hessen, Germany, [2]Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons, Forschungszentrum Jülich, Jülich, Germany, [3]National Institute for Materials Science (NIMS), Tsukuba, Japan, [4]Helmholtz-Zentrum Dresden-Rossendorf, Dresden-Rossendorf, Germany
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SESSION AF: EXPLORING COMPLEX MAGNETIC STATES WITH ADVANCED MAGNETIC IMAGING
Chair(s): A. Hierro-Rodriguez, *Departamento de Física, Universidad de Oviedo, Oviedo, Asturias, Spain*
Tuesday, April 14, 2026
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Exchange 9

08:30 AM-09:00 AM
AF-01. Statics and dynamics of complex magnetic states in microstructures
A. Finco
Laboratoire Charles Coulomb, CNRS/Université de Montpellier, Montpellier, France
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09:00 AM-09:15 AM
AF-02. GHz noise characterization and magnetization reconstruction in a Scanning Magnetometer: A comparative study using scanning NV and MOKE
M. Pompe, B. Josteinsson, S. Josephy, A. Morales, Z. Xu, G. P. Hellman
QZabre, Zurich, Switzerland
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09:15 AM-09:30 AM
AF-03. Imaging magnetization reversal of pinwheel Artificial Spin Ice with an ensemble of NV centers in diamond
K. Everaert[1, 2], S. Ravan[1, 2, 3], J. Cremer[2, 3], A. Yacoby[3], R. Walsworth[1, 2, 4]
[1]Department of Physics, University of Maryland, College Park, Maryland, United States, [2]Quantum Technology Center, University of Maryland, College Park, Maryland, United States, [3]Department of Physics, Harvard University, Cambridge, Massachusetts, United States, [4]Department of Electrical Engineering and Computer Science, University of Maryland, College Park, Maryland, United States
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09:30 AM-09:45 AM
AF-04. Magneto-optical Kerr Microscopy on Non-planar Geometries
L. Zhao[1], A. Rabensteiner[1], M. A. Cascales-Sandoval[1], N. Leo[1, 2], J. M. Jurczyk[1], S. Koraltan[1], A. Fernández-Pacheco[1]
[1]Institute of Applied Physics, TU Wien, Vienna, Austria, [2]Department of Physics, Loughborough University, Loughborough, United Kingdom
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09:45 AM-10:00 AM
AF-05. Magneto-Optical Detection of Magnetic Configurations in Quasi In-Plane Bi:YIG
J. Hnilica[1, 2], M. Otýpka[1], L. Ranno[1, 2]
[1]QUEST, Institut Néel CNRS, Grenoble, Isére, France, [2]Université Grenoble Alpes, Grenoble, France
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10:00 AM-10:30 AM
Break

10:30 AM-11:00 AM
AF-06. Magnetic Imaging via Tip-Induced Local Anomalous Nernst Effect: from Weyl Semimetals to High-Entropy Alloys
H. Isshiki[1, 2]
[1]Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Ibaraki, Japan, [2]Institute for Solid State Physics, The University of Tokyo, Kashiwa-no-ha, Chiba, Japan
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11:00 AM-11:15 AM
AF-08. Skyrmionic cocoons imaged in three dimensions using HERALDO reconstructions in aperiodic magnetic multilayers
J. J. Chiliquinga[1], M. Grelier[1, 2], R. Battistelli[3], W. Bouckaert[1], K. Puzhekadavil Joy[3, 4], S. Collin[1], F. Godel[1], M. Di Pietro Martinez[5], C. Donnelly[5], F. Büttner[3, 4], H. Popescu[6], V. Cros[1], N. Jaouen[6], N. Reyren[1]
[1]Laboratoire Albert Fert, Palaiseau, Île-de-France, France, [2]Spin-ion, Palaiseau, France, [3]Helmholtz-Zentrum Berlin, Berlin, Germany, [4]University of Augsburg, Augsburg, Germany, [5]Max Planck Institute for Chemical Physics of Solids, Dresden, Germany, [6]Synchrotron SOLEIL, Saint Aubin, France
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11:15 AM-11:30 AM
AF-09. Unconventional Skyrmions States in a Compensated Synthetic Antiferromagnet Revealed by Correlative Imaging
K. Fallon[1], R. Peremadathil-Pradeep[2], C. Barker[3, 7], Z. Tumbleson[4], E. Darwin[2], A. Meo[5], E. Haltz[6], B. A. Brereton[7], T. Almeida[1], C. Kirkbride[1], S. Villa[1], S. A. Morley[8], M. Carpentieri[5], R. Tomasello[5], H. J. Hug[2], C. Marrows[7], S. McVitie[1]
[1]School of Physics and Astronomy, University of Glasgow, Glasgow, Other (Non U.S.), United Kingdom, [2]Swiss Federal Laboratories for Material Science and Technology (Empa), Duebendorf, Switzerland, [3]National Physics Laboratory, Teddington, United Kingdom, [4]Department of Physics, University of California, Santa Cruz, California, United States, [5]Department of Electrical and Information Engineering, Politecnico di Bari, Bari, Italy, [6]LSPM-CNRS, Sorbonne Paris Nord University, Villetaneuse, France, [7]School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom, [8]Advanced Light Source, Lawrence Berkeley National Laboratory, Berkley, California, United States
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11:30 AM-11:45 AM
AF-10. Mie-enhanced microfocused Brillouin light scattering for wave vector resolution of short-wavelength spin waves
J. Krcma[2], O. Wojewoda[1, 2], M. Hrton[2], J. Holobradek[2], J. A. Arregi[2], J. Panda[2], E. Pribytova[2], M. Urbánek[2]
[1]DMSE, Massachusetts Institute of Technology, Brno, Czechia, [2]CEITEC, Brno University of Technology, Brno, Czechia
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SESSION AG: MAGNETIC NANOPARTICLES

Co-Chair(s): E. L. Winkler, *Magnetismo y Materiales Magnéticos, Centro Atómico Bariloche, S. C. de Bariloche, Argentina* and L. Marcano, *Physics, Oviedo University, Gijón, Asturias, Spain*

Tuesday, April 14, 2026

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Exchange 10

08:30 AM-08:45 AM

AG-01. Intrinsic Magnetic Anisotropy in $Co_xFe_{3-x}O_4$ Nanoparticles

D. Liguori[1], B. Muzzi[2], G. S. Gomide[3], I. Golosovsky[4], I. Kibalin[5], I. Puente-Orench[6, 7], J. Nogués[8, 9], A. López-Ortega[1]

[1]Science Department, UPNA, Pamplona, Navarra, Spain, [2]ICCOM-CRN, Sesto Fiorentino, Italy, [3]Universidade de BrasÍlia, Brasilia, Brazil, [4]National Research Center "Kurchatov Institute", Gatchiba, Russian Federation, [5]Laboratoire Léon Brillouin, Grenoble, France, [6]Institut Laue Langevin, Grenoble, France, [7]Instituto de NanoCiencia y Materiales de Aragón, Zaragoza, Spain, [8]Catalan Institute of Nanoscience and Nanotechnology, Barcelona, Spain, [9]ICREA, Barcelona, Spain

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08:45 AM-09:00 AM

AG-02. Synthesis of and New Functionality in Heteroepitaxial Gallate/Ferrite Core@Shell Nanoparticles

S. Jan[1], R. Das[2], A. I. Ojo[1], Y. Wadumesthri[1], R. Roy Chowdhury[1], H. Rodríguez Gutiérrez[1], D. Honecker[3], S. Parnell[3], J. Borchers[4], H. Srikanth[1], D. A. Arena[1]

[1]Physics, University of South Florida, Tampa, Florida, United States, [2]Dept. of Engineering Technology, South East Technical University, Waterford, Ireland, [3]Isis Muon and Neutron Source, Didcot, United Kingdom, [4]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland, United States

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09:00 AM-09:15 AM

AG-03. Combined effect of shape and magnetocrystalline anisotropy in a 40 nm single-domain Fe_3O_4 nanoparticle measured by μ-SQUIDs

S. Maity[1], U. Thuwal[1], H. Courtois[2], C. Winkelmann[2], A. Gupta[1]

[1]Physics, Indian Institute of Technology Kanpur, Kanpur, Uttar Pradesh, India, [2]Physics, Univ. Grenoble Alpes, Grenoble, France

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09:15 AM-09:30 AM

AG-04. Morphology-Controlled Magnetite Nanoparticles: From Spheres to Nanorods

M. Horcajo[2], J. Alonso[1], P. de la Presa[2]

[1]Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain, [2]Institute of Applied Magnetism, Complutense University of Madrid, Madrid, Spain

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09:30 AM-09:45 AM

AG-05. Including nanoparticle shape into macrospin models

I. López Vázquez[1, 2], D. Serantes[1, 2], O. Iglesias[3]

[1]Department of Applied Physics, University of Santiago de Compostela, Santiago de Compostela, A Coruña, Spain, [2]Instituto de Materiais (iMATUS), Santiago de Compostela, A Coruña, Spain, [3]Condensed Matter Physics Department, University of Barcelona, Barcelona, Barcelona, Spain

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09:45 AM-10:00 AM

AG-06. From Linear Response Theory to Thermodynamic Modeling: An Assessment of Specific Loss Power in Superparamagnetic Nanoparticle Suspensions

J. Araújo, C. Iglesias, R. A. Pinto, E. F. da Silva, M. Correa, F. Bohn

Department of Physics, Universidade Federal do Rio Grande do Norte, Natal, RN, Brazil

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10:00 AM-10:30 AM
Break

10:30 AM-10:45 AM
AG-07. Design of nanoparticle inductor materials with large susceptibility for printable high-frequency power electronics
M. Zambach[1], M. Beleggia[2], C. Frandsen[1]
[1]Physics, Technical University of Denmark, Kgs. Lyngby, Denmark, [2]Physics, University of Modena, Modena, Italy
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10:45 AM-11:00 AM
AG-09. Scalable Microwave-Polyol Synthesis of Metallic Magnetic Nanoparticles Toward Emerging Applications
M. Salvador[1], Y. Fernandez-Afonso[1], C. Díaz-Ufano[1], A. Santana-Otero[1], A. Van Zomeren[3], S. Bertran-Llorens[3], V. Beni[2], S. Veintemillas-Verdaguer[1], M. d. Morales[1]
[1]Nanoscience and Nanotechnology, Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Madrid, Spain, [2]RISE Research Institutes of Sweden, Norrköping, Sweden, [3]The Netherlands Organisation for Applied Scientific Research (TNO), Petten, Netherlands
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11:00 AM-11:15 AM
AG-11. Exchange-Biased CoFe/IrMn Three-Dimensional Microwires
B. Singh[1], A. Singh[2, 3], S. Mikulik[1], J. Jurczyk[1], V. Neu[3], A. Fernández-Pacheco[1]
[1]Institute of Applied Physics, TU Wien, Vienna, Vienna, Austria, [2]Institute of Applied Physics, TU Dresden, Dresden, Germany, [3]Institute for Solid State and Materials Research Dresden, Dresden, Germany
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11:15 AM-11:30 AM
AG-12. Evolution of Exchange Bias with Ferromagnetic Ordering and Robust Memory Effect in Strained MoS_2 via Antiferromagnetic Gating
S. Bhattacharya, I. A. Kuhne
Institute of Physics FZU, Department of Condensed Matter Physics and Functional Materials, Academy of Sciences of the Czech Republic, Prague, Prague, Czechia
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SESSION AH: ENGINEERING MAGNETISM IN THIN FILMS AND MULTILAYERS

Chair(s): A. K. Dhiman, *Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland* and José Miguel Garcia-Martin, *CSIC, Spain*

Tuesday, April 14, 2026

08:30 AM-12:00 PM

Exchange 11

08:30 AM-08:45 AM

AH-02. Modulation of Intrinsic Magnetic Properties in Iron Nitride Thin Film on MgO(001) Single-Crystal Substrate through Nitrogen-Induced bcc-fcc Phase Variation

K. Imamura[1], T. Sato[1], S. Isogami[2], T. Yamazaki[3], M. Kotsugi[3], M. Ohtake[1]

[1]Yokohama National University, Yokohama, Japan, [2]National Institute for Materials Science (NIMS), Tsukuba, Japan, [3]Tokyo University of Science, Tokyo, Japan

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08:45 AM-09:00 AM

AH-03. Iron Garnet Heterostructure Engineering

C. A. Ross[1], T. P. Grossmark[1], R. Huynh[1], P. Fourmont[1], E. Park[1], F. M. Ross[1], H. Shin[2], Y. Kang[2, 1], S. Cloutier[3]

[1]Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts, United States, [2]Korea National University of Transportation, Chungju, Korea (the Republic of), [3]École de Technologie Supérieure, Montreal, Quebec, Canada

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09:00 AM-09:15 AM

AH-04. Improvement on tunnel magnetoresistance and magnetic properties of CoFeB/MgO/CoFeB on textured seed layer

T. Tran[2, 1], G. Talmelli[1], S. Mertens[1], X. Piao[3, 1], R. Carpenter[1], C. Merckling[2, 1]

[1]Imec, Leuven, Belgium, [2]Department of Materials Engineering, KU Leuven, Leuven, Belgium, [3]The Institute for Solid State Physics, The University of Tokyo, Tokyo, Japan

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09:15 AM-09:30 AM

AH-05. Origin of magnetic dead layer in $La_{0.67}Sr_{0.33}MnO_3$ ultrathin films

V. A. Lima[1, 2], F. R. Estrada[1], P. C. Santos[1, 3], R. A. Pereira[1, 3], K. L. Agra[2], P. Schio[1], J. Criginski Cezar[1], T. J. Mori[1]

[1]Brazilian Synchrotron Light Laboratory, Brazilian Center for Research in Energy and Materials, Campinas, São Paulo, Brazil, [2]Unidade Acadêmica de Física, universidade Federal de Campina Grande, Campina Grande, Brazil, [3]Instituto de Física Gleb Wataghin, Universidade Estadual de Campinas, Campinas, Brazil

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09:30 AM-10:00 AM

AH-07. Designing thin film properties on the nanoscale with direct-write laser annealing for spintronics

L. Riddiford[1, 2]

[1]ETH Zurich, Zurich, Switzerland, [2]Paul Scherrer Institute, Villigen, Switzerland

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10:00 AM-10:30 AM

Break

10:30 AM-10:45 AM

AH-08. Harnessing Pt/W Multilayers for Efficient Field-Free Spin-Orbit Torque Switching

B. Jamshed^, S. Das, D. Kumar, H. Rahaman, M. Ramu, S. Piramanayagam

SPMS, Nanyang Technological University, Singapore, Singapore, Singapore

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10:45 AM-11:00 AM

AH-09. Revisiting Seed Thickness: When Improved Texture Does Not Enhance Perpendicular Magnetic Anisotropy in Co/Pt Multilayers

R. Ehrler[1, 3], F. Engelhardt[1, 2, 3], O. Hellwig[1, 3, 4]
[1]Institute of Physics, Chemnitz University of Technology, Chemnitz, Germany, [2]Institute of Chemistry, Chemnitz University of Technology, Chemnitz, Germany, [3]Research Center MAIN, Chemnitz University of Technology, Chemnitz, Germany, [4]Institute of Ion Beam Physics and Materials Research, HZDR, Dresden, Germany

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11:00 AM-11:15 AM

AH-10. Bloch's Law in the Ultrathin Film Limit

J. Shuai, D. Goli, S. Connell, T. A. Moore, J. Barker, C. Marrows
School of Physics and Astronomy, University of Leeds, Leeds, West Yorkshire, United Kingdom

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11:15 AM-11:30 AM

AH-11. Perpendicular magnetic anisotropy in thick Si/Ni multilayers

M. Pregelj[1, 2], A. Hromov[1, 2], M. Panjan[1], M. Tadić[3], A. Zorko[1, 2]
[1]Jozef Stefan Institute, Ljubljana, Slovenia, [2]Faculty of Mathematics and Physics, University of Ljubljana, Ljubljana, Slovenia, [3]Condensed Matter Physics Laboratory, Vinča Institute of Nuclear Sciences – National Institute of the Republic of Serbia, Belgrade, Serbia

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SESSION AP: ADVANCES IN 2D AND MOLECULAR MAGNETS (POSTER SESSION)

Chair(s): I. Rozhansky, *University of Manchester, Manchester, United Kingdom*
Tuesday, April 14, 2026
09:00 AM-12:00 PM
Exchange Hall

AP-01. Magnetic phase transition in VS_2 revealed by Yanson point-contact spectroscopy

O. Kvitnytska[1, 2], D. Bashlakov[2], S. Aswartham[1], G. Shipunov[1], D. Efremov[1], B. Buchner[1, 3], Y. Naidyuk[2]
[1]Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany, [2]B. Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, Kharkiv, Ukraine, [3]Institute of Solid State and Materials Physics and Würzburg-Dresden Cluster of Excellence ct.qmat, Technische Universität Dresden, Dresden, Germany

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AP-02. Tunable Magnetism and Multifunctionality in Non-vdW Cr_3TMSe_6: A First-Principles Study

Y. G. Berhe[1], S. You[1, 2], H. Kim[1, 2], N. Kim[1]
[1]Physics, Soongsil University, Swuon-Si, Gyeonggi-do, Korea (the Republic of), [2]Physics, OMEG Institute, Swuon-Si, Gyeonggi, Korea (the Republic of)

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AP-05. Gate controlled magnetoresistances on antiferromagnetic semiconductor two-dimensional material

D. Borowski[1], M. Soliman[2], J. Garrido Aldea[3, 4], D. Luis Esteras Córdoba[3], J. Dayen[1]
[1]DMONS, IPCMS, Strasbourg, France, [2]ISIS, Strasbourg, France, [3]ICN2, Bellaterra, Spain, [4]Universitat Autonoma de Barcelona, Barcelona, Spain

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AP-06. Theoretical Studies of an Artificial Spin Ice on the Amman-Beenker Tiling

E. Weightman, L. O'Brien, S. Coates
University of Liverpool, Liverpool, United Kingdom

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AP-08. Longitudinal Transport Properties in All-epitaxial $Fe_{5-x}GeTe_2/WSe_2$ Van der Waals Heterostructures
H. Lv[1], J. Herfort[1], C. Chen[2], J. M. Redwing[2], R. Engel-Herbert[1], J. J. Lopes[1]
[1]Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsverbund Berlin e. V., Berlin, Germany, [2]2D Crystal Consortium Materials Innovation Platform, Materials Research Institute, The Pennsylvania State University, Pennsylvania, Pennsylvania, United States
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AP-09. Low-temperature Ferromagnetism and Giant Coercivity in a Coordination Polymer with a Bis(phosphinic acid) Ligand
L. Kubickova[1, 2], S. Ondrusova[3, 4], M. Kloda[3], J. Demel[3], M. Rozprym[2], M. Veverka[2], T. Kmjec[2], J. Kohout[2]
[1]FZU - Institute of Physics of the Czech Academy of Sciences, Prague 6, Czechia, [2]Faculty of Mathematics and Physics, Charles University, Prague 8, Czechia, [3]Institute of Inorganic Chemistry of the Czech Academy of Sciences, Rez, Czechia, [4]Faculty of Science, Charles University, Prague 2, Czechia
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AP-10. Tuning Magnetic Properties Through Metal-Metal Separation in Ionothermal-Synthesis Lanthanide Acetate Complexes
O. Cakir, E. R. Crawford, D. M. Wilkins, S. Felton, P. Nockemann
Queens University of Belfast, Belfast, County Antrim, United Kingdom
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AP-11. Substrate Driven Topological Spin Textures in Twisted Van der Waals Antiferromagnet
Z. Yang[1], J. Ross[1], E. Santos[1, 2]
[1]School of Physics and Astronomy, University of Edinburgh, Edinburgh, Edinburgh, United Kingdom, [2]Donostia International Physics Center, Donostia-San Sebastián, Spain
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SESSION AQ: ELECTROMAGNETIC DESIGN AND MODELING OF LINEAR ACTUATORS AND SUSPENSION SYSTEMS (POSTER SESSION)

Co-Chair(s): P. Huang, *Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan* and A. Sutor, *UMIT TIROL, Tirol, Austria*
Tuesday, April 14, 2026
09:00 AM-12:00 PM
Exchange Hall

AQ-01. Development of a slim-width microspeaker for smartwatches using a new magnetic circuit design
Y. Jeong[1], Y. Oh[1], D. Xu[2], S. Hwang[1]
[1]Department of Mechanical Engineering, Pusan National University, Busan, Korea (the Republic of), [2]Shanghai University, Shanghai, China
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AQ-02. Design of a Consequent Pole Slotless Motor Applying Asymmetric Pole
D. Choi, H. Han, D. Shin, S. Jeon, W. Kim
Electrical Engineering, Gachon university, Seongnam-si, Gyeonggi-do, Korea (the Republic of)
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AQ-03. Electromagnetic Modeling of Coil Integrated With Propulsion Levitation and Guidance for EDS Trains
Z. Li[1], H. Zhang[1, 2], K. Lv[1]
[1]The School of Electrical Engineering & Automation, Harbin Institute of Technology, Harbin, China, [2]Suzhou Research Institute of HIT, Suzhou, China
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AQ-04. Study on Improving the Magnetic Properties of Nd-Fe-B Multi-Pole Magnetized Ring Magnets
H. Komura, A. Yamane, K. Hanashima, T. Suzuki, Y. Okawara
MinebeaMitsumi Inc., Fukuroi, Shizuoka, Japan
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AQ-05. Compensation of FEM Based Wrench–Current Vector for Precise Levitation Control in Maglev Planar Motors
K. Nakata[1], W. Ohnishi[1], T. Koseki[1], Y. Nakamura[2], K. Takahashi[2], H. Sekiguchi[2]
[1]Electrical Engineering and Information Systems, The University of Tokyo, Bunkyo-ku, Tokyo, Japan, [2]Mitsubishi Electric, Amagasaki, Japan
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AQ-07. Improved Analytical Modeling of Induced Currents in Null-Flux Coils for Electrodynamic Suspension Systems
K. Lv[1], H. Zhang[1, 2], Z. Li[1]
[1]The School of Electrical Engineering & Automation, Harbin Institute of Technology, Harbin, China, [2]Suzhou Research Institute of HIT, Suzhou, China
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AQ-08. Magneto-acoustic coupled FEA with compressing sensing for ITSC fault diagnosis of Na cooled annular linear induction pump
W. Liu[1, 2], S. Cai[1, 2], D. Mo[3], X. Guan[3]
[1]Research Institute of Nuclear Power Operation, Wuhan, China, [2]China Nuclear Power Operation Technology Corporation, Wuhan, China, [3]Fuzhou University, Fuzhou, China
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AQ-09. Permanent-Magnet Linear Magnetic Coupling for Actuators in Ultra-High Vacuum
J. Emery[1], C. Besson[2], F. Roncarolo[1], C. Pasquino[1], W. Andreazza[1], H. Sullivan[1]
[1]Beam Instrumentation, CERN, Genève, Switzerland, [2]School of Engineering and Management Vaud, University of Applied Sciences of Western Switzerland, Yverdon-les-Bains, Switzerland
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AQ-10. Hybrid Magnetic Circuit Design for Micro Speakers Using Localized Permendur Application
Y. Oh[1], Y. Jeong[1], D. Xu[2], S. Hwang[1]
[1]Mechanical Engineering, Pusan National University, Pusan, Korea (the Republic of), [2]School of Mechatronic Engineering and Automation, Shanghai University, Shanghai, China
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AQ-11. Fully Coupled Dynamic Analysis and Multi-Objective Optimization of a High-Speed Solenoid Valve
R. Wang[1, 2], X. Li[3], C. Du[2], M. Zhang[1], Y. Yang[1]
[1]School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan, Hubei, China, [2]Department of Engineering, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom, [3]Granta Advanced Magnetics and Electronics Limited, Cambridge, Cambridgeshire, United Kingdom
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AQ-12. Power Factor Improvement for a Magnetic-Geared Flat Linear Machine with Halbach Permanent Magnet Arrays
X. Liu[1, 2], W. Zhao[1, 2], Y. Wang[3]
[1]College of Electrical and Information Engineering, Hunan University, Changsha, Hunan, China, [2]State Key Laboratory of Offshore Wind Power Equipment and High-efficient Utilization Wind Energy, Hunan University, Changsha, China, [3]State Grid Shaoxing Power Supply Company, Shaoxing, China
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AQ-13. Differentiable Graph Neural Network with Data-Driven Hysteresis Model for High-Frequency Transformer Design
Y. Zhu[1], Q. Huang[2], G. Lei[1], Y. Guo[1], J. Zhu[2]
[1]School of Electrical and Data Engineering, University of Technology Sydney, Ultimo , New South Wales, Australia, [2]School of Electrical and Computer Engineering, The University of Sydney, Camperdown, New South Wales, Australia
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AQ-14. Investigation of Standing Wave Phenomena in Electromagnetic RF Heating of Al Frames for Wafer-Level Thermo-Compression Bonding
S. Panhale[1], C. Hofmann[2], N. Sounak[2], M. Kroll[1], T. Clausmeyer[1]
[1]Professorship Forming Technology, Chemnitz University of Technology, Institute for Machine Tools and Production Processes (IWP), Chemnitz, Germany, [2]Fraunhofer Institute for Electronic Nano Systems ENAS, Chemnitz, Germany
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AQ-15. Analytical Three-Dimensional Framework for Braking Force Calculation in PM Planar Actuators
A. Abdi
Electrical Engineering Faculty, University of Sciences and Technology Houari Boumedienne, Algers, Algeria
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AQ-16. Importance of Rotor Segmentation in a Novel Hybrid-excited Synchronous Machine Configuration
S. Dey, B. G. Fedrnandes
Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India
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SESSION AR: PERMANENT MAGNET MACHINES AND MAGNETICALLY GEARED MACHINES I (POSTER SESSION)
Chair(s): J. Yuan, *Wuhan University, Wuhan, China*
Tuesday, April 14, 2026
09:00 AM-12:00 PM
Exchange Hall

AR-01. Comprehensive 3D FEM Analysis and Experimental Validation of a Radial-Flux Permanent-Magnet Brake
A. Abdi
Electrical Engineering Faculty, University of Sciences and Technology Houari Boumedienne, Algers, Algeria
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AR-02. Decoupled Current-Transformation Control Design for a Dual-Rotor PMSM Drive with Integrated Winding
Z. Zhang, M. Jiang, Z. Dong, Z. Zhang, S. Niu, K. Chau
Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China
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AR-03. A PWM Frequency Harmonic Suppression Scheme for Driving Permanent Magnet Synchronous Motors Using Three-Level Inverters with Zero-Vector Switching Spread Spectrum Modulation
H. Huang, Y. Xu, W. Zhang, J. Zou
School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China
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AR-04. Comparative Analysis and Torque Optimization of Three Types of Rotors in Permanent Magnet Synchronous Motors
J. Hu[1], J. Cao[1], F. Zhao[2]
[1]School of Electrical and Electronic Engineering, Harbin Institute of Technology, Harbin, Heilongjiang, China, [2]School of Robotics and Advanced Manufacture, Harbin Institute of Technology (Shenzhen), Shenzhen, Guangdong, China
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AR-05. Design of Dual-Rotor Dual-Flux-Switching Motor
Z. Dong, M. Jiang, Z. Zhang, Z. Zhang, S. Niu, K. Chau
Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China
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AR-06. Transfer Learning-Assisted Analytical Quasi-3D Surrogate Modeling for Electromagnetic Performance Prediction of AFPMs Considering Eccentricity
H. Kim[1], Y. Lee[1], D. Ko[1], Y. Lee[1], M. Park[1, 2]
[1]Department of Electrical and Communication Systems Engineering, Soonchunhyang University, Asan, Chungcheongnam-do, Korea (the Republic of), [2]Department of Electrical Engineering, Soonchunhyang University, Asan, Chungcheongnam-do, Korea (the Republic of)
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AR-07. Suppression Strategy of Torque Ripple for Permanent Magnet Synchronous Motors Based on Artificial Intelligence Algorithms
Y. Hu[1], K. Yang[1], X. Wang[2], F. Xiong[1], Q. Liu[2], Y. Luo[1], C. Luo[1]
[1]School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan, China, [2]Ningbo Fotile Kitchen Ware Co., Ltd., Ningbo, China
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AR-08. Improved Analytical Method for Electromagnetic Analysis of Axial Flux Permanent Magnet Motor with 3D Leakage Flux in Overhang Structures
J. Yang[1], T. Kim[1], K. Shin[2], C. Kim[4], Y. Kim[3], J. Choi[1]
[1]Electrical Engineering, Chung Nam National University, Daejeon, Korea (the Republic of), [2]Electrical Engineering, Changwon National University, Changwon, Korea (the Republic of), [3]Biosystems Machinery Engineering, Chung Nam National University, Daejeon, Korea (the Republic of), [4]Electrical and Electronic Engineering, Chungnam State Universuty, Cheongyang, Korea (the Republic of)
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AR-09. Flux Linkage Decomposition-based Analysis and Harmonic Reduction Design of Induced Voltage in High-Speed Multilayer IPMSM
K. Kim[2], Y. Jung[3], M. Park[1]
[1]Electrical Engineering, Soonchunhyang University, Asan-si, Korea (the Republic of), [2]Hanyang University, Seoul, Korea (the Republic of), [3]Yeungnam University, Gyungsan si, Korea (the Republic of)
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AR-10. Comparison of Energy Consumption of ML IPMSMs for EV Traction under Various Driving Cycles Considering DPMM Application
G. Park[1], M. Park[2], J. KIM[1], Y. Jung[1]
[1]Department of Automotive Engineering, Yeungnam University, Gyeongsan-si, Korea (the Republic of), [2]Department of Electrical Engineering, Soonchunhyang University, Asan, Korea (the Republic of)
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AR-11. A Study on the Effect of Pole–Slot Combination on Performance of High-Speed Aerospace SPMSM Using Fe–Co Electrical Steel
D. Ji, D. Kim, S. Oh, S. Song, H. Lee
Department of Electronics and Electrical Engineering, Dankook University, Yongin-si, Gyeonggi-do, Korea (the Republic of)
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AR-12. Effect of Compaction-Induced Magnetic Property Variations in SMC Stators on the Performance of Axial-Flux Permanent Magnet Machines
D. Um[1], L. Sjöberg[2]
[1]Gyeongsang National University, Jinju, Korea (the Republic of), [2]Alvier Mechatronics AB, Helsingborg, Sweden
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AR-13. Iron Loss Reduction by Secondary Current Heating Method and Magnetic Property Evaluation for Practical Motor Stator Cores
Y. Tsuchida, K. Irie, K. Iwanaga
Oita University, Oita, Japan
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AR-14. Effects of Laser Welding on Magnetic Properties of Electrical Discharge Machining-cut and Laser-cut Laminated Cores
Y. Tsuchida, T. Mine
Oita University, Oita, Japan
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AR-15. Design and Comparison of Dual-Rotor Synchronous Machines with Spoke-Type Stator PMs and Integrated Winding
Z. Zhang, M. Jiang, Z. Zhang, Z. Dong, S. Niu, K. Chau
Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China
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AR-16. A Simplified Evaluation of AC Copper Loss in a Permanent Magnet Synchronous Motor Based on Frequency Characteristics of Armature Winding Impedance
S. Hoshiyasu[1], T. Komine[2], Y. Takahashi[1], k. Fujiwara[1]
[1]Department of Electrical Engineering, Doshisha University, Kyotanabe, Kyoto, Japan, [2]Engineering Department, Toyo Denki Seizo K.K., Ryuou, Shiga, Japan
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SESSION AS: MAGNETIZATION DYNAMICS AND MICROMAGNETICS I (POSTER SESSION)
Chair(s): R. Tomasello, *Department of Electrical and Information Engineering, Politecnico di Bari, Bari, Italy*
Tuesday, April 14, 2026
09:00 AM-12:00 PM
Exchange Hall

AS-01. Mechanical Stress Effect on the Coercivity of Magnetic Barkhausen Noise Energy Loops of Oriented Silicon Steel Sheets
C. Li, L. Li
North China Electric Power University, Beijing, Beijing, China
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AS-02. Extracting Material Parameters from Magnetic Domain Patterns with Deep Learning
J. Smith[1, 2, 3], F. Slanovc[2], D. Suess[1]
[1]Faculty of Physics, University of Vienna, Vienna, Vienna, Austria, [2]Silicon Austria Labs, Villach, Carinthia, Austria, [3]Vienna Doctoral School of Physics, University of Vienna, Vienna, Vienna, Austria
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AS-03. Quantifying Temperature Gradient-Driven Spin-Texture Dynamics Through Magnetic Force Microscopy
N. Martin, A. Chanda, R. Bjørk, F. Trier
Department of Energy Conversion and Storage, Technical University of Denmark, Kongens Lyngby, Denmark
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AS-04. Inverse design of nanomagnet shape for tailored angle-dependence of magnetic switching
H. T. Kaarbø, E. Folven
Electronic systems, Norwegian University of Science and Technology, Trondheim, Trøndelag, Norway
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AS-05. Overcoming quadratic complexity in time for fast-moving textures in micromagnetics: A moving window approach
M. K. Steinbauer[1, 2, 3], F. Bruckner[1], C. Abert[1, 2]
[1]Physics of Functional Materials, Faculty of Physics, University of Vienna, Vienna, Austria, [2]Research Platform MMM Mathematics-Magnetism-Materials, University of Vienna, Vienna, Austria, [3]Vienna Doctoral School in Physics, University of Vienna, Vienna, Austria
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AS-06. Micromagnetic Investigation of Thickness-Dependent Skyrmion Evolution and Pinning in Fe_3GeTe_2
P. Cai[1], J. Garland[2, 3], J. Fullerton[3], R. Basnet[4], S. Chhetri[4], J. Hu[4], E. Santos[1, 6], Y. Li[3], C. Phatak[3, 5], A. Petford-Long[3, 5]
[1]School of Physics and Astronomy, University of Edinburgh, Edinburgh, United Kingdom, [2]Applied Physics Program, Northwestern University, Evanston, Illinois, United States, [3]Materials Science Division, Argonne National Laboratory, Lemont, Illinois, United States, [4]Department of Physics, University of Arkansas, Fayetteville, Arizona, United States, [5]Materials Science and Engineering Department, Northwestern University, Evanston, Illinois, United States, [6]Donostia International Physics Center, Donostia-San Sebastián, Spain
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AS-07. Current-Induced Magnetic Domain Ordering
J. C. Osborne[1], G. Burnell[1], J. E. Cunningham[2], T. A. Moore[1]
[1]Condensed Matter Physics, University of Leeds, Leeds, West Yorkshire, United Kingdom, [2]School of Electronic and Electrical Engineering, University of Leeds, Leeds, West Yorkshire, United Kingdom
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AS-08. Evaluation of Barkhausen Noise Signal for Different Grain Sizes of Non-Oriented Iron-Silicon Material
D. Gartner Aurich[1], M. Bernard[2], U. Krupp[2], N. Leuning[1]
[1]Insititute of Electrical Machines - RWTH Aachen University, Aachen, Germany, [2]Steel Institute - RWTH Aachen University, Aachen, Germany
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AS-09. SOT-driven Pinned and Free Domain Wall Dynamics in BiYIG films
E. Angeli[1], I. N. Bhatti[2], A. Thiaville[1], A. Anane[1], V. Jeudy[1]
[1]Université Paris-Sud, Gentilly, France, [2]Thales Communications & Security, Palaiseau, France
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AS-10. Temperature Dependent Spin Wave Stiffness of Permalloy Thin Films
D. Goli, J. Shuai, C. Marrows, J. Barker
School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom
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AS-11. The Accuracy of the Average Demagnetization Tensor for Use in Micromagnetics Calculations
E. Rostal Sørensen, A. R. Insinga, R. Bjørk
Energy, Technical University of Denmark, Kongens Lyngby, Denmark
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AS-13. A Computational Method to Determine the Volume Distribution of Demagnetization Factors within Both Solid Samples and Discrete Assemblies of Magnetic Elements for Any Given Shape
S. M. McCann, T. Mercer
University of Lancashire, Preston, Lancashire, United Kingdom
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AS-14. Head-to-head Textures Stabilization through Local Anisotropy Modifications in Large Aspect Ratio Stripes
R. Fernandez-Jimenez[1], M. Sánchez-Agudo[2], P. Ochoa[2], A. Gómez[3], M. Magaz[3], J. Soler-Morala[1], J. Rubio-Zuazo[1, 4], F. Palomares[1], J. M. González[1]
[1]Nanoscience and Nanotechnology, Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Madrid, Spain, [2]CEMDATIC-ETS y Sistemas de Telecomunicacion, Universidad Politecnica de Madrid (UPM), Madrid, Madrid, Spain, [3]Centro de Astrobiología CAB, CSIC-INTA, Madrid, Madrid, Spain, [4]Spanish CRG Beamline BM25-SpLine, European Synchrotron Radiation Facility (ESRF), Grenoble, Grenoble, France
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AS-15. Excitation of Vortex Core Gyration in Nanopillars through Driven Floquet Magnons
G. Philippe, J. Kim
C2N, CNRS / Université Paris-Saclay, Palaiseau, France
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AS-16. Selective control of bubble-domain structures at zero magnetic field in [Ru/Co/Pt] multilayers
Y. Hisada[1], P. Karipoth[2], J. C. Osborne[2], S. Komori[1], T. A. Moore[2], T. Taniyama[1]
[1]Department of Physics, Nagoya University, Nagoya, Japan, [2]School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom
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SESSION AT: MAGNETIC THIN FILMS AND MULTILAYERS (POSTER SESSION)
Chair(s): A. Talapatra, *GlobalFoundries, Dresden, Germany*
Tuesday, April 14, 2026
09:00 AM-12:00 PM
Exchange Hall

AT-01. Rotation of uniaxial magnetic anisotropy induced by interface roughness in polycrystalline Co/Ru/Co multilayers
S. Asai[1], Y. Hisada[1], S. Komori[1], Y. K. Takahashi[2], T. Taniyama[1]
[1]Department of Physics, Nagoya University, Nagoya, Japan, [2]Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Ibaraki, Japan
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AT-02. Effect of post-sputtering thermal annealing on the microstructure of multilayer AgO/Ag-TaO/TaO thin films
R. Binti Alias[1, 2], W. W Mohamad[1, 3]
[1]Faculty of Innovative Design and Technology, Universiti Sultan Zainal Abidin, Campus Gong Badak, 21300 Kuala Nerus, Terengganu Darul Iman, Malaysia, Universiti Sultan Zainal Abidin, Kuala Nerus, Terengganu, Malaysia, [2]Biomaterials and Nanomaterials Research Group, Faculty of Innovative Design and Technology, UNISZA, Kuala Nerus, Terengganu, Malaysia, [3]Design Optimization and Manufacturing Research Group, Faculty of Innovative Design and Technology, UNISZA, Kuala Nerus, Terengganu, Malaysia
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AT-03. Surface Morphology of AgAgTaO Thin Films at Various Annealing Temperatures
W. W Mohamad[1, 2], R. Binti Alias[1, 3]
[1]Manufacturing Technology, Universiti Sultan Zainal Abidin, Kuala Terengganu, Terengganu, Malaysia, [2]Design Optimization and Manufacturing Research Group, Universiti Sultan Zainal Abidin, Kuala Terengganu, Terengganu, Malaysia, [3]Biomaterials and Nanomaterials Research Group, Universiti Sultan Zainal Abidin, Kuala Terengganu, Terengganu, Malaysia
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AT-04. Tuning the Magnetic Properties and Sputtering Performance of FeCoB Sputtering Targets Through Composition and Process Control
Q. Zeng, D. VanHeerden, D. Lian, S. Kennedy
T&I, Materion Corp., Brewster, New York, United States
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AT-05. Probing Surface Magnetization in the Altermagnetic Candidate MnF2 (110)
V. O. Curbelo[1], P. Bawankule[1], C. de Oliveira[1], S. Terakawa[2], C. Luo[3], V. Ukleev[3], F. Radu[3], A. Bedoya Pinto[1]
[1]Institute of Molecular Sciences (ICMOL), University of Valencia, Burjassot, Valencia, Spain, [2]Department of Applied Physics, Osaka University, Suita, Osaka, Japan, [3]Helmholtz-Zentrum Berlin fur Materialien und Energie, Berlin, Germany
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AT-06. Local Structural anisotropy as the origin of PMA in Ta/CoFeB/MgO heterostructure
M. Singh[1], S. K. Vayalil[2, 1], A. Hloskovsky[2], C. Schlueter[2], C. Meneghini[3], I. Carlomagno[4], A. Gupta[1]
[1]Applied Science Cluster, UPES, Dehradun,248007, Uttarakhand, India, [2]Deutsches Elektronen-Synchrotron (DESY), Notkestraße 85, 22607 Hamburg, Germany, [3]Department of Science, Roma Tre University, Via Della Vasca Navale 84, 00146 Rome, Italy, [4]Elettra Sincrotrone Trieste, Basovizza, Trieste 34149, Italy
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AT-08. A Study on Magnetic Textures in Ultrathin Co/Ni Multilayers
N. P. Vizarim[1], C. C. Soares[1, 2], J. Brandao[2], F. Béron[1]
[1]DFMC, Universidade Estadual de Campinas, Campinas, SP, Brazil, [2]Laboratorio de Luz Sincroton, Centro Nacional de Pesquisa em Energia e Materiais, Campinas, SP, Brazil
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AT-10. Developing novel magnetic L10 alloys for spintronics
N. Naushad, T. Thomson, P. Nutter
Computer Science, University of Manchester, Manchester, United Kingdom
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AT-11. Variation in Magnetostriction of Fe-Co Depending on Film Stress
S. Umetsu[1], Y. Takahashi[1], M. Ohtake[2], N. Inaba[1]
[1]Graduate School of Science and Engineering, Yamagata University, Yonezawa, Yamagata, Japan, [2]Faculty of Engineering, Yokohama National University, Yokohama, Japan
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AT-12. Magnetic Frustration and Anomalous Nernst Effect at Metallo-Molecular Interfaces
Z. Parkin
Physics, University of Leeds, Leeds, United Kingdom
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AT-14. Magnetic easy plane in Co/Pt trilayer
C. Aulagnet[1], E. Fullerton[2], S. Mangin[1, 3]
[1]Institut Jean Lamour, Université de Lorraine, Nancy, France, [2]Center for Memory and Recording Research, University of California, San Diego, San Diego, California, United States, [3]Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan
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AT-15. Inter-Layer Exchange Coupling Characterization for 3D Nanomagnetic Architectures
B. A. Mimica Figari[1], A. Arabzadeh[2, 3], G. Varvaro[2], S. P. Oramus[4], F. Ferri[5], R. Fornari[6], R. Tomasello[1], M. Carpentieri[1], A. O. Adeyeye[4], G. Gubbiotti[7], V. Puliafito[1]
[1]Electrical and Information Engineering, Politecnico di Bari, Bari, Bari, Italy, [2]nM2-Lab, CNR – Istituto di Struttura della Materia (ISM), Roma, Roma, Italy, [3]Dipartimento di Scienze, Università Roma Tre, Roma, Roma, Italy, [4]Department of Physics, Durham University, Durham, Durham, United Kingdom, [5]University of Salento, Lecce, Lecce, Italy, [6]Dipartimento di Fisica e Geologia, University of Perugia, Perugia, Perugia, Italy, [7]CNR - Istituto Officina dei Materiali (IOM), Perugia, Perugia, Italy
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AT-16. Crystallographic orientation dependence of the anisotropic magnetoresistance in epitaxial $Fe_{100-x}Co_x$ thin films
L. Saba[2], A. Paz[3], W. Painado Lozano[3], A. Gutarra[3], L. León Hilario[3], D. Perez Morelo[2], D. Gonzalez-Chavez[4], J. Gomez[1], A. Butera[1, 2], M. Granada[1, 2], L. Avilés Félix[1, 2]
[1]Magnetism and Magnetic Materials, Centro Atomico Bariloche, San Carlos de Bariloche, Argentina, [2]Instituto Balseiro, Bariloche, Argentina, [3]Universidad Nacional de Ingeniería, Lima, Peru, [4]Universidad Catolica San Pablo, Lima, Peru
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SESSION AU: SPIN-ORBIT AND ORBITAL TORQUES I (POSTER SESSION)
Chair(s): Z. Zhu, *ShanghaiTech University, Shanghai, China*
Tuesday, April 14, 2026
09:00 AM-12:00 PM
Exchange Hall

AU-01. Charge-to-spin interconversion in Py/W bilayers
N. Abellán Lorenzo[1, 2], C. Lombardo[1, 2], M. Pacheco[7], Y. Ma[5], Y. Yang[4], M. Aguirre[6], M. Vasquez Mansilla[1, 3], J. Gomez[1, 3], A. Butera[1, 2, 3], L. Avilés Félix[1, 2, 3]
[1]Magnetism and Magnetic Materials, Centro Atomico Bariloche, San Carlos de Bariloche, Argentina, [2]Universidad Nacional de Cuyo, Instituto Balseiro, Bariloche, Argentina, [3]CNEA - CONICET, Instituto de Nanociencia y Nanotecnología, Barioche, Argentina, [4]ShanghaiTech University, Shangai, China, [5]National University of Singapore, Singapore, Singapore, [6]Universidad de Zaragoza, Zaragoza, Spain, [7]Universidad Nacional de Ingeniería, Lima, Peru
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AU-02. Crystallinity Control of spin torque efficiency in CuNi alloys
W. Zhu, J. Gu, X. Qiu, S. Zhou
School of Physics Science and Engineering, Tongji University, Shanghai, China
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AU-05. Ultra-Low Switching Current in Y-Type SOT Devices Enabled by the Unconventional Role of Hafnium
Y. Li, C. Wei
National Tsing Hua University, Hsinchu, Taiwan
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AU-06. Angle resolved second harmonic Hall measurements for spin orbit torques in Out of Plane configuration
A. Chauhan, A. Erram, A. A. Tulapurkar
Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India
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AU-07. Self and externally induced spin-orbit torque in Fe_3GaTe_2
T. Prok[1, 2, 3], Z. Kovacs-Krausz[1, 2], M. Varga[1], S. Csonka[1, 4, 5], S. P. Dash[6], P. Makk[1, 2], E. Tovari[1, 2]
[1]Dept. of Physics, Budapest University of Technology and Economics, Budapest, Hungary, [2]MTA-BME Correlated van der Waals Structures Momentum Research Group, Budapest, Hungary, [3]Zernike Institute for Advanced Materials, University of Groningen, Groningen, Netherlands, [4]MTA-BME Superconducting Nanoelectronics Momentum Research Group, Budapest, Hungary, [5]Institute of Technical Physics and Materials Science, HUN-REN Centre for Energy Research, Budapest, Hungary, [6]Department of Microtechnology and Nanoscience, Chalmers University of Technology, Goteborg, Sweden
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AU-08. Magnetization switching in α-W-based magnetic tunnel junction induced by a combination of spin-orbit and field torques
K. Grochot[1], M. Cierpial[1], J. Mojsiejuk[1], J. Pawlak[1], J. Kanak[1], J. Wrona[2], T. Nan[3], W. Skowronski[1]
[1]AGH University of Krakow, Krakow, Poland, [2]Singulus Technologies AG, Kahl am Main, Germany, [3]School of Integrated Circuits Tsinghua University, Beijing, China
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AU-12. Demonstration of field-free switching via Orbital Hall effect in NiFe/Cr bilayer
A. Kumar, C. Kalouni, A. R. K, K. ., D. Roy
Physics, Indian Institute of Technology Ropar, Rupnagar, Punjab, India
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AU-13. First-principles investigations on spin-orbit torque in ferromagnetic bilayers and bulk collinear antiferromagnets
Y. Song, J. Zhang
Physics, Hua Zhong University of Science and Technology, Wuhan, China
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AU-14. Sign Reversal and Unconventional Spin–Orbit Torques Enabled by Pt/Ti Multilayer Interfaces
S. Riyaz, R. Mishra
Centre for Applied Research in Electronics, Indian Institute o Technology Delhi, New Delhi, Delhi, India
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AU-16. Enhancing spin orbit interaction in Cu based devices for spintronics
M. M. Martínez Cameros, G. Vashisht, B. J. Hickey, G. Burnell
Condensed Matter Physics Department, University of Leeds, Leeds, Yorkshire, United Kingdom
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OVERVIEW WORKSHOP
Tuesday, April 14, 2026
12:15 PM-01:45 PM
Exchange 9

SESSION BA: NEXT-GENERATION SPINTRONICS BASED ON TWO-DIMENSIONAL MATERIALS

Chair(s): I. Vera Marun, *University of Manchester, Manchester, United Kingdom*

Tuesday, April 14, 2026

02:00 PM-05:30 PM

Exchange Auditorium

02:00 PM-02:30 PM

BA-01. Magnetic proximity effects in 2D heterostructures

J. Fabian[1, 2]

[1]Institute of Theoretical Physics, Regensburg, Germany, [2]Halle-Berlin-Regensburg Cluster of Excellence CCE, Regensburg, Germany

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02:30 PM-03:00 PM

BA-02. Valley-controlled many-body exciton interactions in monolayer WSe_2 phototransistors

M. Guimaraes

Zernike Institute for Advanced Materials, University of Groningen, Groningen, Netherlands

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03:00 PM-03:30 PM

BA-03. Charge and Spin Transport in Two-dimensional $MnBi_2Te_4$

A. Avsar

National University of Singapore, Singapore, Singapore

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03:30 PM-04:00 PM

Break

04:00 PM-04:30 PM

BA-04. Engineering topological and transport phenomena in graphene-based heterostructures via twisting, gating and strain

A. Dyrdal

Faculty of Physics and Astronomy, Adam Mickiewicz University, Poznan, Greater Poland, Poland

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04:30 PM-05:00 PM

BA-05. Engineering Energy-Efficient Spin-Orbit Torques in Van der Waals Heterostructures

S. P. Dash

Chalmers University of Technology, Gothenburg, Vastra Gotaland, Sweden

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05:00 PM-05:30 PM

BA-06. Towards Tuning Magnetism and correlation with pressure

S. Bhattacharyya

Leiden Institute of Physics, Leiden University, Leiden, Netherlands

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SESSION BB: FROM HEUSLERS TO HIGH-ENTROPY ALLOYS: DISORDER, TOPOLOGY, AND TUNABLE MAGNETOTRANSPORT

Chair(s): M. Vázquez, *Instituto de Ciencia de Materiales de Madrid, CSIC, Spain, Madrid, Spain*

Tuesday, April 14, 2026

02:00 PM-05:30 PM

Charter 1

02:00 PM-02:30 PM

BB-01. Topological Heusler Compounds: Reciprocal and Real-Space Topologies

C. Felser

Topological Quantum Chemistry, Max Planck Institute Chemical Physics of Solids, Nieder-Olm, Germany

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02:30 PM-03:00 PM

BB-02. From all-d Heusler to high entropy alloys for magnetic materials for energy conversion

O. Gutfleisch[1, 2]

[1]Material Science, TU Darmstadt, Darmstadt, Germany, [2]Max Planck Institute for Sustainable Materials, Düsseldorf, Germany

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03:00 PM-03:30 PM

BB-03. Heusler Alloy Films for Spintronic Devices by Controlling Their Crystallisation Process

A. Hirohata[1, 2], E. Pandey[2], S. Yamashita[2], G. Fecher[2], H. Koizumi[1], E. Lesne[2], C. Felser[2]

[1]Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan, [2]Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

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03:30 PM-04:00 PM

Break

04:00 PM-04:30 PM

BB-04. Anomalous Nernst and Hall effects in quaternary Heusler and magnetic High Entropy Alloys

H. Srikanth

Physics, University of South Florida, Tampa, Florida, United States

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04:30 PM-05:00 PM

BB-05. From Disorder to Design: Fast Ab-Initio and Machine-Learning in High-Entropy Intermetallic Magnets

G. Yin, T. Corbett, W. Beeson, K. Liu

Department of Physics, Georgetown University, Washington, District of Columbia, United States

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SESSION BC: VOLTAGE-CONTROLLED MAGNETIC ANISOTROPY AND MAGNETO-IONICS

Co-Chair(s): R. G. Hunt, *Material Physics, Uppsala University, Uppsala, Sweden* and L. Ishibe Veiga, *Diamond Light Source Ltd, Didcot, United Kingdom*

Tuesday, April 14, 2026

02:00 PM-05:30 PM

Charter 2

02:00 PM-02:30 PM

BC-01. Towards Mechanistic Understanding of Emerging Oxygen- and Hydrogen-based Magneto-ionic Materials

K. Leistner, M. Goessler

Institute of Chemistry, Chemnitz University of Technology, Chemnitz, Germany

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02:30 PM-02:45 PM

BC-02. Modification of ultrafast magnetization dynamics in $Tb_{29}Co_{71}$ thin films with hydrogen ions

R. G. Hunt[1], V. Shokeen[2], M. P. Grassi[1], R. Chulkov[2], H. Dürr[2], G. Andersson[1]

[1]Material Physics, Uppsala University, Uppsala, Sweden, [2]Uppsala University, Uppsala, Sweden

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02:45 PM-03:00 PM

BC-03. Hydrogen-magneto-ionics in Pt-capped $[Co/Pd]_3$ multilayers

F. Engelhardt[1, 2], R. Ehrler[1, 2], M. Goessler[1], O. Hellwig[1, 2, 3], K. Leistner[1, 2, 4]

[1]Faculty of Natural Sciences, TU Chemnitz, Chemnitz, Saxony, Georgia, [2]Center for Materials Architectures and Integration of Nanomembranes (MAIN), TU Chemnitz, Chemnitz, Saxony, Germany, [3]Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Saxony, Germany, [4]Leibniz-Institut für Festkörper- und Werkstoffforschung Dresden, Dresden, Saxony, Germany

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03:00 PM-03:15 PM

BC-04. Voltage-Driven Control of Exchange Bias Field in Pt/Co/CoO Thin Films via Magneto-ionic Effects

A. Klimeczek[1], M. De-Santis[1], F. Gay[1], L. Ranno[1], J. Vogel[1], A. Masseboeuf[2], A. D. Lamirand[3], S. Pizzini[1]

[1]Institut Néel CNRS, Grenoble, Auvergne-Rhône-Alpes , France, [2]CEA-SPINTEC, Grenoble, France, [3]Laboratoire de Physique et Chimie des Nano-objets - INSA, Lyon, France

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BC-05. Large Voltage-Controlled Magnetic Anisotropy (VCMA) Effect at metalloporphyrin grafted Graphene/NiFe interface

A. Shukla[1, 2], A. Erram[1], H. A. Mendonca[1], D. Kumar[3], A. Chauhan[1], A. A. Tulapurkar[1]

[1]Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, India, [2]Seagate Technology, Londonderry, Northern Ireland, United Kingdom, [3]Tohoku University, WPI Advanced Institute for Materials Research, Katahira, Japan

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03:30 PM-04:00 PM

Break

04:00 PM-04:15 PM

BC-06. Electric and Thermal Control of Magnetic Anisotropy in $Ni_{90}Fe_{10}/BaTiO_3(001)$ Magnetoelectric Heterostructures

A. Begué[1, 3], W. Khaliq[4], N. Cotón[1], M. Angel[4], M. Foerster[4], R. Ranchal[1, 2]

[1]Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Madrid, Spain, [2]Instituto de Magnetismo Aplicado, Las Rozas, Madrid, Spain, [3]Laboratoire Albert Fert, CNRS, Thales, Universite Paris-Saclay, Palaiseau, France, [4]ALBA Synchrotron Light Facility, Cerdanyola del Valles, Spain

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04:15 PM-04:30 PM
BC-07. Magneto-ionic Control of a Propagating Spin Reorientation Transition
G. Bernard[1], X. Lafosse[1], C. Tataru[1], M. Syskaki[2], A. Durnez[1], F. Mahut[1], D. Ravelosona[1], J. Langer[2], L. Herrera Diez[1]
[1]Centre for Nanoscience and Nanotechnology, Université Paris-Saclay, Palaiseau, France, [2]Singulus Technologies AG, Kahl am Main, Germany
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04:30 PM-04:45 PM
BC-08. Engineering of epitaxial Mn4N films for spintronics applications
T. Apetrei, S. Damerio, C. Avci
Institut de Ciencia de Materials de Barcelona, Barcelona, Barcelona, Spain
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04:45 PM-05:00 PM
BC-09. Reversible Voltage-Tunable Hysteresis in Fe-Ni Films via Magneto-Ionic Effects
A. Ullrich[1], F. L. Hambeck[1], D. Wolf[2], K. Leistner[1, 2]
[1]Institute of Chemistry, University of Technology Chemnitz, Chemnitz, Germany, [2]Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany
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05:00 PM-05:15 PM
BC-10. All-solid-state magneto-ionics using a proton-conducting polymer electrolyte
M. Goessler, F. Engelhardt, K. Leistner
Institute of Chemistry, Chemnitz University of Technology, Chemnitz, Saxony, Germany
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SESSION BD: ANTIFERROMAGNETIC DYNAMICS

Co-Chair(s): B. A. Assaf, *Physics, Univesity of Notre Dame, Notre Dame, Indiana, United States* and Y. Yamane, *Tohoku University, Sendai, Japan*
Tuesday, April 14, 2026
02:00 PM-05:30 PM
Charter 3

02:00 PM-02:30 PM
BD-01. Electric Field-induced Antiferromagnetic Resonance in $MnPS_3$
E. Del Barco[1], J. Hanson-Flores[1], A. Regmi[1], J. Keum[2], J. Park[2], R. Cheng[3], S. Singh[4], D. A. Arena[5]
[1]University of Central Florida, Orlando, Florida, United States, [2]Seoul National University, Seoul, Korea (the Republic of), [3]University of California-Riverside, Riverside, California, United States, [4]Carnegie Mellon University, Pittsburg, Pennsylvania, United States, [5]University of South Florida, Tampa, Florida, United States
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02:30 PM-02:45 PM
BD-02. Exotic magnetic phenomena near compensation in Pt/Al-substituted terbium iron garnet heterostructures
T. Shiino, M. Fettizio, W. Janus, S. Estandía, C. Avci
Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Bellaterra, Barcelona, Spain
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02:45 PM-03:00 PM
BD-03. Orbital-torque driven excitation of terahertz perpendicular standing spin wave modes
H. Devda[1], P. M. Oppeneer[2], U. Nowak[1]
[1]Fachbereich Physik, Universität Konstanz, Konstanz, Germany, [2]Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden
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03:00 PM-03:15 PM
BD-04. Handed Antiferromagnetic Magnon Propagation in α-Fe_2O_3
C. Xu*, H. Park, C. Zhang, H. Yang
Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore
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03:15 PM-03:30 PM
BD-05. Critical Co Thickness for Magnetic-Field-Induced Reorientation of the NiO Néel Vector
D. Backes[1], E. Heppell[1, 2, 3], S. Langridge[3], G. van der Laan[1], T. Hesjedal[1, 2]
[1]Diamond Light Source, Didcot, United Kingdom, [2]University of Oxford, Oxford, United Kingdom, [3]ISIS Neutron and Muon Source, STFC Rutherford Appleton Laboratory, Didcot, United Kingdom
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03:30 PM-04:00 PM
Break

04:00 PM-04:30 PM
BD-06. Voltage-Controlled Magnon Transistors
X. Han
Institute of Physics, Chinese Academy of Sciences, Beijing, China
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04:30 PM-04:45 PM
BD-08. Atomistic spin dynamics modelling of antiferromagnetic skyrmions and bimerons in spintronic devices
C. Thevenard[1], M. Leiviska[1], R. F. Evans[2], D. Gusakova[1], V. Baltz[1]
[1]Univ. Grenoble Alpes, CNRS, CEA, Grenoble INP, IRIG-SPINTEC, Grenoble, France, [2]School of Physics, Engineering and Technology, University of York, York, United Kingdom
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04:45 PM-05:00 PM
BD-09. Ferroelectric control of THz emission from active spintronic interfaces Via Inverse Rashba-Edelstein effects
F. Miljevic[1], S. Massabeau[1], O. Paull[1], A. Pezo[1], R. T. Victor[1], M. Jain[1, 2], R. Lebrun[1], F. Leroy[3], M. Mičica[4], S. Dhillon[4], M. Bibes[1], M. Jamet[5], H. Jaffrès[1], J. George[1]
[1]Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, Palaiseau, Essonne, France, [2]Centre for Nanoscience and Nanotechnology, CNRS, Université Paris-Saclay, Palaiseau, Essonne, France, [3]Aix Marseille Univ, CNRS, CINAM, AMUTECH, Marseille, France, [4]LPENS, ENS, Université PSL, CNRS, Sorbonne Université, Université Paris-cité, Paris, Paris, France, [5]Univ. Grenoble Alpes, CEA, CNRS, Grenoble -INP, IRIG SPINTEC, Grenoble, France
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05:00 PM-05:15 PM
BD-10. Emergent impedance due to antiferromagnetic domain wall dynamics
Y. Yamane[1], J. J. Nakane[2], Y. Araki[3], J. Ieda[3]
[1]Tohoku University, Sendai, Japan, [2]Nagoya University, Nagoya, Japan, [3]Japan Atomic Energy Agency, Tokai, Japan
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05:15 PM-05:30 PM
BD-11. Aluminum-Substituted Yttrium Iron Garnet Films with Perpendicular Anisotropy Grown on Silicon by Sputtering
M. Fettizio, S. Fedel, S. Estandía, J. A. De Sousa, C. Avci
Institute of Materials Science of Barcelona (ICMAB-CSIC), Barcelona, Spain
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SESSION BE: NDFEB BASED HARD MAGNETIC MATERIALS
Chair(s): A. Aubert, *TU Darmstadt, Darmstadt, Germany*
Tuesday, April 14, 2026
02:00 PM-05:30 PM
Charter 4

02:00 PM-02:30 PM
BE-01. Recycling Rare Earth Permanent Magnets: Challenges, Strategies, and Processing Innovations
I. Nlebedim[1], H. Khazdozian[1, 2], H. Parmar[1], B. Cui[1], D. Prodius[1], X. Liu[1]
[1]Division of Critical Materials, Ames National Laboratory, Ames, Iowa, United States, [2]Currently at Office of Critical Minerals and Energy Innovation, U.S. Department of Energy, Washington DC, District of Columbia, United States
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02:30 PM-02:45 PM
BE-02. Magnetic Properties of Recycled Nd-Fe-B Powders Obtained by Gas Atomization
D. Monzón Martín[1, 2], G. Sarriegui[1, 2], N. Burgos[1, 2], J. Martín[1, 2], M. Salaheldeen[3], V. Zhukova[3], A. Zhukov[3]
[1]CEIT-BRTA, San Sebastián, Spain, [2]University of Navarra, San Sebastián, Spain, [3]University of the Basque Country, San Sebastián, Spain
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02:45 PM-03:00 PM
BE-03. From Strategic Grain Boundary Diffusion to Segmentation: a Novel Production Route for Resource-Efficient Nd–Fe–B Magnets
I. Dirba[1], A. Durgun[1], K. Opelt[2], C. Lin[2, 1], J. Gassmann[2], O. Gutfleisch[1]
[1]Institute of Materials Science, Technical University of Darmstadt, Darmstadt, Hessen, Germany, [2]Magnetic Materials, Fraunhofer IWKS, Hanau, Germany
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03:00 PM-03:15 PM
BE-04. In-situ Grain-Boundary Diffusion Approach for Recycled Nd-Fe-B Powders
T. Tomše[1], F. Burkhardt[1], Z. Samardzija[1], K. Zuzek[1, 2]
[1]Department for Nanostructured Materials, Institut Jozef Stefan, Ljubljana, Slovenia, [2]Jozef Stefan International Postgraduate School, Ljubljana, Slovenia
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03:15 PM-03:30 PM
BE-05. Ce Substitution via the 2-Powder Method for Nd-Fe-B Magnets: A Sustainable Approach to Reduce Rare Earth Element Dependency While Preserving Performance
C. Lin[1, 2], J. Rossa[1], K. Opelt[1], A. Durgun[2], I. Dirba[2], O. Gutfleisch[2]
[1]Magnetic Materials, Fraunhofer IWKS, Hanau, Germany, [2]Materials Science, TU Darmstadt, Darmstadt, Germany
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03:30 PM-04:00 PM
Break

04:00 PM-04:30 PM
BE-06. Boosting Coercivity and Magnetic Performance in PBF-LB Nd-Fe-B Magnets through Ag-Nanoparticle Feedstock Engineering Supported by In-Line OES Quality Monitoring
P. Gabriel, S. Barcikowski, A. Ziefuss
Technical Chemistry I and Center for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, Essen, Germany
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04:30 PM-04:45 PM

BE-08. Grain Boundary Modification of Recycled Single-Phase $Nd_2Fe_{14}B$ Powder Using Rare-Earth-Cu Alloys

M. Rebernik Gracej[1, 2], T. Tomše[1], Z. Samardzija[1], C. Burkhardt[3], L. Schieren[3], K. Zuzek Rozman[1, 2]

[1]Department for Nanostructured Materials, Jozef Stefan Institute, Ljubljana, Slovenia, [2]Jozef Stefan International Postgraduate School, Ljubljana, Slovenia, [3]Institute for Precious and Technology Metals, Pforzheim University, Pforzheim, Germany

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04:45 PM-05:00 PM

BE-10. The 2-powder method: Enhancing the size limit of the grain boundary diffusion process in NdFeB magnet production

K. Opelt[1], M. Schönfeldt[1], C. Lin[1, 2], I. Dirba[2], A. Durgun[2], N. Chimed[3], T. Schwarz[3], M. Jovičević-Klug[3], D. Raabe[3], O. Gutfleisch[2]

[1]Magnetic Materials, Fraunhofer IWKS, Hanau, Hessen, Germany, [2]Department of Materials and Geosciences, TU Darmstadt, Darmstadt, Germany, [3]Microstructure Physics and Alloy Design, Max Planck Institute for Sustainable Materials, Düsseldorf, Germany

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SESSION BF: 3D MAGNETISM AND TOPOLOGICALLY NON-TRIVIAL SPIN TEXTURES

Chair(s): J. Kim, *Université Paris-Saclay, Palaiseau, France*

Tuesday, April 14, 2026

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Exchange 9

02:00 PM-02:30 PM

BF-01. Engineering Topological Antiferromagnetic Solitons for Spintronics

H. K. Jani

Physics, University of Oxford, Oxford, United Kingdom

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02:30 PM-02:45 PM

BF-02. Current-Induced Nucleation and Transport of Magnetic Hopfions in Nanotubes

L. Gallard, R. Hertel

IPCMS - CNRS - Université Strasbourg, Strasbourg, France

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BF-03. Fractional hopfions in composite magnets

S. Ashok[1], N. T. Bechler[1], F. S. Yasin[2], J. Masell[1, 3]

[1]Institute of Theoretical Solid State Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany, [2]Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, Oak Ridge, Tennessee, United States, [3]Center for Emergent Matter Science, RIKEN, Wako, Japan

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03:00 PM-03:15 PM
BF-04. Topological magnetic phase transitions via a fluctuation-free pathway
R. Battistelli[1, 5], L. Körber[1, 2], K. Litzius[5], M. Grelier[3], K. Puzhekadavil Joy[1, 5], M. Schneider[4], S. Wittrock[1], D. Metternich[1, 4], T. Karaman[5], L. Kern[4], C. Klose[4], S. Finizio[6], J. Fuchs[4], C. Günther[7], T. A. Butcher[4, 6], K. Prokes[1], R. Boltje[1, 5], M. Patra[5], S. Wintz[1], M. Weigand[1], S. Petz[1], H. Popescu[8], J. Raabe[6], N. Jaouen[8], S. Eisebitt[4, 9], V. Cros[3], B. Pfau[4, 9], J. Mentink[2], N. Reyren[3], F. Buettner[1, 5]
[1]Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Berlin, Germany, [2]Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands, [3]Laboratoire Albert Fert CNRS, Thales, Université Paris-Saclay, Palaiseau, France, [4]Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy, Berlin, Berlin, Germany, [5]Experimental Physics V, University of Augsburg, Augsburg, Germany, [6]Swiss Light Source, Paul Scherrer Institute, Villigen, Switzerland, [7]Zentraleinrichtung Elektronenmikroskopie (ZELMI), Technische Universität Berlin, Berlin, Germany, [8]Synchrotron SOLEIL, Saint-Aubin, France, [9]Institute of Physics and Astronomy, Technische Universität Berlin, Berlin, Germany
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03:15 PM-03:30 PM
BF-05. Magnetic Ordering in Chiral Nanotubes with Competing Interactions
I. Muñoz Aldalur[1, 2], O. Iglesias[1, 2]
[1]Dpt. Condensed Matter Physics, University of Barcelona, Barcelona, Spain, [2]Institute of Nanoscience and Nanotechnology of the UB, IN2UB, Barcelona, Spain
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Break

04:00 PM-04:15 PM
BF-06. Curvature-Induced Effects on Current-Driven Skyrmion Motion in a Bent Nanotube
J. I. Costilla Pinedo[1*], V. Kravchuk[2, 3], M. Castro[4], D. Altbir[5], V. Carvalho[1]
[1]Physics Department, Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, [2]Leibniz-Institut, Dresden, Germany, [3]Bogolyubov Institute for Theoretical Physics of the National Academy of Sciences of Ukraine, Kyiv, Ukraine, [4]Universidad de Santiago de Chile, Santiago, Chile, [5]Universidad Diego Portales, Santiago, Chile
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BF-07. Artificial symmetry design of spin topology and its spin excitations
Y. Zhang[1], M. Cai[1], H. Yu[2], K. Shen[1], J. Zhang[1]
[1]School of Physics and Astronomy, Beijing Normal University, Beijing, China, [2]School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China
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04:45 PM-05:00 PM
BF-08. Skyrmion motion in synthetic antiferromagnets and ferrimagnets driven by asymmetric spin wave emission
C. Barker[1], C. Parton-Barr[2], C. Marrows[2], O. Kazakova[1, 3], C. Barton[1]
[1]National Physical Laboratory, Teddington, United Kingdom, [2]School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom, [3]Department of Electrical and Electronic Engineering, University of Manchester, Manchester, United Kingdom
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05:00 PM-05:15 PM
BF-09. Skyrmion–Antiskyrmion Lattice in Anisotropic Frustrated Chiral Magnets
S. Banik[1], N. Kiselev[2], A. Nandy[1]
[1]School of Physical Sciences, National Institute of Science Education and Research, Jatni, Odisha, India, [2]Peter Grunberg Institute, Forschungszentrum Julich, Julich, Germany
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05:15 PM-05:30 PM
BF-10. Skyrmion Hall effect in d-wave altermagnets
N. T. Bechler, J. Masell
Institute of Theoretical Solid State Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany
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SESSION BG: MAGNETIC RECORDING AND MEDIA

Co-Chair(s): S. Piramanayagam, *School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore* and C. Rea, *Seagate Technology, Edina, Minnesota, United States*
Tuesday, April 14, 2026
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Exchange 10

02:00 PM-02:15 PM
BG-01. SNR estimation of anomalous Hall effect-based HDD reader for 4 Tbpsi by using read head equivalent circuit
K. Okamoto, S. Shirotori, A. Kikitsu, K. Yamada, Y. Higashi
Toshiba Corporation, Kawasaki-shi, Kanagawa-ken, Japan
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02:15 PM-02:30 PM
BG-02. Multilayered Magnetic Recording Media by Flip-Disk Bonding
B. L. Reese[1, 2]^, J. Chang[1, 2], D. E. Laughlin[1, 2], J. Zhu[1, 2, 3]
[1]Materials Science, Carnegie Mellon University, Pittsburgh, Pennsylvania, United States, [2]Data Storage Systems Center, Carnegie Mellon University, Pittsburgh, Pennsylvania, United States, [3]Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania, United States
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02:30 PM-02:45 PM
BG-03. Demonstrating magnetic memory in iron-rhodium thin film structures using a quantum diamond microscope
K. V. Ung[1, 2, 3], G. M. Stephen[4], N. Blumenschein[4], S. W. LaGasse[4], S. P. Bennett[5], R. Walsworth[1, 2, 3], A. Friedman[4], P. Petruzzi[4]
[1]Physics, University of Maryland, Washington, District of Columbia, United States, [2]Joint Quantum Institute, College Park, Maryland, United States, [3]Quantum Technology Center, College Park, Maryland, United States, [4]Laboratory for Physical Sciences, College Park, Maryland, United States, [5]Naval Research Laboratory, Washington, District of Columbia, United States
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BG-04. Multiple Sensor Magnetic Recording for Conventional and Shingled Heat Assisted Magnetic Recording
C. Rea, S. Granz, F. Erden, G. Ju, J. Thiele, P. Lu
Seagate Technology, Edina, Minnesota, United States
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BG-05. Reliability Test Techniques in Tabo Search Detection for Enhancing BER Performance of Array Reader Bit-Patterned Magnetic Recording Systems
M. Mattayakan, N. Rueangnetr, K. Kankhunthod, C. Warisarn
School of Integrated Innovative Technology, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand
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03:15 PM-03:30 PM
BG-06. Antiparallel Coupled Oscillation in a Spin-Torque Oscillator for MAMR using Negative Spin Polarization
Y. Nakagawa, N. Narita, M. Takagishi, Y. Hayakawa, J. Numata, R. Osamura, T. Maeda
Corporate Laboratory, Toshiba Corporation, Kawasaki, Kanagawa, Japan
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Break

04:00 PM-04:15 PM
BG-07. Fundamental Limit and General Methods of Multi-level Modulation for Magnetic Recording
T. Wu, J. Xing, P. Zhang, C. Chen
Huawei Technologies Co., Ltd., Moscow, Russian Federation
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04:15 PM-04:30 PM
BG-08. Partitioning Areal Density Gain of Shingled Magnetic Recording
X. Zheng, J. Gadbois, C. Rea
Seagate Technology, Bloomington, Minnesota, United States
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04:30 PM-04:45 PM
BG-09. Combining Unequal Bit Islands and Coding Design for Areal Density Enhancing in Dual-Layer Bit-Patterned Magnetic Recording Systems
R. Sriyapai[1], N. Rueangnetr[1], S. Koonkarnkhai[2], C. Warisarn[1]
[1]King Mongkut's Institute of Technology Ladkrabang, Lat Krabang, Bangkok, Thailand, [2]Faculty of Science and Technology, Nakhon Pathom Rajabhat University, Nakhon Pathom, Nakhon Pathom, Thailand
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BG-10. Mitigating Track Misregistration with a DBSCAN Algorithm in Two-Track Reading with a Single Reader for Shingled Magnetic Recording
P. Kochcha, K. Kankhunthod, C. Warisarn
School of Integrated Innovative Technology, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand
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BG-11. A study of thermal spot shape in dual-layered heat assisted magnetic recording
Y. Nakamura[1], T. Watanabe[1], M. Nishikawa[1], S. Greaves[2], Y. Kanai[3], Y. Okamoto[1]
[1] Graduate School of Science and Engineering, Ehime University, Matsuyama, Japan, [2]RIEC, Tohoku University, Sendai, Japan, [3]Niigata Institute of Technology, Kashiwazaki, Japan
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BG-12. Multiscale micromagnetic / atomistic modeling of heat assisted magnetic recording
M. Gija[1], A. Dobrynin[2], K. McNeill[2], M. Gubbins[2], T. Mercer[1], P. Bissell[1], S. Lepadatu[1]
[1]University of Central Lancashire, Bolton, United Kingdom, [2]Seagate Technology, Derry, United Kingdom
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SESSION BH: BULK SOFT MAGNETIC MATERIALS AND PM MOTOR ARCHITECTURES FOR HIGH-POWER SYSTEMS

Chair(s): J. Fuzer, *Institute of Physics, P. J. Šafárik University, Kosice, Slovakia*

Tuesday, April 14, 2026

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Exchange 11

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BH-01. Zr/Nb-Doped Cobalt Iron Boron Alloys for High Power Applications in Extreme Environments

M. Mancias[1], N. M. Bruno[2], V. Keylin[2], A. Leary[2], K. Chinnathambi[3], R. D. Noebe[2], K. Srinivasan[1]

[1]Electrical and Computer Engineering, Boise State University, Boise, Idaho, United States, [2]Materials and Structures Division, NASA Glenn Research Center, Cleveland, Ohio, United States, [3]Boise State Center for Materials Characterization, Boise State University, Boise, Idaho, United States

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BH-02. Effects of Bending Strain on the Magnetic Properties of Single-Phase Wound Transformer Cores

Y. Ichihara[1], H. Inoue[1], T. Omura[1], K. Senda[2]

[1]JFE Steel Corporation Steel Research Laboratory, Kurashiki, Okayama, Japan, [2]West Japan Solution Division, JFE Techno-Research Corporation, Kurashiki, Okayama, Japan

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BH-03. Influence of Heat-Treatment on Magnetic Properties of Melt-Spun Fe-6.5wt.%Si Ribbons

S. Ajia[1], S. Muroga[1], Y. Endo[1, 2]

[1]Department of Electrical Engineering, Tohoku University, Sendai, Miyagi, Japan, [2]Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan

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BH-04. Magnetic propeties of dust cores composed of Si-gradient Fe-Si powders

Y. Kodama[1], S. Yoshida[2], S. Ajia[1], S. Okamoto[2, 3, 4], T. Takashita[5], Y. Oda[5], T. Okubo[5], Y. Zaizen[5], Y. Endo[1, 3]

[1]Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan, [2]Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan, [3]Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan, [4]National Institute for Materials Science (NIMS), Tsukuba, Japan, [5]Steel Research Laboratory, JFE Steel Corporation, Chiba, Japan

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BH-05. A multi-lithic composite toroidal inductor using Finemet with soft iron powder insertion for high-frequency power converters

G. Banerjee[1], D. Roy[1], S. Meti[2], D. Mandal[2], N. Bhat[2], S. Shivashankar[2], M. Sengupta[1]

[1]Electrical Engineering, IIEST Shibpur, Howrah, West Bengal, India, [2]Centre for Nano Science and Engineering, Indian Institute of Science, Bengaluru, Karnataka, India

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Break

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BH-06. Design for Recycling: Prototyping a Rib-less Interior Permanent Magnet Rotor with Enhanced Disassembly

A. Mohammadi Ajamloo[1, 2], V. Van de Peer[1], M. Ibrahim[1, 2, 3], P. Sergeant[1, 2]

[1]Electromechanical, Systems and Metal Engineering, Ghent University, Gent, Belgium, [2]FlandersMake@UGent– corelab MIRO, Leuven, Belgium, [3]Department of Electrical Engineering, Kafrelshiekh University, Kafr el-Sheikh, Egypt

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BH-07. Optimization Analysis of Core Loss and Rotor Eddy Current Loss in Aircraft Excitation Built-In Hybrid Excitation Brushless Machine

L. Du[1], Z. Zhang[1], C. Wang[2]
[1]Nanjing University of Aeronautics and Astronautics, Nanjing, Jiangsu, China, [2]Anhui Polytechnic University, Wuhu, China

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BH-08. Magnet Segmentation Strategy Considering Electromagnetic Force in Large-Scale Wind Generators with Surface-Mounted Magnets

W. Wang[2, 1], Y. Wang[2], C. Zhang[2], H. Wen[3], L. Wu[2], T. Zou[1], D. Gerada[1], C. Gerada[1]
[1]UNIVERSITY OF NOTTINGHAM, Nottingham, United Kingdom, [2]Zhejiang University, Hangzhou, China, [3]Zhejiang University of Science and Technology, Hangzhou, China

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BH-09. Comparative Study of Frameless Torque Motors Based on Integrated Magnetic Ring

J. Hu[1], J. Cao[1], F. Zhao[2], Q. Zhang[3], H. Yi[3], G. Lyu[4]
[1]School of Electrical and Electronic Engineering, Harbin Institute of Technology, Shenzhen, Guangdong, China, [2]School of Robotics and Advanced Manufacture, Harbin Institute of Technology (Shenzhen), Shenzhen, China, [3]China Rare Earth Group Innovation Technology Co., Ltd, Shenzhen, China, [4]Power China Huadong Engineering Co., Ltd, Hangzhou, China

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SESSION BP: PERMANENT MAGNET MACHINES AND MAGNETICALLY GEARED MACHINES II (POSTER SESSION)

Chair(s): W. Wang, *University of Nottingham, Nottingham, United Kingdom* and X. Liu, *Hunan University, China*

Tuesday, April 14, 2026

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Exchange Hall

BP-01. Core Loss Prediction of IPMSMs Considering Magnetic Field Behavior Using Inverter–Motor Co-Simulation

K. Yu[1], S. Eom[1], T. Kim[1], H. Ban[1], S. Kim[1], J. Park[1], Y. Kim[3], K. Shin[2], J. Choi[1]
[1]Electrical Engineering, Chungnam National University, Daejeon, Korea (the Republic of), [2]Electrical Engineering, Changwon National University, Changwon, Korea (the Republic of), [3]Biosystems Machinery Engineering, Chungnam National University, Daejeon, Korea (the Republic of)

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BP-02. Design of a Fault-Tolerant Wind Power PMSG Based on Subtransient Reactance Analysis for Interturn Short-Circuit Faults

S. Kim[1], K. Yu[1], H. Ban[1], J. Park[1], Y. Choi[1], K. Shin[2], J. Choi[1]
[1]Electrical Engineering, Chungnam National University, Daejeon, Korea (the Republic of), [2]Electrical Engineering, Changwon National University, Changwon, Korea (the Republic of)

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BP-03. Multiphysics Analysis and Optimal Design of PMa-SynRM Considering Electromagnetic and Mechanical Stiffness

S. Kim[1], H. Ban[1], W. Jung[1], M. Nguyen[1], D. Hoang[1], Y. Kim[2], K. Shin[3], J. Choi[1]
[1]Department of Electrical Engineering, Chungnam National University, Daejeon, Daejeon, Korea (the Republic of), [2]Department of Biosystems Machinery Engineering, Chungnam National University, Daejeon, Korea (the Republic of), [3]Department of Electrical Engineering, Changwon National University, Changwon, Korea (the Republic of)

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BP-04. Analytical Rotor Magnetic Field Modeling of Surface-Mounted PM Motors Considering Magnet Shaping and Manufacturing Tolerances
P. Wang[1], Z. Zhang[1], C. Liao[1], J. Li[1], L. Du[1], C. Wang[2]
[1]Nanjing University of Aeronautics and Astronautics, Nanjing, China, [2]Anhui Polytechnic University, Wuhu, Anhui, China
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BP-06. Effect of Motor Thickness on Induced Voltage in a Variable Magnetic Flux Motor with Mechanical Rotor Adjustment
A. Kazutaka, F. Akagi
Electrical Engineering and Electronics Program, Kogakuin University, Tokyo, Japan
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BP-07. A Study on Design to Improve Output of Axial Flux Motor for Collaborative Robots
M. Hong[1], S. Ko[2], J. Moon[2], W. Kim[3], J. Lee[1]
[1]Electrical Engineering, Hanyang University, Seongdong-gu, --- Select One ---, Korea (the Republic of), [2]Department of Next Generation SmartEnergySystem Convergence, Gachon University, Seong-Nam si, Korea (the Republic of), [3]Department of Electrical Engineering, Gachon University, Seongnam, Korea (the Republic of)
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BP-08. A Compact Double-Rotor AFPM Motor With Coreless PCB Stator for Ultra-Thin Cooling Fans
M. Hong[1], S. Ko[2], J. Moon[2], W. Kim[3], J. Lee[1]
[1]Electrical Engineering, Hanyang University, Seongnam-si, Korea (the Republic of), [2]Department of Next Generation SmartEnergySystem Convergence, Gachon University, Seongnam, Korea (the Republic of), [3]Electrical Engineering, Gachon University, Seongnam, Korea (the Republic of)
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BP-10. A Compact 48-V Dual-Stator Single-Rotor Axial-Flux PM Motor for Humanoid-Robot Elbow Actuators
J. Li, K. Yang, F. Xiong, T. Liu
School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan, Hubei, China
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BP-11. Hybrid 3D-Printed and Laminated Stator Core for Axial Flux Motors
P. Huang[1], T. Chang[2], L. J. Vera[3], M. Kang[3], M. Tsai[1]
[1]Mechanical Engineering , National Cheng Kung University, Tainan, Taiwan, [2]Department of Vehicle Engineering, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan, [3]Electric Motor Technology Research Center, National Cheng Kung University, Tainan, Taiwan
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BP-12. Electromagnetic Analysis of an Axial Flux Permanent Magnet Synchronous Motor with Overhang Structure Based on a Magnetic Equivalent Circuit Considering Leakage Flux
J. Jang[1], S. Kim[1], S. Lee[1], Y. Choi[1], K. Shin[2], J. Choi[1]
[1]Electrical Engineering, Chungnam National University, Daejeon, Korea (the Republic of), [2]Electrical Engineering, Changwon National University, Changwon, Korea (the Republic of)
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BP-14. EV Traction Motor Design Based on Series-Parallel Switching Control of a Multi-Stator Multi-Rotor Coreless PCB AFPM
D. Choi[1], S. Jeon[1], J. Kim[1], C. Jin[2], W. Kim[1]
[1]Gachon university, Seongnam-si, Gyeonggi-do, Korea (the Republic of), [2]Electrical Engineering, Wonkwang University, Iksan, Korea (the Republic of)
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BP-16. Fast Prediction of Air-Gap Magnetic Flux Density and Electromagnetic Torque in Surface-Mounted Permanent Magnet Synchronous Motors
Z. Li, X. Zhao, M. Cheng
University of York, Coventry, United Kingdom
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SESSION BQ: RADIAL-FLUX PERMANENT MAGNET MOTORS (POSTER SESSION)
Chair(s): M. Hsieh, *Electrical Engineering, National Cheng Kung University, Tainan, Taiwan*
Tuesday, April 14, 2026
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Exchange Hall

BQ-01. Comparison of Three-Phase and Asymmetric Six-Phase IPMSMs for Off-Road Mobile Machinery Applications
P. Ogrizek, M. Petrun
Institute of Power Engineering, FERI, University of Maribor, Maribor, Slovenia
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BQ-03. Optimized Asymmetric Two-Step Rotor Rib Skew Cut Design for Double-Spoke PMSMs
J. Kim, S. Lee, S. Kim, S. Lee, W. Kim
Gachon University, Seoul, Korea (the Republic of)
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BQ-04. High Power Density Slotless PMSM Design for 48V EPS Systems via Rotor Topology Optimization
D. Shin[1, 2]
[1]Next-Generation Smart Energy Systems Convergence, Gachon University, Seongnam, Korea (the Republic of), [2]Queensland University of Technology, Brisbane, Queensland, Australia
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BQ-05. Design and Analysis of a Three-Step Post-Assembly Magnetization Yoke for an 8-Pole Spoke-Type Motor
S. Lee[1], J. Kim[1], S. Lee[1], S. Ko[1], W. Kim[2]
[1]Next Generation Energy System Convergence, Gachon University, Seongnam-si, Gyeonggi-do, Korea (the Republic of), [2]Department of Electrical Engineering, Gachon University, Seongnam, Korea (the Republic of)
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BQ-06. Nonlinear Magnetic Characteristics of Surface-Mounted Permanent-Magnet Synchronous Machines Using a Deep-Learning-Assisted Subdomain Method
S. Eom[1], J. Yang[1], T. Kim[1], Y. Kim[2], K. Shin[3], J. Choi[1]
[1]Electrical Engineering, Chungnam National University, Daejeon, Korea (the Republic of), [2]Biosystems Machinery Engineering, Chung Nam National University, Daejeon, Korea (the Republic of), [3]Electrical Engineering, Changwon National University, Changwon, Korea (the Republic of)
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BQ-07. A Study on a Comprehensive 2-D Electromagnetic Field
H. Kim, S. Jung, J. Jung
Electric Engineering, Daegu University, Gyeoungsan, Korea (the Republic of)
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BQ-08. A Rotor-Permeance-Based Harmonic Screening Method for Reducing Stator Core Loss in IPMSMs Under Flux-Weakening Operation
V. Nguyen[1], M. Hsieh[1], A. T. Huynh[2]
[1]Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan, [2]Power Electronics, Machines and Control Research Institute, University of Nottingham, Nottingham, United Kingdom
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BQ-09. A Computationally Efficient and Accurate Harmonic Current Selection Method for Torque Ripple Suppression in PMSM
Y. Kwon, G. Lee, M. Jyoung, N. Kim, S. Jung
Department of Electrical and Computer Engineering, Sungkyunkwan University, Suwon, Korea (the Republic of)
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BQ-10. Impact of Mutual Inductance Variation on Fault-Tolerant Operation of Dual Three-Phase PMSMs
H. Yang, S. Jung, S. Park, D. Park
Sungkyunkwan University, Suwon, Korea (the Republic of)
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BQ-11. A Study on the Comparison of Performance Characteristics of Fractional-Slot SPMSM with Spread-Concentrated Winding
H. Kim, S. Jung, H. Kang, J. Jung
Electric Engineering, Daegu university, Gyeoungsan, Korea (the Republic of)
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BQ-12. A Study on the Design of a Vehicle Traction Motor to Improve Power Density Through the Application of Multi-Pole Fractional Slots
S. Song, K. Lee, M. Park, J. Lee
Intelligent Mechatronics Research Center, Korea Electronics Technology Institute, Bucheon-si, Korea (the Republic of)
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BQ-13. The Influence of Geometric Scaling on Power Density and Efficiency of PMSM Using High-Temperature-Resistant Electromangetic Wire
L. Liu[1], Y. Sui[1, 2], X. Liang[1], P. Zheng[1], M. Zhu[3]
[1]School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China, [2]Zhengzhou Research Institute, Harbin Institute of Technology, Zhengzhou, China, [3]AVIC Xi'an Flight Automatic Control Research Institute, Xi'an, Shaanxi, China
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BQ-14. A Study on Rotor Design for Zero-Sequence Current Reduction in Single DC-Bus Dual Inverter IPMSM
D. Kim, D. Ji, S. Oh, S. Song, H. Lee
Dankook University, Yongin, Korea (the Republic of)
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SESSION BR: SOFT MAGNETICS MATERIALS (POSTER SESSION)
Chair(s): S. Dobák, *Institute of Physics, P. J. Šafárik University, Kosice, Slovakia*
Tuesday, April 14, 2026
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Exchange Hall

BR-02. Application and Performance Verification of Novel Silicon Gradient Steel Sheet in Interior Permanent Magnet Synchronous Motors
I. Cirozlar[1], K. Nakamura[1], Y. Zaizen[2], T. Okubo[2], Y. Oda[2]
[1]Tohoku University, Sendai, Miyagi, Japan, [2]JFE Steel, Tokyo, Japan
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BR-03. Optimization and Experimental Study of a Signal Conditioning System Based on SST Monolithic Detection
H. Wang, M. Shi, T. Li, S. Yuan, L. Zhang, Y. Ma, Y. Gao, R. Cheng, F. Yang, Y. Li
Beihang University, Beijing, China
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BR-05. Silicon Alloying Effects on the Magnetic Performance of $Fe_{73}Co_{27}$.
I. Braga Silva, C. Bormio-Nunes
Department of Materials Engineering (DEMAR), University of Sao Paulo, Lorena, São Paulo, Brazil
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BR-06. An analytical formula for stress-dependent anhysteretic behaviour
L. Daniel
Laboratoire de Génie Électrique et Électronique de Paris, CentraleSupelec - Université Paris-Saclay, Gif sur Yvette, France
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BR-07. Structural and Magnetic Properties of Ga:YIG Films Grown by Pulsed Laser Deposition on GGG and sGGG substrates
L. Peeters, J. Lamberts, L. Flajsman, S. van Dijken
Applied Physics, Aalto University, Espoo, Finland
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BR-08. Study of Magnetization Reversal of CoPt/Garnet Structures by Serial Magnetic Force Microscopy
M. Temiriazeva, A. Temiriazev
Horiba France SAS, Lille, France
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BR-09. Contactless Determination of Martensitic Phase in Austenitic Steels
T. Damatopoulou
NTUA, Athens, Greece
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BR-10. Fabrication of Permendur-based Ferromagnetic Core via Directed Energy Deposition for Transcranial Magnetic Stimulation Coil
D. Mudakavi[1], V. E. Bodur[1, 2], P. J. Udapudi[1], S. Smith[3], M. Tashli[4], R. L. Hadimani[4], A. Rajendran[2], S. M. Adinarayanappa[1]
[1]Additive Manufacturing and 4D Printing Lab, Dept. of Mechanical, Materials and Aerospace Engineering, Indian Institute of Technology Dharwad, Dharwad, Karnataka, India, [2]Metal Processing and Characterization Lab, Dept. of Mechanical Materials and Aerospace Engineering, Indian Institute of Technology Dharwad, Dharwad, Karnataka, India, [3]Dept. of Chemical and Life Sciences Engineering, Virginia Commonwealth University, Richmond, Virginia, United States, [4]Dept. of Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, Virginia, United States
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BR-12. Low-Loss High-Frequency Properties of Submicron-sized Disordered Fe-Ni Alloy Powders
S. Asano, A. Fujita, S. Okada
National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Aichi, Japan
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BR-13. Entropy-Stabilized Structural and Magnetic Behaviour in High-Entropy Spinel oxides
N. Sharma
Physics, Thapar institute of Eng & Technology, Patiala, Punjab, India
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BR-14. Influence of Non-magnetic Ion on the Physical Properties of $Sm_3Fe_{5-x}Mn_xO_{12}$ for Ferrite Resonator Antenna
A. Aakansha
Physical Sciences, Banasthali Vidyapith, Rajasthan, Rajasthan, India
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BR-15. Magnetic Properties of the Iron-based SMCs with Al_2O_3 Insulation
P. Kollár[1], M. Tkáč[1, 2], J. Fuzer[1], R. Maciaszek[1], M. Fáberová[2], R. Bureš[2]
[1]*Institute of Physics, Faculty of Science, P.J.Šafárik University, Košice, Slovakia,* [2]*Institute of Materials Research, Slovak Academy of Sciences, Košice, Slovakia*
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BR-16. Full Hysteresis Loop Measurement Technique for Soft Magnetic Material in the Megahertz Range
H. Tanaka[1], T. Mannen[1, 2], T. Isobe[1], E. Kita[1], H. Yanagihara[1]
[1]*Department of Applied Physics, University of Tsukuba, Tsukuba, Ibaraki, Japan,* [2]*Department of Fundamental Engineering, Utsunomiya University, Utsunomiya, Japan*
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SESSION BS: MAGNETOTRANSPORT (POSTER SESSION)
Chair(s): T. Kato, *IMaSS, Nagoya University, Nagoya, Aichi, Japan*
Tuesday, April 14, 2026
02:30 PM-05:30 PM
Exchange Hall

BS-01. Antisymmetric magnetoresistance in Fe3GeTe2 inhomogeneous nanoflake
A. Bera, S. Mukhopadhyay
Department of Physics, Indian Institute of Technology, Kanpur, Kanpur, Uttar Pradesh, India
View Digest Text

BS-02. Highly Efficient Field-free Switching of Perpendicular Yttrium Iron Garnet with Collinear Spin Current
M. Yang[1], H. Ding[2]
[1]*King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia,* [2]*Nanjing University, Nanjing, China*
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BS-04. Growth temperature dependent anomalous Nernst effect in FePd thin films on $SrTiO_3$ (001) substrates
S. Yoshida[1], H. Naganuma[1, 2], T. Miyamachi[1], M. Mizuguchi[1, 3]
[1]*Nagoya University, Nagoya, Japan,* [2]*Tohoku University, Sendai, Japan,* [3]*Osaka University, Toyonaka, Japan*
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BS-05. Longitudinal Spin Seebeck effect in Tm substituted Yttrium Iron Garnet
S. Sahoo[2], A. Sola[1], A. Magni[1], F. Celegato[1], V. Basso[1], S. K. Mishra[2], M. Kuepferling[1]
[1]*Istituto Nazionale di Ricerca Metrologica, Torino, Italy,* [2]*School of Materials Science and Technology, IIT (BHU), Varanasi, India*
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BS-06. The hidden universality of unusual and unidirectional magnetoresistance in magnetic bilayers
X. Wang
School of Science and Engineering, The Chinese University of Hong Kong (Shenzhen), Shen Zhen, Guangdong, China
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BS-07. Room temperature large z spin in topological insulator
L. Liu
School of Physics and Astronomy, Shanghai Jiao Tong University, Shanghai, Shanghai, China
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BS-08. Magnetotransport of Fully Compensated Synthetic Antiferromagnets
L. S. Palhares[2, 1], J. Brandao[1], F. Béron[2]
[1]*Brazilian Synchrotron Light Laboratory (LNLS), Brazilian Center for Research in Energy and Materials (CNPEM), Campinas, São Paulo, Brazil,* [2]*Gleb Wataghin Institute of Physics (IFGW), University of Campinas (UNICAMP), Campinas, São Paulo, Brazil*
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BS-09. Electrical Control of Ultrafast Demagnetization in Graphene Spin Field-Effect Junctions
D. Muradas-Belinchón[1], S. Mukhopadhyay[2, 3], F. Foggetti[1], S. N. Panda[2], O. Karis[1], P. M. Oppeneer[1], A. Barman[2], M. Kamalakar[1]
[1]Physics and Astronomy, Uppsala University, Uppsala, Sweden, [2]Condensed Matter and Materials Physics, S. N. Bose National Center for Basic Sciences, Kolkata, West Bengal, India, [3]Physical Sciences, Indian Institute of Science Education and Research Kolkata, Kolkata, West Bengal, India
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BS-10. Quantum Spin Transfer of Spin-Correlated Electron Pairs
S. Hwang[1], J. Oh[1], P. Haney[2], M. Stiles[2], K. Lee[1]
[1]Department of Physics, KAIST, Daejeon, Korea (the Republic of), [2]Physical Measurement Laboratory, National Institute of Standards and Technology, Gaithersburg, Maryland, United States
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BS-11. Terahertz spin-current transparency through rough interfaces
J. Jechumtal[1], J. Zázvorka[2], O. Novák[2], P. Kubascik[1], P. Nemec[1], M. Veis[2], L. Nadvornik[1], Z. Kaspar[1, 3]
[1]Department of Chemical Physics and Optics, Charles University, Prague, Prague, Czechia, [2]Physical Institute, Charles University in Prague, Prague, Czechia, [3]Physical Institute, Czech Academy of Sciences, Prague, Czechia
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BS-12. Enhanced Berry Curvature in Topological Insulator-Molecular Diode Heterojunctions
Z. Parkin
Department of Physics and Astronomy, University of Leeds, Leeds, United Kingdom
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BS-13. Thermomagnetic Properties of Mixed-Valence $La_{1-x}Sr_xMnO_3$ Manganite Films Near the x = 0.2 Morphotropic Phase Boundary
D. Peluso[1, 2, 7], M. A. Rengifo[3, 4, 5], J. Santiso[6], M. Aguirre[3, 4, 5], S. Di Napoli[1, 2], M. Quintero[1, 2]
[1]Instituto de Nanociencia y Nanotecnología - CNEA - CONICET, Buenos Aires, Buenos Aires, Argentina, [2]Departamento de Física de la Materia Condensada, GlyA - CNEA, Buenos Aires, Buenos Aires, Argentina, [3]Departamento de Física de la Materia Condensada, Universidad de Zaragoza, Zaragoza, Zaragoza, Spain, [4]Instituto de Nanociencia y Materiales de Aragón, Zaragoza, Zaragoza, Spain, [5]Laboratorio de Microscopías Avanzadas, Universidad de Zaragoza, Zaragoza, Zaragoza, Spain, [6]Catalan Institute of Nanoscience and Nanotechnology, Bellaterra, Barcelona, Spain, [7]Universidad de Zaragoza, Zaragoza, Zaragoza, Spain
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BS-14. Second-Order Nonlinear Resistances in Single-Layer CoFeB films
B. Rong[1, 2], J. Zhang[1, 2], H. Zheng[1, 2], Y. Yang[1, 2]
[1]School of Information Science and Technology, ShanghaiTech University, Shanghai, Shanghai, China, [2]Shanghai Engineering Research Center of Energy Efficient and Custom AI IC, ShanghaiTech University, Shanghai, Shanghai, China
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SESSION BT: FUNDAMENTAL PROPERTIES (POSTER SESSION)

Chair(s): A. B. Shick, *Condensed Matter Theory, Institute of Physics, the Czech Academy of Scuences, Prague, Czechia*

Tuesday, April 14, 2026

02:30 PM-05:30 PM

Exchange Hall

BT-01. From layered ferrimagnetism to cubic antiferromagnetism in Mn–Sb–Te candidate magnetic topological insulators

E. Kochetkova[2], T. Groot[2], M. Tardieux[4], M. Sahoo[5], F. Pabst[2], I. Aguilera[4], L. Corredor[1, 3], A. Isaeva[2, 1, 3]

[1]Physics, Technical University Dortmund, Dortmund, Germany, [2]Institute of Physics, University of Amsterdam, Amsterdam, Netherlands, [3]Research Center Future Energy Materials and Systems, Bochum, Germany, [4]Institute for Theoretical Physics, University of Amsterdam, Amsterdam, Netherlands, [5]IFW Dresden, Dresden, Germany

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BT-03. Role of chemical pressure in spin-disordered $Ho_2Ge_xTi_{2-x}O_7$ system

M. Shukla[1], R. Upadhyay[2], V. K. Tiwari[1], J. Nayak[1], C. Upadhyay[3]

[1]Physics, Indian Institute of Technology, Kanpur, Kanpur, Uttar Pradesh, India, [2]Materials Science and Engineering, Indian Institute of Technology Gandhinagar, Gandhinagar, Gujrat, India, [3]School of Materials Science and Technology, Indian Institute of Technology (Banaras Hindu University), Varanasi, Uttar Pradesh, India

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BT-04. Exploration of Large Magnetoresistance and Weak Anti-Localization in Topological Semimetal $MnSn_2$

V. K. Tiwari[1], R. Gupta[1], N. Sattawan[1], M. Mudgal[1], M. Shukla[1], P. Meena[1], V. Malik[2], K. Pal[1], J. Nayak[1]

[1]Physics, Indian Institute of Technology, Kanpur, Kanpur, Uttar Pradesh, India, [2]Physics, Indian Institute of Technology, Roorkee, Roorkee, Uttarakhand, India

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BT-05. Magnetic interactions in compositionally complex and high entropy perovskite oxides $BaIn_{1-x}M_xO_{3-\delta}$ (M = Fe, Co, Sn, Ti)

A. Stanionyte[1, 4], L. Corredor[2, 3], R. Matyšek[1, 4], M. Kamminga[4], G. Perversi[5], A. Isaeva[1, 2, 3]

[1]University of Amsterdam, Amsterdam, Netherlands, [2]Faculty of Physics, Technical University of Dortmund, Dortmund, Germany, [3]Research Center Future Energy Materials and Systems (RC FEMS), Bochum, Germany, [4]Faculty of Science, Utrecht University, Utrecht, Netherlands, [5]Faculty of Science and Engineering, Maastricht University, Maastricht, Netherlands

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BT-06. Installing canted ferromagnetism in pyrochlore titanates.

D. Sahu[1], K. Pal[1], D. Palai[2], D. Samal[2], P. Maji[3], C. Sow[1]

[1]Physics, Indian Institute of Technology Kanpur, Kanpur, Uttar Pradesh, India, [2]Physics, Institute of Physics, Bhubaneswar, Bhubaneswar, Odisha, India, [3]Department of Polymer and Process Engineering, Indian Institute of Technology, Roorkee, Saharanpur, Uttarakhand, India

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BT-08. Magnetic circular dichroism in core-level X-ray photoelectron spectroscopy of altermagnetic RuO_2 films

Y. Lytvynenko[1, 2], A. Akashdeep[1], T. Vo[3], O. Tkach[1, 4], S. Chernov[5], A. Gloskovskii[5], C. Schlueter[5], C. Luo[6], V. Ukleev[6], F. Radu[6], F. Kronast[6], T. Hiroto[7], A. Winkelmann[8], J. Minár[3], M. Kläui[1], G. Schönhense[1], G. Jakob[1], H. Elmers[1], O. Fedchenko[9]

[1]Johannes Gutenberg University of Mainz, Mainz, Germany, [2]V. G. Baryakhtar Institute of Magnetism of the NAS of Ukraine, Kyiv, Ukraine, [3]New Technologies Research Center, University of West Bohemia, Plzen, Czechia, [4]Sumy State University, Sumy, Ukraine, [5]Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany, [6]Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany, [7]Nara Institute of Science and Technology, Nara, Japan, [8]Academic Centre for Materials and Nanotechnology, AGH University of Science and Technology, Krakow, Poland, [9]Physikalisches Institut, Goethe Universität Frankfurt, Frankfurt am Main, Germany

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BT-09. Chemical-Pressure Driven Suppression of Antiferromagnetism and Possible Quantum Criticality in CePd1−xNixGe
P. Tiwari[2], S. Saha[1], R. J. Choudhary[1], M. Saravanan[1], A. K. Yogi[1], R. Rawat[1]
[1]Physics, UGC-DAE Consortium for Scientific Research, Indore, Indore, Madhya Pradesh, India, [2]Physics, UGC-DAE Consortium for Scientific Research, Indore, Madhya Pradesh, India
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BT-10. A novel gel-mediated, single-annealing route for the synthesis of polycrystalline skyrmion-host multiferroic Cu2OSeO3
R. Krishnan[1], P. Babu[2], P. Madduri[1]
[1]Sciences, IIITDM Kurnool, Kurnool, Andhra Pradesh, India, [2]UGC DAE CSR, Mumbai, India
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BT-11. Ion-beam engineered Magnetic Carbon Nanotubes for Spintronic and MEMS Applications
P. Singhal[1], S. Gautam[2], S. Augistine[3], K. Chae[4]
[1]Physics, Panjab University, Chandigarh, Chandigarh, India, [2]Dr. SSBUICET, Panjab University, Chandigarh, Chandigarh, India, [3]Physics, Deva Matha College, Kerala, Kottayam, India, [4]Advanced Analysis and Data Center, Korea Advanced Institute of Science and Technology (KAIST), Seoul, Korea (the Republic of)
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BT-12. Probing Mixed Valence States and Ferromagnetic Coupling of Cr-Bi_2Se_3/YIG Heterostructures
J. Sun[1, 2], P. Yan[3], X. Chen[2], L. He[3], W. Liu[2, 4]
[1]Beijing Superstring Academy of Memory Technology, Beijing, China, [2]Department of Electronic Engineering, Royal Holloway University of London, Egham, United Kingdom, [3]Jiangsu Provincial Key Laboratory of Advanced Photonic and Electronic Materials, Nanjing University, Nanjing, China, [4]Department of Engineering, University of Cambridge, Cambridge, United Kingdom
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BT-14. Non-monotonous Quantum de-coherence in Ferromagnetic Insulator/Topological Insulator Hetero-structure (EuS/$Bi_{1.95}Sb_{0.05}Se_3$)
S. Soni[2, 1]
[1]Department of Atomic Energy (DAE), Homi Bhabha National Institute, IGCAR, Chennai, Tamil Nadu, India, [2]Department of Atomic Energy (DAE), Indira Gandhi Centre for Atomic Research, Kalpakkam, Chennai, Tamil Nadu, India
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BT-15. Role of spin-orbit coupling in determining the electronic and magnetic ground state of $4d^3$ double perovskite ruthenates
A. A. Abraham, S. Manni
Physics, Indian Institute of Technology Palakkad, Kottayam, Kerala, India
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BT-16. Electronic and magnetic ground state of $4d^3$ double perovskite ruthenates : A_2LaRuO_6 (A = Ca, Sr, Ba)
A. A. Abraham[1], R. Roy[2], R. Kulkarni[3], S. Kanungo[2], S. Manni[1]
[1]Department of Physics, Indian Institute of Technology Palakkad, Kottayam, KERALA, India, [2]School of Physical Sciences, Indian Institute of Technology Goa, Farmagudi, Goa, India, [3]Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai, Maharashtra, India
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SESSION BU: NEUROMORPHIC, PROBABILISTIC, AND QUANTUM COMPUTING I (POSTER SESSION)

Chair(s): A. Grimaldi, *Dipartimento di Ingegneria Elettrica e dell'Informazione, Politecnico di Bari, Messina, Italy*

Tuesday, April 14, 2026

02:30 PM-05:30 PM

Exchange Hall

BU-01. Back Propagation Eased by Spintronic-Hardware-Sampled Probabilistic Principal Components of Gradient

Y. Xu, R. Zhang, C. Wan, S. Xia, x. li, S. Liu, S. Xiong, D. Kong, G. Yu, X. Han

Institute of Physics, Chinese Academy of Sciences, Beijing, Beijing, China

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BU-02. Spintronic Advantage Of Molecular Spin-valves For Reinforcement Learning

C. Baldassini[1, 2], R. Licata[2], S. Bose[3], M. Pistoia[3], S. Sanna[2], I. Bergenti[1], R. Cecchini[1], V. A. Dediu[1], L. Gnoli[1], P. Graziosi[1], R. K. Rakshit[1], S. Roy[1], M. Singh[1], A. Riminucci[1]

[1]CNR - ISMN Istituto Per Lo Studio Dei Materiali Nanostrutturati, Ancona, AN, Italy, [2]DIFA, University of Bologna, Bologna, Italy, [3]University of Bologna, Bologna, Italy

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BU-03. Reconfigurable Bidirectional Logic Gates Enabled by SOT-MRAM P-Bits for Boolean Satisfiability and Other Combinatorial Problems

S. Nallan, J. Zhu

Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania, United States

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BU-05. Compress Magnetic Sensing for ITSC Fault Diagnosis of Induction Motor by Reinforcement Learning and Reduced Order Modeling

X. Guan, H. Zhang, X. Chen, C. Xu

College of Electrical Engineering and Automation, Fuzhou University, Fuzhou, Fujian, China

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BU-06. Tailoring Interlayer Exchange Coupling in Synthetic Antiferromagnet for Spintronic Neural Networks

Y. Huang[2], C. Cheng[1], J. Hsu[2], Y. Lin[1], W. Chang[3], Y. Tseng[1]

[1]Materials Science & Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan, [2]Industry Academia Innovation School, Hsinchu, Taiwan, [3]Powerchip Semiconductor Manufacturing Corporation, Hsinchu, Taiwan

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BU-07. Physical Reservoir Composed of Two Modified Vortex Spin-Torque Oscillators

K. Horizumi[1], T. Chiba[2], T. Komine[1]

[1]Graduate School of Sci. and Eng., Ibaraki University, Hitachi, Ibaraki, Japan, [2]Graduate School of Sci. and Eng., Yamagata University, Yonezawa, Yamagata, Japan

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BU-08. Physics-Guided Geometric Transformer with Evidential Uncertainty: A High-Fidelity Surrogate Framework for Robust Design of Dual-Flux-Modulator Magnetic Geared Machines

X. Zhang, X. Liu, P. Lin, S. Huang

College of Electrical and Information Engineering, Hunan University, Changsha, Hunan, China

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BU-09. Three-body Probabilistic Ising Machine with In-memory Computing based on Dual-mode Spintronic Memristor
Y. Lu[1], G. Zeng[2], Y. Li[1], R. Chen[2], Y. Hou[1, 3], Y. Zhou[2], Q. Shao[1, 3]
[1]Dept. of Electronic and Computer Engineering, The Hong Kong University of Science and Technology, Hong Kong, Hong Kong, [2]School of Science and Engineering, The Chinese University of Hong Kong, Shenzhen, Shenzhen, Guangdong, China, [3]AI Chip Center for Emerging Smart Systems, InnoHK Centers, Hong Kong Science Park, Hong Kong, Hong Kong
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BU-10. Field-Free Spin–Orbit Torque Controlled Spintronic Synaptic and Neuronal Devices for Neuromorphic and Unconventional Computing
A. H. Lone[1], M. Tang[1], C. Florica[2], G. Setti[1]
[1]CEMSE (Integrated Intelligent Systems (I2S)), King Abdullah University of Science and Technology, Thuwal, Saudi Arabia, [2]King Abdullah University of Science and Technology (KAUST), Thuwal, Makkah, Saudi Arabia
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BU-11. Reservoir Computing with Heterogeneous Magnetic Metamaterials
R. Yagan[1], C. Swindells[2], I. T. Vidamour[3], G. Venkat[4], E. Vasilaki[3], M. O. Ellis[3], T. Hayward[1]
[1]CMBE, The University of Sheffield, Sheffield, South Yorkshire, United Kingdom, [2]NIST, Boulder, Colorado, United States, [3]The University of Sheffield, Sheffield, South Yorkshire, United Kingdom, [4]Diamond Light Source Ltd, Oxfordshire, United Kingdom
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STUDENTS IN MAGNETISM NETWORKING EVENT
Tuesday, April 14, 2026
05:30 PM-06:45 PM
The Gallery

SESSION CA: ACCELERATING INNOVATION: THE INDUSTRY-ACADEMIA SYNERGY IN MAGNETIC-BASED CRITICAL TECHNOLOGIES (PART A)

Chair(s): P. Bortolotti, *Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, Palaiseau, France*

Wednesday, April 15, 2026

08:30 AM-12:00 PM

Exchange Auditorium

08:30 AM-09:00 AM

CA-01. Accelerating Innovation in Data Storage: Heat Assisted Magnetic Recording

J. Thiele

Recording Media Operations, Seagate Technology, Fremont, California, United States

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09:00 AM-09:30 AM

CA-02. Device and Process Challenges in Tunneling Magnetoresistance Sensors

S. Mendisch, G. Masciocchi, S. Dounia, W. Raberg, J. Zimmer, A. Sharma, F. Brandl

Technology Development, Infineon Technologies, Neubiberg, Bavaria, Germany

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09:30 AM-10:00 AM

CA-03. Spin-transfer Torque MRAM – Overview and Recent Progress

G. Hu

IBM T J Watson Research Center, Yorktown Heights, New York, United States

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10:00 AM-10:30 AM

Break

10:30 AM-11:00 AM

CA-04. Rare-earth permanent magnets from an industry perspective

D. Ohmer

Research & Development, Vacuumschmelze GmbH & Co KG, Hanau, Hessen, Germany

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11:00 AM-11:30 AM

Round Table Discussion

SESSION CB: INERTIAL SPIN DYNAMICS AND NUTATION

Chair(s): R. V. Mikhaylovskiy, *Physics, Lancaster University, Lancaster, United Kingdom*

Wednesday, April 15, 2026

08:30 AM-12:00 PM

Charter 1

08:30 AM-09:00 AM

CB-01. Bath-induced spin inertia

M. Gaspar Quarenta[1], M. Tharmalingam[3], T. Ludwig[4], H. Yuan[5], L. Karwacki[1, 6], R. Verstraten[1], R. A. Duine[1, 2]

[1]Department of Physics, Utrecht University, Utrecht, Utrecht, Netherlands, [2]Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Noord-Brabant, Netherlands, [3]Universitetet i Agder, Kristiansand, Norway, [4]Department of Philosophy, Karlsruhe Institute of Technology, Karlsruhe, Germany, [5]Institute for Advanced Study in Physics, Zhejiang University, Hangzhou, China, [6]Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland

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09:00 AM-09:30 AM

CB-02. Intrinsic Non-Markovian Magnetization Dynamics in Ferromagnets

V. Unikandanunni[1, 2], F. Hartmann[3], M. Bargheer[3, 4], E. Fullerton[5], S. Bonetti[6, 2], J. Anders[3, 7]

[1]Institute of Applied Physics, University of Bern, Bern, Switzerland, [2]Department of Physics, Stockholm University, Stockholm, Sweden, [3]Institute of Physics and Astronomy, University of Potsdam, Potsdam, Germany, [4]Helmholtz-Zentrum Berlin for Materialien und Energie GmbH, Berlin, Germany, [5]Center for Memory and Recording Research, University of California San Diego, San Diego, California, United States, [6]Department of Molecular Sciences and Nanosystems, Ca' Foscari University of Venice, Venice, Italy, [7]Department of Physics and Astronomy, University of Exeter, Exeter, United Kingdom

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09:30 AM-10:00 AM

CB-03. Role of angular momentum in ultrafast spintronics

U. Nowak[1], J. Schlegel[1], D. Angster[1], T. Dannegger[1], A. De[2], B. Stadtmüller[3], M. Aeschlimann[2]

[1]Physics Department, University of Konstanz, Konstanz, Germany, [2]RPTU Kaiserslautern, Kaiserslautern, Germany, [3]University of Augsburg, Augsburg, Germany

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10:00 AM-10:30 AM

Break

10:30 AM-11:00 AM

CB-04. Nutation: Separating the Spin from its Magnetic Moment

M. Aeschlimann[1], A. De[1], J. Schlegel[2], A. Lentfert[1], L. Scheuer[1], S. Benjamin[1], P. Pirro[1], G. von Freymann[1], U. Nowak[2]

[1]Physics, RPTU University Kaiserslautern-Landau, Kaiserslautern, Germany, [2]Physics, Universität Konstanz, Konstanz, Germany

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11:00 AM-11:30 AM

CB-05. Spin Waves in Inertial Spin Dynamics

S. Ghosh[2], M. Cherkasskii[3], R. Mondal[2], A. Mook[4], L. Rózsa[1, 5]

[1]HUN-REN Wigner Research Centre for Physics, Budapest, Hungary, [2]Indian Institute of Technology Dhanbad, Dhanbad, India, [3]RWTH Aachen University, Aachen, Germany, [4]University of Münster, Münster, Germany, [5]Budapest University of Technology and Economics, Budapest, Hungary

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11:30 AM-12:00 PM
CB-06. Spin Inertia and Auto-Oscillations in Ferromagnets
R. Rodriguez[2], M. Cherkasskii[1], R. Jiang[2], R. Mondal[3], A. Etesamirad[2], A. Tossounian[2], B. Ivanov[4, 5], I. Barsukov[2]
[1]RWTH Aachen University, Aachen, Germany, [2]University of California, Riverside, Riverside, California, United States, [3]Indian Institute of Technology (ISM) Dhanbad, Dhanbad, India, [4]National Ukrainian Acad. Sci., Kiev, Ukraine, [5]Radboud University, Nijmegen, Netherlands
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SESSION CC: UNCONVENTIONAL SPIN-ORBIT TORQUES
Chair(s): L. Avilés Félix, *Magnetism and Magnetic Materials, Centro Atomico Bariloche, San Carlos de Bariloche, Argentina*
Wednesday, April 15, 2026
08:30 AM-12:00 PM
Charter 2

08:30 AM-09:00 AM
CC-01. Unconventional Spin-Orbit Torques
A. Hoffmann
University of Illinois Urbana-Champaign, Urbana, Illinois, United States
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09:00 AM-09:15 AM
CC-02. Unconventional Spin-Orbit Torques in Topological Weyl Semimetal
L. Pandey[1, 2], P. Rout[1], B. Zhao[1], K. Tenzin[3], H. Bangar[1], J. Slawinska[3], S. P. Dash[1, 2, 4]
[1]Department of Microtechnology and Nanoscience, Chalmers University of Technology, Göteborg, Sweden, [2]Wallenberg Initiative Materials Science for Sustainability, Department of Microtechnology and Nanoscience, Chalmers University of Technology, Göteborg, Sweden, [3]Zernike Institute for Advanced Materials, University of Groningen, Groningen, Netherlands, [4]Graphene Center, Chalmers University of Technology, Gothenburg, Sweden
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09:15 AM-09:30 AM
CC-03. Bias-Field-Based Quantification of the Field-Like Spin–Orbit Torque in Magnetic Heterostructures
S. Zeilinger[1, 2, 3], F. Bruckner[1], D. Suess[1, 2]
[1]Physics of Functional Materials, University of Vienna, Vienna, Austria, [2]Research Platform MMM Mathematics-Magnetism-Materials, University of Vienna, Vienna, Austria, [3]Vienna Doctoral School in Physics, University of Vienna, Vienna, Austria
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09:30 AM-09:45 AM
CC-04. Perpendicular Free Layer Switching with Unconventional Spin Orbit Torques: A Micromagnetic Modeling Study
G. Mihajlović, Y. Fan, T. Santos, M. Grobis, N. Robertson
Western Digital Corporation, San Jose, California, United States
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09:45 AM-10:00 AM
CC-05. Acoustic orbital Hall effect and orbital pumping in light-metal-ferromagnet bilayers
M. Wu, S. Ding, H. Matsumoto, P. Gambardella
ETH Zurich, Zurich, Switzerland
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10:00 AM-10:30 AM
Break

10:30 AM-10:45 AM

CC-06. Unidirectional Orbital Hall Magnetoresistance in Ir-Based Heterostructures

D. Woo[1], S. Lee[2], S. Ko[3], W. Kim[1], S. Yoon[1], G. Jung[1], H. Jeon[1], H. Cho[1], K. Kim[3], B. Park[4], J. Hong[2], S. LEE[1]

[1]Semiconductor Engineering, Gachon University, Seongnam, Gyeonggi-do, Korea (the Republic of), [2]Materials Science and Engineering, Yonsei University, Seoul, Korea (the Republic of), [3]Physics, KAIST, Daejeon, Korea (the Republic of), [4]Materials Science and Engineering, KAIST, Daejeon, Korea (the Republic of)

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10:45 AM-11:00 AM

CC-07. Temperature-dependent spin-orbit torque generation in Topological insulator-magnetic multilayer heterostructures

S. Hait[1], B. A. Brereton[1, 2, 3], A. Yagmur[1], S. Sasaki[1], G. Burnell[1], C. Marrows[1]

[1]School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom, [2]ISIS Neutron and Muon Source, Harwell Science and Innovation Campus, Chilton, United Kingdom, [3]Diamond Light Source, Harwell Science and Innovation Campus, Chilton, United Kingdom

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11:00 AM-11:15 AM

CC-08. Synergistic Entropic and Thermally Induced Spin–Orbit Torques Driving Domain-Wall Motion Under Laser Heating

H. Awano

Graduate School Electronics and Information Engineering, Toyota Technological Institute, Nagoya, Aichi, Japan

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11:15 AM-11:30 AM

CC-09. Tunning the interfacial properties by work function engineering in W|Co|Cu| heterostructures

I. García Manuz[1, 2], H. Madathil[2], S. Velez[2], P. Perna[1], S. Pizzini[3], A. Thiaville[4], F. Ajejas[1]

[1]Instituto Madrileño de Estudios Avanzados Nanociencia (IMDEA-Nanociencia), Madrid, Spain, [2]Dept. Física de la Materia Condensada and Condensed Matter Physics (IFIMAC), Universidad Autónoma de Madrid, Madrid, Spain, [3]Université Grenoble Alpes, CNRS, Institut Néel, Grenoble, France, [4]Laboratoire de Physique des Solides, Université Paris-Saclay, CNRS UMR, Orsay Cedex, France

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CC-10. Numerical Investigation of Domain Wall Dynamics in Cross-Shaped Magnetic Heterostructures

C. Fu[2], Y. Cheng[2], P. Chen[2], C. Tsai[3], C. Tsai[3], J. Chang[2, 1]

[1]Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan, [2]Mechanical and Mechatronics Systems Research Laboratories, Industrial Technology Research Institute, Zhudong Towanship, Hsinchu County, Taiwan, [3]Electronic and Optoelectronic System Research Laboratories, Industrial Technology Research Institute, Zhudong Towanship, Hsinchu County, Taiwan

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SESSION CD: TOPOLOGICAL QUANTUM MATTER

Chair(s): A. Kashyap, *School of Basic Sciences, Indian Institute of Technology Mandi, Mandi, India*
Wednesday, April 15, 2026
08:30 AM-12:00 PM
Charter 3

08:30 AM-09:00 AM
CD-01. Atom-by-Atom Assembly of Topological Quantum Matter
J. Wiebe[1, 2]
[1]Department of Physics, University of Hamburg, Hamburg, Germany, [2]The Hamburg Centre for Ultrafast Imaging, Hamburg, Germany
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09:00 AM-09:15 AM
CD-02. Spinful Cooper pairing in ferromagnetic Josephson junctions with spin–orbit coupling layers
I. Kindiak, S. S. Mishra, A. Migliorini, B. Pal, S. Parkin
NISE, Max Planck Institute of Microstructure Physics, Halle, Germany
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09:15 AM-09:30 AM
CD-03. Chirality in the Kagome Metal CsV_3Sb_5
T. P. Lammerskötter[1], H. Elmers[2], H. Agarwal[2], A. Haghighirad[6], O. Tkach[2], Y. Lytvynenko[2], S. Chernov[3], M. Hoesch[3], D. Kutnyakhov[3], M. Scholz[3], K. Rossnagel[8], A. Gloskovskii[3], C. Schlueter[3], A. Winkelmann[7], T. Lee[4], R. Claessen[5], M. Le Tacon[6], J. Demsar[2], G. Schönhense[2], O. Fedchenko[1]
[1]Physikalisches Institut, Goethe-Universität Frankfurt am Main, Frankfurt am Main, Germany, [2]Johannes Gutenberg-Universität, Mainz, Germany, [3]Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany, [4]Diamond Light Source Ltd., Didcot, United Kingdom, [5]Julius-Maximilians-Universität, Würzburg, Germany, [6]Karlsruhe Institute of Technology, Karlsruhe, Germany, [7]AGH University of Krakow, Krakow, Poland, [8]Christian-Albrechts-Universität zu Kiel, Kiel, Germany
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09:30 AM-09:45 AM
CD-04. Magnetic chimera quasiparticles in the ferromagnetic Affleck-Kennedy-Lieb-Tasaki state
S. Miyahara[1], I. Maruyama[2]
[1]Fukuoka University, Fukuoka, Japan, [2]Fukuoka Institute of Technology, Fukuoka, Japan
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09:45 AM-10:00 AM
CD-05. Scanning Thermal Gate Microscopy of Magnetic Domains in a Magnetic Weyl Semimetal Nanoribbon
M. Razeghi[1], J. Spiece[1], V. Fonck[1], M. Rohde[1], Y. Zhang[3], R. Joris[4], P. Dobson[5], J. Weaver[5], L. Pereira[4], S. Granville[3], P. Gehring[1, 2]
[1]IMCN, Université catholique de Louvain, Louvain-la-Neuve, Belgium, [2]WEL Research Institute, Wavre, Belgium, [3]Robinson Research Institute, Victoria University of Wellington, Wellington, New Zealand, [4]KU Leuven, Leuven, Belgium, [5]University of Glasgow, Glasgow, United Kingdom
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10:00 AM-10:30 AM
Break

10:30 AM-11:00 AM
CD-06. Disordered magnetism in two-dimensional van der Waals compounds
B. Pal
NISE, Max Planck Institute of Microstructure Physics, Halle Saale, Germany
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11:00 AM-11:15 AM

CD-07. Anisotropic Local Spin Interactions and Spin Dynamics and in the Centrosymmetric Skyrmion Host Gd_2PdSi_3

M. Gomilšek[1, 2], T. Hicken[3, 4], M. Wilson[5, 4], K. J. Franke[6, 4], B. M. Huddart[7, 4], A. Štefančič[8], S. J. Holt[8], G. Balakrishnan[8], D. Mayoh[8], M. Birch[10, 9, 4], S. H. Moody[11, 12, 4], H. Luetkens[3], Z. Guguchia[3], M. T. Telling[13], P. J. Baker[13], S. J. Clark[4], T. Lancaster[4], P. J. Bereciartua Perez[14], S. Francoual[14], M. Littlehales[4, 14], P. Hatton[4]

[1]Faculty of Mathematics and Physics, University of Ljubljana, Ljubljana, Slovenia, [2]F5 Condensed Matter Physics, Jozef Stefan Institute, Ljubljana, Slovenia, [3]Laboratory for Muon Spin Spectroscopy, Paul Scherrer Institut, Villigen PSI, Switzerland, [4]Department of Physics, Durham University, Durham, United Kingdom, [5]Department of Physics and Physical Oceanography, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, [6]School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom, [7]Department of Physics, Clarendon Laboratory, University of Oxford, Oxford, United Kingdom, [8]Department of Physics, University of Warwick, Coventry, United Kingdom, [9]Max Planck Institute for Intelligent Systems, Stuttgart, Germany, [10]RIKEN Center for Emergent Matter Science, Wako, Japan, [11]Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut, Villigen, Switzerland, [12]Department for Hydrogen Technology, Institute for Energy Technology, Kjeller, Norway, [13]ISIS Facility, STFC Rutherford Appleton Laboratory, Didcot, United Kingdom, [14]Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany

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11:15 AM-11:30 AM

CD-08. Anisotropic magnetoresistance in heterojunction between phase-separated ferromagnet and high-T_c superconductor

Y. Chen[1], D. Qu[1, 2], J. G. Lin[1, 2]

[1]Center for Condensed Matter Sciences, National Taiwan University, Taipei , Taiwan, [2]Center for Atomic Initiatives for New Materials, National Taiwan University, Taipei, Taiwan

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11:30 AM-11:45 AM

CD-09. Spin-disorder effects on the nonreciprocal resistivity in room-temperature chiral magnets

D. Nakamura[1], M. Lee[2], Z. Liu[1], K. Karube[1], M. Mochizuki[2], N. Nagaosa[1, 3], Y. Tokura[1, 4], Y. Taguchi[1, 5]

[1]Center for Emergent Matter Science, RIKEN, Wako, Japan, [2]Waseda University, Shinjuku-ku, Tokyo, Japan, [3]Fundamental Quantum Science Program (FQSP), TRIP Headquarters, RIKEN, Wako, Saitama, Japan, [4]Tokyo College and Department of Applied Physics, University of Tokyo, Bunkyo-ku, Tokyo, Japan, [5]Baton Zone Program, TRIP Headquarters, RIKEN, Wako, Saitama, Japan

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11:45 AM-12:00 PM

CD-10. Increased coercive field in $Co_3Sn_2S_2$ thin films grown by plasma-assisted molecular beam epitaxy.

V. Fonck[1], M. Rohde[1, 3], G. He[3], H. Xia[2], H. Wu[1], M. Razeghi[1], M. Seo[2], C. Merckling[3], F. Molina-Lopez[2], P. Gehring[1, 4]

[1]IMCN, UCLouvain, Louvain-la-Neuve, Belgium, [2]KULeuven, Leuven, Belgium, [3]Imec, Leuven, Belgium, [4]WEL Research Institute, Wavre, Belgium

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SESSION CE: RARE-EARTH FREE HARD MAGNETIC MATERIALS

Chair(s): I. Dirba, *Institute of Materials Science, TU Darmstadt, Darmstadt, Germany*

Wednesday, April 15, 2026

08:30 AM-12:00 PM

Charter 4

08:30 AM-09:00 AM

CE-01. W-type Hexaferrites an Attractive Ceramic Permanent Magnet?

J. Frandsen, P. Namangalam Subrahmanian, M. Christensen

Department of Chemistry, Aarhus University, Aarhus C, Denmark

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09:00 AM-09:15 AM

CE-02. Recycling of Injection-Molded Sr-Ferrite Magnet Waste for Additively Manufactured and Sintered Magnets

P. Jenuš Belec[1], A. Mishra[1], A. Ivekovič[1], A. Kocjan[1], B. Belec[2], K. Kosmač[3], B. Saje[3]

[1]Department for Nanostructured Materials, Jozef Stefan Institute, Ljubljana, Slovenia, [2]Materials Research Laboratory, University of Nova Gorica, Ajdovscina, Slovenia, [3]Kolektor Mobility d.o.o., Idrija, Slovenia

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09:15 AM-09:30 AM

CE-03. Correlation between magnetism and stacking in Sr hexaferrites

V. H. Sosa Fierro, S. Gallego

Multiscale Materials Modelling, Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Madrid, Spain

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09:30 AM-09:45 AM

CE-04. Influence of Low Oxygen Partial Pressure on Phase Formation and Magnetic Properties of W-type Hexaferrite

P. Namangalam Subrahmanian[1], J. Frandsen[2], A. Povlsen Laursen[1], J. Simonsen[1], M. Christensen[3]

[1]Department of Chemistry, Aarhus University, Aarhus C, Denmark, [2]Interdisciplinary Nanoscience Center, Aarhus University, Aarhus C, Denmark, [3]Department of Chemistry and Interdisciplinary Nanoscience Center (iNANO), Aarhus University, Aarhus C, Denmark

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09:45 AM-10:00 AM

CE-05. The Properties of Packings of Magnetic Hexagonal Platelets

F. Pinto Fortkamp, A. R. Insinga, R. Bjørk

Department of Energy Conversion and Storage, Technical University of Denmark, Kongens Lyngby, Denmark

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Break

10:30 AM-11:00 AM

CE-06. An X-ray View on Permanent Magnets: Interaction Domains in Nd-Fe-B

P. Klassen[1], D. Guenzing[1,3], A. Aubert[2], T. Feggeler[3], B. Eggert[1], J. Neethirajan[4], L. Schäfer[2], F. Maccari[2], R. Knapman[1], B. Nguyen[1], M. Guizar-Sicairos[5], V. Scagnoli[5], M. Holler[5], D. Shapiro[3], A. Ditter[3], E. Bruder[2], X. Chen[6], B. Gault[6], K. Everschor-Sitte[1], H. Wende[1], K. Skokov[2], O. Gutfleisch[2], C. Donnelly[4], K. Ollefs[7,1]

[1]University Duisburg-Essen, Duisburg, Germany, [2]Technical University Darmstadt, Darmstadt, Germany, [3]Advanced Light Source, Berkeley, California, United States, [4]Max Planck Institute for Chemical Physics of Solids, Dresden, Germany, [5]Paul Scherrer Institut, Villigen, Switzerland, [6]Max Planck Institute for Sustainable Materials, Düsseldorf, Germany, [7]Kirchhoff Institute for Physics, Heidelberg University, Heidelberg, Germany

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11:00 AM-11:15 AM
CE-07. Magnetic properties of M-type hexaferrite nanoparticles
B. Muzzi[3], M. Boldrini[2, 3], M. Albino[3], F. Fabrizi de Biani[2], A. Gerace[4], C. Innocenti[4], D. Delmonte[1], F. Albertini[1], C. Sangregorio[3], C. de Julián Fernández[1]
[1]Istituto dei Materiali per l'Elettronica ed il Magnetismo Consiglio Nazionale delle Ricerche, Parma, Italy, [2]Università degli Studi di Siena, Siena, Italy, [3]CNR-ICCOM, Sesto Fiorentino, Italy, [4]Università degli Studi di Firenze, Sesto Fiorentino, Italy
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11:15 AM-11:30 AM
CE-08. Quantitative and Efficient Characterization of Nanostructures in Fe-Cr-Co Magnets by Small Angle X-ray Scattering
T. Yamashita
Corporate Research & Development Center, Daido Steel Co., Ltd., Nagoya, Aichi, Japan
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11:30 AM-11:45 AM
CE-09. First-principles study of enhanced magnetocrystalline anisotropy in transition metal–doped MnBi alloys
J. Snarski-Adamski[1], Z. Sniadecki[2], M. Werwinski[1]
[1]Department of Theory of Nanostructures and Quantum Materials, Institute of Molecular Physics Polish Academy of Sciences, Poznan, Poland, [2]Institute of Molecular Physics Polish Academy of Sciences, Poznan, Poland
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11:45 AM-12:00 PM
CE-10. Investigation of Annealing Methods for Fe-N Thin Films
G. d'Andrea[1], L. Rebohle[2], P. Rani[1], O. Steuer[2], I. Dirba[1], U. Kentsch[2], M. Major[1], S. Zhou[2], L. Alff[1]
[1]Materials Science, TU Darmstadt, Darmstadt, Hesse, Germany, [2]Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany
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SESSION CF: 2D AND 3D INDIVIDUAL NANOSTRUCTURES AND THEIR ARRAYS

Co-Chair(s): T. Dion, *CSIS/IMR, Tohoku University, Sendai, Miyagi, Japan* and J. Askey, *School of Physics and Astronomy, Cardiff University, Cardiff, United Kingdom*
Wednesday, April 15, 2026
08:30 AM-12:00 PM
Exchange 9

08:30 AM-09:00 AM
CF-01. New Vistas in Artificial Spin Ice
L. Heyderman
ETH Zurich - Paul Scherrer Institute, Villigen - PSI, Switzerland
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09:00 AM-09:15 AM
CF-02. Relaxation pathways and emergence of domains in square artificial spin ice
N. Leo[1], M. Menniti[2], P. Pedro Villalba-González[2], M. Pancaldi[3], P. Vavassori[2]
[1]Loughborough University, Loughborough, Leicester, United Kingdom, [2]CIC nanoGUNE, San Sebastian, Spain, [3]Elettra-Sincrotrone Trieste, Trieste, Italy
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09:15 AM-09:30 AM
CF-03. Controlled Clocking of Emergent Magnetic Monopoles
D. Bhandari[1], A. Strømberg[1], I. Breivik[1], A. Penty[2], J. Jensen[2], M. Foerster[3], G. Tufte[2], E. Folven[1]
[1]Electronic Systems, Norwegian University of Science and Technology, Trondheim, Norway, [2]Computer Science, Norwegian University of Science and Technology, Trondheim, Norway, [3]ALBA Synchrotron Light Facility, Barcelona, Spain
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09:30 AM-09:45 AM
CF-04. Mapping the Interaction Field in Artificial Spin Ices
B. Ojha, M. P. Grassi, V. Kapaklis
Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden
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09:45 AM-10:00 AM
CF-05. Ferromagnetic film with locally modified perpendicular magnetic anisotropy as an artificial spin-ice for magnonic applications
S. Kunnath, M. K. Zelent, P. Gruszecki, M. Krawczyk
Faculty of Physics and Astronomy, Adam Mickiewicz University, Poznan, Poland
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10:00 AM-10:30 AM
Break

10:30 AM-10:45 AM
CF-06. Manipulating Magnetic Phenomena of Ferromagnetic Nanoislands with Thermal Nano-conversion
O. J. Barker[1, 2], A. J. Wright[3, 2], A. Mohammadi-Motlagh[2], R. Batty[2], H. Finch[2], A. Vezzoli[2], P. S. Keatley[4], L. O'Brien[1]
[1]University of Manchester, Liverpool, United Kingdom, [2]University of Liverpool, Liverpool, United Kingdom, [3]Imperial College London, London, United Kingdom, [4]University of Exeter, Exeter, United Kingdom
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10:45 AM-11:00 AM
CF-07. Synthetic-Ferrimagnet-Based Chiral Magnonic Resonators for Use with In-Plane and Out-Of-Plane Magnetized YIG Media
K. Fripp, A. Shytov, V. Kruglyak
Physics and Astronomy, University of Exeter, Exeter, United Kingdom
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11:00 AM-11:15 AM
CF-08. Geometry-Driven Magnetic Anisotropy in Arrow-shaped Ni Nanowires
Y. Alvarez[1], V. Vega[2], A. Asenjo[3], O. Chubykalo-Fesenko[3], V. M. Prida[1]
[1]Departamento de Física, Universidad de Oviedo, Oviedo, Asturias, Spain, [2]Laboratorio de Membranas Nanoporosas, Edificio de Servicios Científico Técnicos "Severo Ochoa", Universidad de Oviedo, Oviedo, Spain, [3]Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain
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11:15 AM-11:30 AM

CF-09. Complex-shaped 3D magnetic nanotubes: fabrication and magnetic properties

C. Fernandez Gonzalez[1, 2], P. Morales Fernandey[2], L. Turnbull[2, 3], C. Abert[4, 5], D. Suess[4, 5], M. Foerster[1], M. Niño[1], P. Nita[6], A. Mandziak[7], S. Finizio[8], N. Bagués[1], E. Pereiro[1], A. Fernández-Pacheco[9], L. Perez[10, 11], S. Ruiz Gomez[1, 2], C. Donnelly[2, 3]
[1]ALBA Synchrotron, Cerdanyola del Valles, Barcelona, Spain, [2]Max Planck Institute for Chemical Physics of Solids, Dresden, Germany, [3]International Institute for Sustainability with Knotted Chiral Meta Matter (WPI-SKCM2) Hiroshima University, Hiroshima, Japan, [4]Faculty of Physics University of Vienna, Vienna, Austria, [5]Research Platform MMM Mathematics-Magnetism-Materials University of Vienna, Vienna, Austria, [6]Faculty of Physics Astronomy and Applied Computer Science Jagiellonian University, Krakow, Poland, [7]SOLARIS Synchrotron light Sources, Krakow, Poland, [8]Swiss Light Source Paul Scherrer Institute, Villigen, Switzerland, [9]Institute of Applied Physics TU Wien, Vienna, Austria, [10]Dept. Física de Materiales Universidad Complutense de Madrid, Madrid, Spain, [11]Instituto Madrileño de Estudios Avanzados - IMDEA Nanociencia, Madrid, Spain

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11:30 AM-11:45 AM

CF-10. Influence of geometry on magnetic behavior in one- and three-dimensional FeNi nanowire arrays

L. G. Vivas[1, 4], C. V. Manzano[1], N. Pastor[1], O. Caballero-Calero[1], U. Atxitia[2], R. Sanz González[3], M. Martín-González[1]
[1]Instituto de Micro y Nanotecnología, IMN-CNM, CSIC (CEI UAM+CSIC), Tres Cantos, Madrid, Spain, [2]Instituto de Ciencia de Materiales de Madrid, CSIC, Cantoblanco, 28049 Madrid, Spain, Cantoblanco, Madrid, Spain, [3]National Institute for Aerospace Technology (INTA), Space Payloads Department, Torrejón de Ardoz, Madrid, 28850 Spain, Torrejón de Ardoz, Madrid, Spain, [4]Departamento de Física Aplicada, Facultad de Ciencias, Universidad Autónoma de Madrid, Madrid 28049, Spain., Cantoblanco, Spain

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11:45 AM-12:00 PM

CF-11. Tunable Magnetic Anisotropy in Co, Co-Pt, and Co-Pd Nanowires: Temperature-Driven Magnetization Easy Axis Reorientation

M. Arce[1], J. Riva[3], P. Bercoff[1, 2], M. Aguirre[2], M. Vázquez[4]
[1]Facultad de Matemática, Astronomía, Física y Comp., Universidad Nacional de Córdoba, Córdoba, Argentina, [2]Instituto de Física Enrique Gaviola, Conicet, Córdoba, Argentina, [3]Instituto de Investigaciones en Físico Química de Córdoba, Conicet, Córdoba, Argentina, [4]Instituto de Ciencia de Materiales de Madrid, CSIC, Spain, Madrid, Spain

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SESSION CG: SENSORS (NON-RECORDING) I

Chair(s): S. Yabukami, *Tohoku University, Sendai, Miyagi, Japan*
Wednesday, April 15, 2026
08:30 AM-12:00 PM
Exchange 10

08:30 AM-08:45 AM

CG-01. High-Sensitivity TMR Sensor with Minimal Hysteresis Through Vortex State Stabilization

M. Sun[1, 2, 3]^, Z. Zhou[2], M. Liu[2], W. Chen[2], Y. Zhao[2], W. Xi[4], Q. Leng[1, 2, 3]
[1]Yangtze Delta Region Academy of Beijing Institute of Technology (Jiaxing), Beijing Institute of Technology, Jiaxing, Zhejiang, China, [2]Huairou National Laboratory, Beijing, China, [3]State Key Laboratory of Complex-Field Intelligent Sensing, Beijing institute of Technology, Beijing, China, [4]Electric Power System (BEIJING) Research Institute Co., Ltd, China Southern Power Grid, Beijing, China

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08:45 AM-09:00 AM

CG-02. Development of an ultrasensitive skyrmion-based magnetic field sensor

L. Malucelli[1], M. Caseiro[2], E. Yildiz[1], J. Rial[1], S. Auffret[1], N. Mollard[1], I. Joumard[1], J. Faure-Vincent[1], C. Baraduc[1], A. Solignac[2], C. Fermon[2], M. Pannetier-Lecoeur[2], H. Béa[1], J. Fischer[1]
[1]Université Grenoble Alpes, Grenoble, France, [2]CNRS, University of Paris-Sud, Paris-Saclay, France

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09:00 AM-09:15 AM
CG-03. Laser-Reprogrammable Vector-Sensitivity in a Magnetic Sensor
F. van Riel*, T. Dankers, B. Koopmans, D. Leitao
Applied Physics, Eindhoven University of Technology, Eindhoven, Noord-Brabant, Netherlands
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09:15 AM-09:30 AM
CG-04. TMR-Based Magnetocardiography With Triaxial Active Magnetic Noise Compensation
Z. Jin[1, 2], G. Peng[1, 2], J. Chen[1, 2], C. Zhang[1, 2]
[1]Aerospace Information Research Institute Chinese Academy of Sciences, Beijing, China, [2]School of Electronic, Electrical and Communication Engineering, University of Chinese Academy of Sciences, Beijing, China
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09:30 AM-10:00 AM
CG-05. Innovative spintronic-based solutions for sensor applications
A. Meo
Department of Electrical and Information Engineering, Politecnico di Bari, Bari, Italy
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10:00 AM-10:30 AM
Break

10:30 AM-10:45 AM
CG-06. Physical Modelling of InGaAs/AlGaAs/GaAs 2DEG Structures for Integrated Hall Effect Circuits
C. Walsh[1], M. Sadeghi[2], M. Missous[1, 2]
[1]University of Manchester, Manchester, Greater Manchester, United Kingdom, [2]Advanced Hall Sensors Ltd., Manchester, United Kingdom
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10:45 AM-11:00 AM
CG-07. Low Noise Nanoscale Vortex Sensor sensitive to out-of-plane fields
A. Jha, A. Palomino, S. Auffret, H. Béa, R. Sousa, L. D. Buda-Prejbeanu, O. Fruchart, I. Prejbeanu, B. Dieny
SPINTEC, Grenoble, France
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11:00 AM-11:15 AM
CG-08. Design of an Electromagnetic Tracking System Using Tunnel Magnetoresistive Sensors
K. Hsu, H. Lu, P. Wu, C. Lin
Mechanical Engineering, National Taiwan University, Taipei City, Taiwan
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11:15 AM-11:30 AM
CG-09. Assessing Magnetic Viscosity as a Potential Cause of Very Long-Term Drift in GMI Magnetometers
C. Cordier, J. Gasnier, C. Dolabdjian
Université de Caen Normandie, Caen, France
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11:30 AM-11:45 AM
CG-10. Toward picotesla magnetic field detection using MTJ-based sensors
T. Brun[1, 2], J. Rial[1, 2], S. Manceau[1, 2], L. Risoli[1], C. Ducruet[1], A. Purbawati[1], P. Sabon[1], C. Cavoit[2], G. Jannet[2], T. Nakatani[3], J. Fischer[1], M. Kretzschmar[2], C. Baraduc[1], H. Béa[1, 4]
[1]CEA-SPINTEC, Grenoble, France, [2]LPC2E Université d'Orléans, Orleans, France, [3]National Institute for Materials Science (NIMS), Tsukuba, Japan, [4]Institut Universitaire de France (IUF), Paris, France
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SESSION CH: SOFT MAGNETIC MATERIALS: CRYSTALLINE AND DISORDERED ALLOYS
Chair(s): E. Ferrara, *Innovative Materials Metrology and Life Science, INRIM - Divisione ML, Torino, Italy*
Wednesday, April 15, 2026
08:30 AM-12:00 PM
Exchange 11

08:30 AM-09:00 AM
CH-01. Dimensionality and length-scale control of room-temperature ferromagnetism in CoMnFeNiGa high-entropy alloys
N. Shkodich
Faculty of Physics, University of Duisburg-Essen, Duisburg, Germany
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09:00 AM-09:15 AM
CH-02. 3D Printed Soft Magnetic Actuators: Feedstock and Material Versatility
J. Law[1], J. Revuelta-Losada[1], G. Gloria Guerrero-Muñoz[1], M. Sanchez-Poncela[2], V. Franco[1]
[1]Multidisciplinary Unit for Energy Science, University of Seville, Seville, Spain, [2]ArcelorMittal Global R&D, Asturias, Spain
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09:15 AM-09:30 AM
CH-03. Effect of Annealing on the Microstructure and the Magnetostrictive Property of Nanogranular Fe-B-N Alloy Thin Film
N. Isogai[1], K. Imamura[1], Y. Kaneda[2], Y. K. Takahashi[3], Y. Nakamura[1], M. Kotsugi[4], M. Ohtake[1]
[1]Faculty of Engineering, Yokohama National University, Yokohama, Japan, [2]Instrumental Analysis Center, Yokohama National University, Yokohama, Japan, [3]Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan, [4]Department of Materials Science and Technology, Tokyo University of Science, Tokyo, Japan
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09:30 AM-09:45 AM
CH-04. Effect of Si Content and Temperature on the Magnetic Properties of Fe-Si-Al@Ceramic SMC Materials
J. Fuzer[1], Z. Birčáková[2], S. Dobák[1], P. Kollár[1], R. Bureš[2], M. Fáberová[2], V. Milyutin[2]
[1]Institute of Physics, P.J. Safarik University, Kosice, Slovakia, [2]Institute of Materials Research, Slovak Academy of Sciences, Kosice, Slovakia
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09:45 AM-10:00 AM
CH-05. Process impacts on nanocrystalline soft magnetic composite properties
D. Vavra[1, 2], U. M. Soupremanien[1], O. Tosoni[1], Y. Danlos[2], N. Feninechе[2]
[1]CEA-LITEN, DTNM, Univ. Grenoble Alpes, Grenoble, France, [2]UTBM, ICB, Université Bourgogne Franche-Comté, Belfort, France
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10:00 AM-10:30 AM
Break

10:30 AM-10:45 AM
CH-06. Laser Additive Manufacturing of High-Silicon Steel
M. Murali, E. Hryha, V. Chaudhary
Department of Mechanical Engineering, Chalmers University of Technology, Gothenburg, Sweden
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10:45 AM-11:00 AM
CH-07. Comprehensive Investigation of Magnetic Properties of Fe–Si and Fe-Co Alloy Under Alternating and Rotational Magnetizations
J. Zhou[1, 2], S. Yue[1, 2], Z. Dong[1, 2], J. Li[1, 2], G. Zhou[1, 2], Y. Li[1, 2]
[1]State Key Laboratory of Intelligent Power Distribution Equipment and System, Hebei University of Technology, Tianjin, China, [2]Hebei Key Laboratory of Equipment and Technology Demonstration of Flexible DC Transmission, Hebei University of Technology, Tianjin, China
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11:00 AM-11:15 AM
CH-08. Surface Energy-induced Selective Grain Growth and Magnetic Domain Evolution in 0.15mm Thin-gauge Grain-Oriented Electrical Steel
J. Ahn[1], K. Lee[1], H. Lee[1], S. Yoo[2, 1], Y. Ahn[2], C. Kang[2], M. Choi[3], J. Kim[1]
[1]Hanyang University, Aasan, Korea (the Republic of), [2]Hyundai Steel R&D Center, Dangjin, Korea (the Republic of), [3]Korea Electric Power Research Institute, Daejeon, Korea (the Republic of)
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11:15 AM-11:30 AM
CH-09. Coupling of multi-scale investigation methods to study microstructural related magnetic properties and domain structure of electrical steel material
N. Leuning[1], T. Nußbaum[2], D. Gartner Aurich[1], S. Korte-Kerzel[2]
[1]Institute of Electrical Machines (IEM), RWTH Aachen University, Aachen, Germany, [2]Institute for Physical Metallurgy and Materials Physics (IMM), RWTH Aachen University, Aachen, Germany
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11:30 AM-11:45 AM
CH-10. A Novel Open-Ring Measurement System for Fast and Reproducible Characterization of Weak Soft Magnetic Materials
M. Peer, D. Wöckinger, M. Koll, G. Weissitsch, T. Krainer, G. Bramerdorfer
Institute of Electric Machines and Power Electronics, Johannes Kepler University (JKU), Linz, Austria, Linz, Upper Austria, Austria
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11:45 AM-12:00 PM
CH-11. Epitaxial Metallic Buffer Layers for FeAlSi toward High-Sensitivity Magnetic Sensors Using Superparamagnetic Tunnel Junctions
R. Hirama[1^], T. Kubota[2], T. Nakano[1, 3], M. Oogane[1, 4]
[1]Department of Applied Physics, Graduate School of Engineering, Tohoku University, Sendai, Miyagi Prefecture, Japan, [2]Department of Advanced Spintronics Medical Engineering, Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan, [3]Research Center for Green X-Tech, Green Goals Initiative, Tohoku University, Sendai, Miyagi, Japan, [4]Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Miyagi, Japan
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SESSION CP: SPECIAL MACHINES I (POSTER SESSION)

Co-Chair(s): E. A. Lomonova, *Electrical Engineering, Technische Universiteit Eindhoven, Eindhoven, Netherlands* and M. Aydin, *Mechatronics Engr., Kocaeli University, Umuttepe, Izmit, Kocaeli, Turkey*

Wednesday, April 15, 2026

09:00 AM-12:00 PM

Exchange Hall

CP-01. A Novel Transverse-Flux Rotary-Linear Machine Based on Flux-Reversal Structure for Industrial Application

H. Zhang[1], G. Ma[1, 2], Z. Li[1], S. Niu[1]

[1]Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, Kowloon, Hong Kong, [2]Electrical Engineering and Automation, Wuhan University, Wuhan City, Hubei Province, China

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CP-02. Evaluation on the AC Copper Loss of an Axial Flux Vernier Machine with Different Winding Layouts

W. Zhu[1], Z. Kou[2], H. Wu[2]

[1]School of Robotics, Xi'an Jiaotong-Liverpool University, Suzhou, Jiangsu Province, China, [2]School of Electrical and Electronic Engineering, University of Sheffield, Sheffield, United Kingdom

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CP-03. Nickel Plating Thickness Measurement on the Rear Side of S45C Steel Plates Using Electromagnetic-Force-Induced Vibration

A. Kano[1], Y. Hosono[2], Y. Gotoh[3]

[1]Graduate School of Science and Engineering, Oita University, Oita, Oita, Japan, [2]Graduate School of Engineering, Oita University, Oita, Oita, Japan, [3]Faculty of Science and Engineering, Oita University, Oita, Oita, Japan

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CP-04. Additive Manufacturing of Thin Axial Variable Reluctance Resolvers

P. Huang[2], C. Liao[2], P. Liao[2], T. Chang[1]

[1]Department of Vehicle Engineering, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan, [2]Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan

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CP-05. Counter-Torque Reinforcement of Axial-Flux Block-Coil Wind Generators Considering Manufacturability

H. Kim[1], M. Hong[4], S. Ko[1], C. Kim[2], W. Kim[3]

[1]Department of Next Generation Energy System Convergence, Gachon University, Gwangmyeong-si, Gyeonggi-do, Korea (the Republic of), [2]Electrical Engineering, Wonkwang University, Iksan, Korea (the Republic of), [3]Electrical Engineering, Gachon University, Seongnam, Korea (the Republic of), [4]Electrical Engineering, Hanyang University, Seoul, Korea (the Republic of)

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CP-06. Magnetic Modeling and Experimental Validation of a Permanent Magnet Spherical Motor for Satellite Attitude Control

T. Pham[2], M. Hsieh[1], T. Yen[3], C. Hsieh[3]

[1]Electrical Engineering, National Cheng Kung University, Tainan, Taiwan, [2]Program on Smart and Sustainable Manufacturing, Academy of Innovative Semiconductor and Sustainable Manufacturing, National Cheng Kung University, Tainan, Taiwan, [3]Tensor Tech, New Taipei City, Taiwan

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CP-07. Torque Enhancement of Dual-PM Yokeless-Stator Dual-Rotor Flux-Modulated Motor with Improved Working Harmonics

K. Zhao[2], Z. Li[1], M. Jiang[1], Q. Wang[1], S. Niu[1], W. Liu[1], K. Chau[1]

[1]The Hong Kong Polytechnic University, Kowloon City District, Hong Kong, [2]School of Professional Education and Executive Development, The Hong Kong Polytechnic University., Yau Tsim Mong District, Hong Kong

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CP-08. Analysis Methodology of PMSM for Reciprocating Compressor considering the Variable Load Condition
D. Cheo, N. Kim, J. Cho, C. Wang, S. Jeong, S. Jung, S. Jung
Department of Electrical and Computer Engineering, Sungkyunkwan University, Suwon, Korea (the Republic of)
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CP-09. Design of a Coreless DC Motor with Enhanced Output Torque
D. Li[1], F. Zhao[1], J. Yu[1], C. Zhi[2]
[1]School of Robotics and Advanced Manufacture, Harbin Institute of Technology (Shenzhen), Shenzhen, China, [2]College of New Materials and New Energies, Shenzhen Technology University, Shenzhen, China
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CP-10. Two-Step Magnetization Strategy for Performance Enhancement in Axial-Flux Permanent Magnet Motors
J. Lee, H. Han, S. Jeon, H. Bae, W. Kim
Gachon University, Seongnam, Korea (the Republic of)
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CP-11. Comparative Analysis and Losses Minimization of Winding Configurations for PCB Stator Axial-Flux Machines
B. Chen[1], F. Zhao[1], J. Yu[1], G. Lyu[2]
[1]School of Robotics and Advanced Manufacture, Harbin Institute of Technology(Shenzhen), Shenzhen, Guangdong Province, China, [2]Power China Huadong Engineering Co.,Ltd, Hangzhou, China
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CP-12. A Review of Magnetic Spring Technology
D. Che, J. Bird
Electrical and Computer Engineering, Portland State University, Portland, Oregon, United States
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CP-13. A Novel Hybrid-Transverse-Flux Dual-Electrical-Port Skew-Teeth Machine for Mild Hybrid Vehicles
Z. Huang, M. Jiang, S. Niu, Z. Li, F. Ni
The Hong Kong Polytechnic University, Hong Kong, China
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CP-14. A Cost-Effective Complementary-Rotor Modular-Stator Vernier Reluctance Machine with Toroidal Armature Windings
Z. Li, F. Ni, L. Dai, Z. Huang, S. Niu
Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong
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CP-15. Electromagnetic Design of Hybrid Stepper Motors Accounting for Magnetic Saturation Toward Servo-Level Torque Density
M. Hsieh[1], A. T. Huynh[2], M. D. Le[1], Y. Li[1]
[1]Electrical Engineering, National Cheng Kung University, Tainan, Taiwan, [2]Power Electronics, Machines and Control Research Institute, University of Nottingham, Nottingham, United Kingdom
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CP-16. Demagnetization-Mitigation Characteristics of Flux-Intensifying Spoke-Type IPM Motors with Symmetric and Asymmetric Rotors under High-Harmonic Excitation

M. Hsieh[1], A. T. Huynh[2], M. D. Le[1], J. Lin[1], P. Huang[3], D. Ngo[4], T. Le[5]
[1]Electrical Engineering, National Cheng Kung University, Tainan, Taiwan, [2]University of Nottingham, Nottingham, United Kingdom, [3]Mechanical Engineering, National Cheng Kung University, Tainan, Tainan, Taiwan, [4]University of Education and Technology–The University of Danang, Da Nang, Viet Nam, [5]Ho Chi Minh City University of Technology and Education, Ho Chi Minh City, Viet Nam
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SESSION CQ: PERMANENT MAGNET MACHINES AND MAGNETICALLY GEARED MACHINES III (POSTER SESSION)

Chair(s): B. Daniels, *Electrical Engineering, Eindhoven University of Technology, Eindhoven, Noord-Brabant, Netherlands*
Wednesday, April 15, 2026
09:00 AM-12:00 PM
Exchange Hall

CQ-01. Design and Optimization of a High-Power-Density Six-Phase PMSM for UAV Propulsion Considering Inverter-Induced Losses

M. Hsieh[1], A. T. Huynh[2], P. Li[1], M. D. Le[1, 4], P. Huang[3, 4]
[1]Electrical Engineering, National Cheng Kung University, Tainan, Taiwan, [2]Power Electronics, Machines and Control Research Institute, Nottingham, United Kingdom, [3]Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan, [4]Electric Motor Technology Research Center, National Cheng Kung University, Tainan, Taiwan
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CQ-02. A Study on Improving LSPM Efficiency and Starting Torque Characteristics through Design Technology for Applying a Reduced Permanent Magnet

S. Song, K. Lee, M. Park, J. Lee
Intelligent Mechatronics Research Center, Korea Electronics Technology Institute, Bucheon-si, Korea (the Republic of)
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CQ-03. Co-Optimization of Magnetic Gear Ratios and Generator Pole Pairs for a Front-End Speed-Flexible Wind Turbine Drive

P. Lin, X. Liu, X. Zhang, S. Huang
College of Electrical and Information Engineering, Hunan University, Changsha, Hunan, China
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CQ-04. A Novel Dual-Electrical-Port Magnetic-Geared Compound Machine for Vertical Axis Wind Turbine

Z. Huang, Z. Li, M. Jiang, S. Niu
The Hong Kong Polytechnic University, Hong Kong, China
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CQ-05. High Magnet Utilization and Reduced Flux Leakage in Bevel Magnetic Gears Using Spoke/V-Type Hybrid Configuration

P. Liao, M. Tsai
Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan
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CQ-06. Design and Gear Ratio Selection of a Magnetic Geared Motor for Robotic Arm Actuators

C. Kim[1], H. Lee[1], J. Lee[2], J. Lim[1], C. Park[1]
[1]Department of Railroad Convergence System, Korea National University of Transportation, Uwang-si, Korea (the Republic of), [2]Department of Railroad Electrical and Information Engineering, Korea National University of Transportation, Uiwang-si, 16106, Korea (the Republic of)
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CQ-07. Winding-Factor-Based Analysis of Pole-Slot Combinations for a Reduction-Gear Magsplit
T. Ha[1], Y. Kim[2], E. Park[3]
[1]Aerospace, Chosun University, Gwangju, Korea (the Republic of), [2]Electrical Engineering, Chosun University, Gwangju, Korea (the Republic of), [3]Engineering for Smart Mobility convergence Systems, Chosun University, Gwangju, Korea (the Republic of)
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CQ-08. Identifying Magsplit Cogging Torque through Frequency Analysis
B. Byeon, Y. Kim, E. Park
Chosun university, Gwangju, Korea (the Republic of)
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CQ-09. Investigation of the Dynamic Characteristics of the Multi-port Dual Flux Modulation Magnetic Geared Machine With Damper Cage
M. Lu[1, 2, 3], X. Liu[1, 2, 3], C. Xia[1, 3], X. Zhang[1, 2, 3]
[1]College of Electrical and Information Engineering, Hainan University, ChangSha, China, [2]Greater Bay Area Institute for Innovation, Hunan University, Guangzhou, China, [3]State Key Laboratory of Offshore Wind Power Equipment and High-efficient Utilization Wind Energy, Changsha, China
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CQ-10. Design and Comparative Analysis of Multi-Path Stator-Yoke Oil-Channel Configurations for Compact Permanent Magnet Motors Considering Electromagnetic and Thermal Performance
H. Xue, Z. Zhang, Q. Lin, H. Gao
College of Automation Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, China
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CQ-11. Quantitative Comparison of Dual-Rotor High Speed Motors with Different Spoke-Type Stator PMs
Z. Dong, M. Jiang, Z. Zhang, Z. Zhang, S. Niu, K. Chau
Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China
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CQ-12. Novel Axial Flux Permanent Magnet Machine with Flux Modulation Yokeless and Segmented Armature (FM-YASA)
L. Shao[1], K. Wang[1], Z. Zhang[1], L. Liu[2], W. Hua[2], Z. Wu[2]
[1]College of Automation Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, Jiangsu, China, [2]School of Electrical Engineering, Southeast University, Nanjing, Jiangsu, China
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CQ-13. Deep Transfer Learning-Assisted Fast Performance Prediction for AFPM considering PM Overhang Effects and Radial Leakage Flux
Y. Lee[1], S. Park[2], H. Kim[1], Y. Lee[1], M. Park[3]
[1]Department of Electrical and Communication Systems Engineering, Soonchunhyang University, Asan-si, Chungcheongnam-do, Korea (the Republic of), [2]Department of Mechanical, Robotics, and Energy Engineering, Dongguk University, Seoul, Korea (the Republic of), [3]Department of Electrical Engineering, Soonchunhyang University, Asan, Chungcheongnam-do, Korea (the Republic of)
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SESSION CR: MAGNETIC NANOSTRUCTURES AND NANOPARTICLES (POSTER SESSION)
Chair(s): P. de la Presa, *Complutense University of Madrid, Madrid, Spain*
Wednesday, April 15, 2026
09:00 AM-12:00 PM
Exchange Hall

CR-01. Tuning the Magnetic Dynamics and Hyperfine Interactions in Ferrite-Silica Nanocomposites
A. Czempik[1], B. Liszka[2], K. Prusik[1], J. Klimontko[1], E. Partyka-Jankowska[3], M. Zajac[3], S. Lewinska[4], N. Randrianantoandro[5], A. Bajorek[1]
[1]Faculty of Science and Technology, University of Silesia in Katowice, Chorzów, Poland, [2]Faculty of Natural Sciences, University of Silesia in Katowice, Sosnowiec, Poland, [3]SOLARIS National Synchrotron Radiation Centre, Kraków, Poland, [4]The Institute of Physics of the Polish Academy of Sciences, Warszawa, Poland, [5]Institute of Molecules and Materials of Le Mans, Le Mans University, Le Mans, France
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CR-02. The effect of fabrication imperfections on switching disorder in single-domain nanomagnets
T. M. Dale[1], I. Breivik[1], M. Linnerud[2], M. Nord[2], E. Folven[1]
[1]Electronic Systems, Norwegian University of Science and Technology, Trondheim, Norway, [2]Physics, Norwegian University of Science and Technology, Trondheim, Norway
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CR-03. Magnetization Reversal in Elongated Co/Ti/NiFe Nanostructures
M. Garcia Ramón[1], P. R. Ribeiro[2], M. Mota[2], C. Redondo[1], K. R. Pirota[2], R. Morales[1]
[1]Department of Physical Chemistry, University of the Basque Country -UPV/EHU, Leioa, Spain, [2]Department of Condensed Matter Physics, University of Campinas, Institute of Physics Glab Wataghin, Campinas, Brazil
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CR-04. Bilayer Nanocolumnar Films With Tailored Magnetic Properties
M. Garrido-Segovia[2], A. Nazarov[3], R. Álvarez[4], A. Palmero[4], E. Navarro[2], A. Kaidatzis[5], P. Kabos[3], J. García-Martín[1]
[1]Instituto de Micro y Nanotecnología, CSIC, Tres Cantos, Madrid, Spain, [2]Universidad Complutense de Madrid, Madrid, Spain, [3]National Institute of Standards and Technology, Boulder, Colorado, United States, [4]Instituto de Ciencia de Materiales de Sevilla, Seville, Spain, [5]University of Patras, Patras, Greece
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CR-05. Magnetic and Structural Tuning in Nanocrystalline Ni-Zn Ferrites with Potential Biomedical Applications
M. Georgieva[1], D. Tzankov[1], D. Kovacheva[2], T. R. Karadimov[1], P. A. Georgiev[1]
[1]Faculty of Physics, Sofia University "St. Kliment Ohridski", Sofia, Bulgaria, [2]Institute of General and Inorganic Chemistry, Bulgarian Academy of Sciences, Sofia, Bulgaria
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CR-06. Towards reconfigurable magnonic crystals using artificial spin ice based magnetic multilayer structures
J. Ø. Hestmark[1], I. Breivik[1], A. Strømberg[1], J. Maes[2], J. Leliaert[2], B. Van Waeyenberge[2], E. Folven[1]
[1]Electronic systems, Norwegian University of Science and Technology, Trondheim, Norway, [2]Solid State Sciences, Ghent University, Ghent, Belgium
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CR-07. Directional Artificial Spin Ice
J. Jensen[1], I. Breivik[2], A. Penty[1], A. Strømberg[2], H. T. Kaarbø[2], D. Bhandari[2], T. M. Dale[2], M. Själander[1], G. Tufte[1], E. Folven[2]
[1]Department of Computer Science, Norwegian University of Science and Technology, Trondheim, Norway, [2]Department of Electronic Systems, Norwegian University of Science and Technology, Trondheim, Norway
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CR-08. Influence of inertia on susceptibility of magnetic nanoparticles
A. Janutka
Wroclaw University of Science and Technology, Wroclaw, Poland
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CR-09. Tuning Exchange Bias in Multiferroic BiFeO3–PbTiO3 Thin-Film Heterostructures
M. F. Jankowski[1], S. Song[2], J. C. Osborne[2], C. J. McCluskey[3], M. Gregg[3], B. A. Brereton[2], A. Caruana[4], C. Kinane[4], P. Shepley[2], T. A. Moore[2], A. J. Bell[1]
[1]School of Chemical and Process Engineering, University of Leeds, Leeds, United Kingdom, [2]School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom, [3]Centre for Quantum Materials and Technologies, Queen's University Belfast, Belfast, United Kingdom, [4]Rutherford Appleton Laboratory, ISIS, Oxon, United Kingdom
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CR-10. Cu/Zn-Modified Ferrite Nanoparticles: Magnetic Behaviour, Bactericidal Properties, and Ecotoxicity
T. R. Karadimov[1], M. Georgieva[1], E. Nenova[2], I. Ivanova[2], P. A. Georgiev[1]
[1]Faculty of Physics, Sofa University St. Kliment Ohridski, Sofia, Bulgaria, [2]Faculty of Biology, Sofia University St Kliment Ohridski, Sofia, Bulgaria
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CR-11. Thickness Dependence of Anisotropic Magnetoresistance in CoPt Alloy Multilayer Nanowires Fabricated by Dual-Bath Electrodeposition
R. Kawana[1], D. Oshima[2], M. Saito[3], T. Homma[3, 4], T. Kato[2, 5], T. Ono[6], M. Shima[1], K. Yamada[1]
[1]Gifu University, Gifu-shi, Japan, [2]Dept. of Electronics, Nagoya University, Nagoya, Japan, [3]Research Organization for Nano and Life Innovation, Waseda University, Tokyo, Japan, [4]Dept. of Applied Chemistry, Waseda University, Tokyo, Japan, [5]Institute of Materials and Systems for Sustainability, Nagoya University, Nagoya, Japan, [6]Institute for Chemical Research, Kyoto University, Uji, Japan
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CR-12. Tailoring Magnetic Domains Without Domain Walls in Tb/Co Multilayers Using Ion Bombardment
D. Kiphart, F. Stobiecki, M. Kowacz, G. Chaves O'Flynn, P. Kuswik
Institute of Molecular Physics Polish Academy of Science, Poznan, Poland
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CR-13. Conformally Coated 3D Magnetic Nanostructured Metamaterials
A. Roberts[1], H. Guo[2], J. Askey[1], V. Lanka[1], A. van den Berg[1], D. Grundler[2, 3], S. Ladak[1]
[1]School of Physics and Astronomy, Cardiff University, Cardiff, Cardiff, United Kingdom, [2]Insitute of Materials, EPFL, Lausanne, Switzerland, [3]Institute of Electrical and Micro Engineering, EPFL, Lausanne, Switzerland
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CR-14. From Shape-Controlled Synthesis to In Vitro Testing of Magnetic Nano-Octahedra for Hyperthermia
M. Vassallo[1], E. S. Olivetti[1], M. Vicentini[1], G. Barrera[1], D. Martella[2], M. Malerba[1], J. Petiti[1], C. Divieto[1], P. Tiberto[1], A. Manzin[1]
[1]Istituto Nazionale di Ricerca Metrologica, Torino, Italia, Italy, [2]University of Firenze, Sesto Fiorentino, Italy
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CR-15. Characterization and Magnetic Tuning of Gd-Doped Iron Oxide Nanoparticles
H. Zakaria, A. Szuchmacher Blum
Chemistry, McGill University, Montréal, Quebec, Canada
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CR-16. Green Synthesis of Gd/Gd_2O_3 Nanoparticles for Magnetic Hyperthermia Applications
B. Gungordu[1], D. Akkus[1], N. Gunduz Akdogan[2, 3], O. Akdogan[1, 2]
[1]*Faculty of Engineering and Natural Sciences, Bahcesehir University, Istanbul, Turkey,* [2]*NANOTerial Technology Corporation, Istanbul, Turkey,* [3]*Faculty of Engineering, Piri Reis University, Istanbul, Turkey*
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SESSION CS: SPINTRONIC DEVICES FOR MORE EFFICIENT TECHNOLOGIES (POSTER SESSION)
Chair(s): A. Migliorini, *Max Planck Institute of Microstructure Physics, Halle (Saale), Germany*
Wednesday, April 15, 2026
09:00 AM-12:00 PM
Exchange Hall

CS-01. Challenges for thin film integration of Ti in perpendicular SOT-MRAM
B. Coester, G. Talmelli, V. Nguyen, V. Kateel, R. Carpenter
Imec, Heverlee, Belgium
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CS-02. All-optical switching in a Co/Gd-based magnetic tunnel junction free layer for photonic integration
T. Zhang[1], C. Scheper[1], M. Rasly[1], Y. Jiao[2], B. Koopmans[1], D. Leitao[1]
[1]*Applied physics, Eindhoven University of Technology, Eindhoven, Netherlands,* [2]*Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands*
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CS-03. Spin-Transfer Torque Efficiency in Coupled Synthetic Free Layers: Comparative Study Using Stochastic Magnetic Tunnel Junctions
T. Kinoshita, M. Ohtani, N. Caçoilo, H. Kaneko, S. Kanai, H. Ohno, S. Fukami
Tohoku University, Sendai, Japan
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CS-04. Reduction of Switching Error Probability in Magnetization Switching Using Spin-Splitter Torque
T. Watanabe[2], K. Yamada[1], Y. Nakatani[2]
[1]*Chemistry and Biomolecular, Gifu University, Gifu, Gifu, Japan,* [2]*Univ. of Electro-Communications, Tokyo, Japan*
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CS-05. Large spin Hall effect in 300^{0}C annealed BiSb topological insulator and perpendicularly magnetized CoFeB using oxide buffer/seed and interfacial layers on Si/SiO_2 substrates
P. Van Thuan[1], H. Ho[1], W. Li[1], S. Hirayama[2], Y. Kato[2], H. N. Pham[1]
[1]*Electrical Electronic and Engineering, Institute of Science Tokyo, Koto, Tokyo, Japan,* [2]*Samsung Device Solutions R&D Japan, Samsung Japan Corporation, Yokohama, Kanagawa, Japan*
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CS-06. Concurrent Magnetization Reversal in Co/Pt Perpendicular Synthetic Antiferromagnets
I. Rohrmann[1, 2], A. Ducevic[3], G. Masciocchi[4], K. Prügl[4], W. Raberg[2], S. Dounia[2], D. Suess[3], M. Becherer[1], S. Mendisch[2]
[1]*School of Computation, Information and Technology, Technical University of Munich, Garching, Germany,* [2]*Infineon Technologies AG, Neubiberg, Germany,* [3]*Physics of Functional Materials, University of Vienna, Vienna, Austria,* [4]*Infineon Technologies AG, Regensburg, Germany*
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CS-07. Beyond Shielding: The Impact of Magnet Positions on MRAM Reliability
A. Talapatra, J. Mueller, S. Soss, A. Zaka
GlobalFoundries, Dresden, Germany
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CS-08. Bulk spin-orbit torque driven spin Hall nano-oscillators via crystallographic engineering in PtBi alloys
U. Shashank[1], A. Kumar[1, 2, 3], T. S. Parvini[4, 5, 6], H. Heyen[4], L. Zeng[7], A. B. Yankovich[7], M. Rajabali[8], E. Olsson[7], M. Münzenberg[4], J. Akerman[1, 2, 3]
[1]Physics, University of Gothenburg, Göteborg, Västra Götaland, Sweden, [2]RIEC, Tohoku University, Sendai, Miyagi, Japan, [3]CSIS, Tohoku University, Sendai, Miyagi, Japan, [4]Institut für Physik, Universität Greifswald, Greifswald, Mecklenburg-Vorpommern, Germany, [5]Walther-Meißner-Institut, Bayerische Akademie der Wissenschaften, Garching, Germany, [6]Munich Center for Quantum Science and Technology (MCQST, Munich, Germany, [7]Physics, Chalmers University of Technology, Gothenburg, Västra Götaland, Sweden, [8]NanOsc AB, Kista, Stockholm, Stockholm County, Sweden
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CS-09. Tailoring Spin Orbit Torque through Layer Thickness Gradient in Gd/FeCo Multilayer
R. Yabushita[1], D. Oshima[1], T. Kato[1, 2]
[1]Electronics, Nagoya University, Komaki, Aichi, Japan, [2]Institute of Materials and Systems for Sustainability, Nagoya University, Nagoya, Aichi, Japan
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CS-10. Investigation of Magnetic Immunity of SOT-MRAM with Shielding Package
Z. Zhang[1], X. Fan[2], D. Xiong[2], Y. Zhang[2], S. Lyu[2], N. Cao[2], K. Cao[2], H. Liu[2], H. Zhang[1], W. Zhao[1]
[1]Beihang University, Beijing, China, [2]Truth Memory Corporation, Beijing, China
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CS-11. Complex dynamics of nano-oscillators with dual vortex free layers mutually coupled via spin-torques
L. Kokkinos[1, 2], J. Kim[1, 2]
[1]Université Paris-Saclay, Gif-sur-Yvette, France, [2]Centre de Nanosciences et de Nanotechnologies, Palaiseau, France
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CS-12. Study of coupled spiking magnetic tunnel junctions
A. Courberand[1], A. Jha[1], R. Sousa[1], J. Kim[2], U. Ebels[1], L. D. Buda-Prejbeanu[1]
[1]CEA-SPINTEC, Grenoble, France, [2]Université Paris Saclay, Paris, France
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CS-13. Angular evolution of magnetoresistance in magnetic tunnel junctions with synthetic antiferromagnets
N. Strelkov, S. Dounia, L. Cuchet, C. Ducruet, J. Childress
Allegro Microsystems, Grenoble, France
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CS-14. Electric control of magnetic order in low-dimensional magnets for memory and computing devices
C. Yun[1], Z. Luo[2], J. Yang[2], Y. Hou[1]
[1]Department of Materials , Sun Yat-Sen University, Shenzhen, China, [2]Peking University, Beijing, China
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SESSION CT: FERROMAGNETIC RESONANCE AND SPIN WAVES I (POSTER SESSION)

Chair(s): J. Masell, *Institute of Theoretical Solid State Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany*

Wednesday, April 15, 2026

09:00 AM-12:00 PM

Exchange Hall

CT-01. Magnonic Delay Lines for Time-Domain Reservoir Computing and Recurrent Neural Networks

R. Leenders[4], H. Tan[1], A. Lutsenko[1], F. Heyroth[2], K. Fripp[4], A. Shytov[4], G. Schmidt[2], C. Dubs[3], S. van Dijken[1], V. Kruglyak[4]

[1]Aalto University, Aalto, Finland, [2]Martin-Luther-University Halle-Wittenberg, Halle, Germany, [3]INNOVENT e.V. Technologieentwicklung, Jena, Germany, [4]University of Exeter, Exeter, United Kingdom

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CT-02. Fabry-Perot Cavity formed by Magnonic waveguide using two air holes

R. Kumar, Y. Au, S. Ingvarsson

School of Natural Science and Engineering, Science Institute, University of Iceland, Reykjavik, Iceland

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CT-03. YSGAG: The Ideal Substrate for YIG in Quantum Magnonics

R. Serha[1], C. Dubs[2], C. Guguschev[3], B. Aichner[1], D. Schmoll[1], J. Schäfer[4], J. Panda[5], M. Weiler[4], P. Pirro[4], M. Urbánek[5], A. Chumak[1]

[1]Physics, University of Vienna, Vienna, Vienna, Austria, [2]INNOVENT e.V. Technologieentwicklung, Jena, Germany, [3]Leibniz-Institut für Kristallzüchtung, Berlin, Germany, [4]RPTU Kaiserslautern-Landau, Kaiserslautern, Germany, [5]CEITEC BUT, Brno, Czechia

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CT-05. Tailoring magnetic anisotropy energy with ion irradiation on Fe(110)

G. Gray San Martín[1, 2], K. Lenz[1], A. Lindner[1], F. Ganss[1], R. Gallardo[3], P. Landeros[3], R. Hübner[1], J. Fassbender[1, 2], J. Lindner[1]

[1]Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Saxony, Germany, [2]Institute of Solid State and Materials Physics, Technische Universität Dresden, Dresden, Saxony, Germany, [3]Departamento de Física, Universidad Técnica Federico Santa María, Valparaíso, Valparaíso, Chile

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CT-07. Magnetization Dynamics of CoFeB/NiO/CoFeB Trilayers

R. Mehta[1], P. K. Pal[2], A. Barman[2], S. Saha[1]

[1]Department of Physics, Ashoka University, Rajiv Gandhi Education City, Sonipat, Haryana, India, [2]S. N. Bose National Centre for Basic Sciences, Kolkata, India

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CT-09. Cryogenic Spin-Wave Transport in YIG Films on YSGG

J. Abrão, D. Weltens, R. Mansell, S. van Dijken, L. Flajsman

Applied Physics, Aalto University, Espoo, Finland

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CT-10. Polarization analysis of micro-focused Brillouin light scattering signal

K. Szulc[1, 2], m. Guo[3], O. Wojewoda[1, 4], H. Wang[5], D. Pavelka[1], J. Klima[1], J. Krcma[1, 6], X. Han[5], Q. Wang[3], M. Urbánek[1, 6]

[1]CEITEC BUT, Brno University of Technology, Brno, Czechia, [2]Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland, [3]Institute for Quantum Science and Engineering, Huazhong University of Science & Technology, Wuhan, China, [4]Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts, United States, [5]Institute of Physics, Chinese Academy of Sciences, Beijing, China, [6]Institute of Physical Engineering, Brno University of Technology, Brno, Czechia

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CT-11. Programmable Spin-Wave Transport via Magnetic-State Transitions in CoFeB Nanodisk Arrays on YIG films
J. Hyun[1], K. Szulc[5, 2, 4], M. K. Zelent[2], L. Flajsman[1], M. Krawczyk[2], P. Gruszecki[2], A. Gopakumar[3], C. Dubs[3], S. van Dijken[1]
[1]Applied Physics, Aalto University, Espoo, Uusimaa, Finland, [2]Faculty of Physics and Astronomy, ISQI, Poznan, Poland, [3]INNOVENT e.V. Technologieentwicklung,, Jena, Germany, [4]CEITEC, Brno, Czechia, [5]Polish Academy of Sciences, Institute of Molecular Physics, Poznan, Poland
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CT-12. Hydrogen Gas Detection Using Palladium and Palladium Oxide Coated Iron Oxide Magnetic Nano-networks
Z. Z. Khan
Physics, The University of Western Australia, Perth, Western Australia, Australia
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CT-13. Study on Static and Dynamic Magnetic Properties of Epitaxial $Fe_{100-x}Ge_x$ Thin Films with Various Ge Compositions (x)
Y. Jiang[1], A. Semisalova[2], S. Ajia[1], S. Muroga[1], M. Farle[2], Y. Endo[1, 3]
[1]Department of Electrical Engineering, Tohoku University, Sendai, Miyagi, Japan, [2]Faculty of Physics, University of Duisburg-Essen, Duisburg, Germany, [3]Center for Science and Innovation in Spintronics (CSIS), Tohoku University, Sendai, Miyagi Prefecture, Japan
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CT-14. Tunable spin-wave dynamics in nanoscale bicomponent magnetic fractals
S. Saha, R. Mehta
Department of Physics, Ashoka University, Baden, Switzerland
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CT-15. Substrate-Dependent Magnetic Damping Constant in Weyl Semimetal Co_2MnGa Thin Films
N. Zahrin[1], S. Manna[2], S. Sahara[1], Y. Kurokawa[1], T. Kuschel[2], M. Kläui[2], H. Yuasa[1]
[1]Graduate School of Information Science and Electrical Engineering,, Kyushu University, Fukuoka, Japan, [2]Institute of Physics, Johannes Gutenberg University Mainz, Mainz, Germany
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SESSION CU: NEUROMORPHIC, PROBABILISTIC, AND QUANTUM COMPUTING II (POSTER SESSION)
Chair(s): R. Tomasello, *Department of Electrical and Information Engineering, Politecnico di Bari, Bari, Italy*
Wednesday, April 15, 2026
09:00 AM-12:00 PM
Exchange Hall

CU-01. Probabilistic Computing Using Magnetic Tunneling Junctions for Traveling Salesman Problem
C. Wan[1], R. Zhang[1], S. He[2], T. Kämpfe[3], X. Han[1]
[1]Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China, [2]Zhejiang Hikstor Technology Co. LTD., Hangzhou, Zhejiang, China, [3]Fraunhofer IPMS, Dresden, Germany
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CU-02. Spatial Reservoir Computing Based on Spin–Orbit Torque Driven Skyrmion Motion
S. Bonino, R. Guedas Garcia, S. Auffret, E. Yildiz, G. Gaudin, O. Boulle
CEA-SPINTEC, Grenoble, France, France
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CU-03. Quantum spintronic Engine: experiments and first theory
M. Bowen
IPCMS, Strasbourg, France
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CU-04. Encoding information on the excited quantum state of a molecular spin chain
M. Bowen
IPCMS, Strasbourg, France
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CU-05. Differentiable Modelling of Spintronic Devices Using Denoising Diffusion Implicit Models
J. Griffiths[1], R. Yagan[2], C. Swindells[2], T. Hayward[2], M. O. Ellis[1]
[1]School of Computer Science, University of Sheffield, Sheffield, United Kingdom, [2]School of Chemical, Materials and Biological Engineering, University of Sheffield, Sheffield, United Kingdom
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CU-06. Skyrmionic Synapses for Artificial Neural Network Hardware
D. Burrow[1], W. Griggs[1], W. Bouckaert[2], N. Reyren[2], V. Pavlidis[1], C. Moutafis[1]
[1]University of Manchester, Manchester, United Kingdom, [2]Laboratoire Albert Fert, CNRS, Thales, Universite Paris-Saclay, Palaiseau, France
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CU-07. Trainable Neuromorphic Spintronic Hardware Via Analog Finite-Difference Gradient Method
C. Pereira[4, 1], A. Jenkins[1], E. Raimondo[2], M. Carpentieri[3], E. Iranmehr[1], L. C. Benetti[1], S. Roy[1], R. Ferreira[1], J. Ventura[4], G. Finocchio[2, 5], D. Rodrigues[3]
[1]International Iberian Nanotechnology Laboratory, Porto, Portugal, [2]Istituto Nazionale di Geofisica e Vulcanologia,, Rome, Italy, [3]Electrical and Information Engineering, Politecnico di Bari, Bari, Italy, [4]IFIMUP, Department of Physics and Astronomy, Faculty of Sciences of University of Porto, Porto, Portugal, [5]Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, University of Messina, Messina, Italy
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CU-08. MRAM based CiM Accelerators for Backpropagation-Free Training
H. Nehete[1], S. Soni[1], A. Monga[1], T. Bollu[1], B. Raman[2]
[1]Department of Electronics and Communication Engineering, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India, [2]Department of Computer Science and Engineering, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India
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CU-09. Skyrmions for non-conventional computing
R. Guedas Garcia[1], K. Bairagi[1], M. Panzeri[2], S. Bonino[1], S. Auffret[1], E. Albisetti[2], G. Gaudin[1], O. Boulle[1]
[1]Spintec, Grenoble, Isere, France, [2]Politecnico di Milano, Milano, Italy
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MAGNETICS SOCIETY ANNUAL MEETING
Wednesday, April 15, 2026
12:15 PM-01:45 PM
Exchange 2&3

SESSION DA: ACCELERATING INNOVATION: THE INDUSTRY-ACADEMIA SYNERGY IN MAGNETIC-BASED CRITICAL TECHNOLOGIES (PART B)

Chair(s): F. Ciubotaru, *imec, Leuven, Belgium*
Wednesday, April 15, 2026
02:00 PM-05:30 PM
Exchange Auditorium

02:00 PM-02:30 PM
DA-01. Current and future requirements for coating technologies in key magnetic applications
B. Ocker, J. Langer, J. Wrona
Business Unit Semiconductor, Singulus Technologies AG, Kahl am Main, Bavaria, Germany
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02:30 PM-03:00 PM
DA-02. Experience in CMOS design for Spintronics
L. Engels, F. Saint-Preux, O. Leman, G. Cogniard
IC'Alps, Saint Martin d'Heres, France
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03:00 PM-03:30 PM
DA-03. Magnetic Immunity in STT-MRAM A Rational Approach to a Manageable Challenge
J. Mueller
ULP CMOS, GlobalFoundries, Dresden, Germany
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03:30 PM-04:00 PM
Break

04:00 PM-04:30 PM
DA-04. Magnetic Metrology for MTJ Based Devices Fabrication: From Process Excursion Detection to Device Performance Correlation
A. Cagliani[1], A. Titova[2], B. Satywali[1], J. Mueller[2], J. Engelmann[3], F. Krause[2], I. Altendorf[2], D. Sanchez Hazen[2], M. Weisheit[2], P. Sadeghi[1], B. Guralnik[1], T. Shapoval[3], M. F. Hansen[1]
[1]CAPRES, KLA, Kgs. Lyngby, Denmark, [2]GlobalFoundries, Dresden, Germany, [3]KLA, Dresden, Germany
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04:30 PM-05:00 PM
Round Table Discussion

SESSION DB: ARTIFICIAL SPIN ICE: NEW PATHWAYS IN STRONGLY-INTERACTING NANOMAGNETIC NETWORKS

Chair(s): L. Heyderman, *ETH Zurich - Paul Scherrer Institute, Villigen - PSI, Switzerland*

Wednesday, April 15, 2026

02:00 PM-05:30 PM

Charter 1

02:00 PM-02:30 PM

DB-01. Tripod Nanomagnets in Artificial Spin Ice

N. H. Strandqvist, R. Zhang, G. Macauley, P. Schiffer

Physics, Princeton University, Plainsboro Township, New Jersey, United States

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02:30 PM-03:00 PM

DB-02. Reconfigurable magnon band structure in YIG/ASI heterostructure

T. Dion[1, 2], A. J. Wright[3], T. Zheng[3], T. Hioki[4], T. Seki[1, 2], H. Kurebayashi[5, 6, 1], J. Gartside[3]

[1]Centre for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan, [2]Institute for Materials Research, Tohoku University, Sendai, Japan, [3]Physics, Imperial College London, London, United Kingdom, [4]Applied Physics, The University of Tokyo, Tokyo, Japan, [5]London Centre for Nanotechnology, University College London, London, United Kingdom, [6]Department of Electronic and Electrical Engineering, University College London, London, United Kingdom

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03:00 PM-03:30 PM

DB-03. High-resolution two-photon lithography for 3D printing nanomagnets

J. Askey[1], M. Hunt[2], L. Payne[1], A. van den Berg[1], A. Hejazi[3], I. Pitsios[4], W. Langbein[1], S. Ladak[1]

[1]School of Physics and Astronomy, Cardiff University, Cardiff, United Kingdom, [2]Huntleigh Healthcare Ltd, Cardiff, United Kingdom, [3]Faculty of Science and Arts, Tabah University, Medina, Saudi Arabia, [4]VitreaLab GmbH, Vienna, Austria

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03:30 PM-04:00 PM

Break

04:00 PM-04:30 PM

DB-04. Magnetic Creatures and Where to Find Them

A. Penty

Computer Science, Norwegian University of Science and Technology, Trondheim, Norway

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04:30 PM-05:00 PM

DB-05. Coupled nanomagnetic systems for unconventional computing

L. Wang, Z. Luo

School of Physics, Peking University, Beijing, Beijing, China

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05:00 PM-05:30 PM

DB-06. Direct Imaging of Emergent Magnetic Monopole Fields in Three-Dimensional Artificial Spin Ice

S. Ladak

School of Physics and Astronomy, Cardiff University, Cardiff, United Kingdom

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SESSION DC: SPIN-ORBIT AND ORBITAL TORQUES II

Chair(s): A. Hoffmann, *University of Illinois Urbana-Champaign, Urbana, Illinois, United States*

Wednesday, April 15, 2026

02:00 PM-05:30 PM

Charter 2

02:00 PM-02:30 PM

DC-01. Orbitronics with orbital magnets and all-orbital devices

S. Krishnia[1], C. Schmitt[1], O. Ledesma[1], M. Zeer[2], E. Galindez Ruales[1], T. Kikkawa[3], H. Arisawa[3], T. Denneulin[4], A. Kovács[4], F. Kronast[5], D. Go[1], L. Pourovskii[6], R. E. Dunin-Borkowski[4], T. Kuschel[1], M. Lezaić[2], J. Sinova[1], E. Saitoh[3], G. Jakob[1], O. Gomonay[1], Y. Mokrousov[1], M. Kläui[1, 7]

[1]Institute for Physics, Johannes Gutenberg University Mainz, Mainz, Germany, [2]Peter Grünberg Institut and Institute for Advanced Simulation, Forschungszentrum Jülich and JARA, Jülich, Germany, [3]Department of Applied Physics, The University of Tokyo, Tokyo, Japan, [4]Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons, Forschungszentrum Jülich, Jülich, Germany, [5]Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany, [6]CPHT, CNRS, École polytechnique, Institut Polytechnique de Paris, Palaiseau, France, [7]Center for Quantum Spintronics and Department of Physics, NTNU, Trondheim, Norway

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02:30 PM-02:45 PM

DC-02. Characteristics of spin-orbit torque switching in smooth transition region

Z. Kong, X. Zhang, Z. Zhu

ShanghaiTech University, Shanghai, China

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02:45 PM-03:00 PM

DC-03. Enhanced spin-orbit torque efficiency via graphite interlayer in epitaxial Co/Pt multilayers

A. Guio[1], A. Gudín[1], G. Orero[2], H. Madathil[2], A. Pezo[3], J. Rojas-Sanchez[4], F. Ajejas[1], S. Velez[2], P. Perna[1]

[1]Instituto Madrileño de Estudios Avanzados Nanociencia (IMDEA Nanociencia), Madrid, Spain, [2]Dept. Física de la Materia Condensada and Condensed Matter Physics Center (IFIMAC), Universidad Autónoma de Madrid, Madrid, Spain, [3]Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, Palaiseau, France, [4]Université de Lorraine, CNRS, IJL, Nancy, France

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03:00 PM-03:15 PM

DC-04. Giant Orbital Torque-driven Picosecond Switching in Magnetic Tunnel Junctions

Y. Yao[1], D. Zhu[1], C. Xiao[1], X. Ning[1, 3], W. Cai[1], X. Guo[1], Z. Guo[1], K. Yang[1], D. Xiong[2], Z. Yan[1], S. Lu[1], H. Zhang[2], S. Cheng[1], R. Xu[1], D. Ma[1], C. Wang[1], Z. Wang[1], Z. Boyu[1], X. Zheng[1], K. Cao[1], H. Liu[2], A. Manchon[3], W. Zhao[1]

[1]School of Integrated Circuit Science and Engineering, Beihang University, Beijing, Beijing, China, [2]Truth Memory Corporation, Beijing, China, [3]CINaM, Aix-Marseille Univ, Marseille, France

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03:15 PM-03:30 PM

DC-05. Modulation of spin-orbit torque of Pt/Co heterostructures by Zr alloying into Pt layers

J. Lee[1], J. Lee[2], T. T. Nguyen[3], C. Kim[4], S. Kim[3], Y. Kim[2]

[1]Department of Semiconductor Systems Engineering, Korea University, Seoul, Korea (the Republic of), [2]Department of Materials Science and Engineering, Korea University, Seoul, Korea (the Republic of), [3]Department of Physics and Energy Harvest Storage Research Center, University of Ulsan, Ulsan, Korea (the Republic of), [4]Quantum Technology Institute, Korea Research Institute of Standards and Science, Daejeon, Korea (the Republic of)

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03:30 PM-04:00 PM

Break

04:00 PM-04:30 PM
DC-06. Spin-Orbit Torque Operation in Synthetic Antiferromagnetic Devices
T. Seki[1, 2, 3]
[1]*Institute for Materials Research, Tohoku University, Sendai, Japan,* [2]*Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan,* [3]*International Center for Synchrotron Radiation Innovation Smart, Tohoku University, Sendai, Japan*
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04:30 PM-04:45 PM
DC-07. Efficient Spin-Orbit Torques Magnetization Switching Using Chromium Orbital Polarization
R. T. Victor[1], G. Lan[1], P. A. Dainone[2], A. Pezo[1], Y. Xu[1], S. Collin[1], F. Godel[1], Y. Lu[2], N. Reyren[1], H. Jaffrès[1], J. George[1]
[1]*Laboratoire Albert Fert, Palaiseau, France,* [2]*Institut Jean Lamour, Nancy, France*
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04:45 PM-05:00 PM
DC-08. Ultra-Low Switching Current Density and Robust Thermal Stability in NiW-Based SOT Devices
C. Wei, Y. Li, C. Lai
National Tsing Hua University, Hsinchu, Taiwan
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05:00 PM-05:15 PM
DC-09. Investigation of the heavy-metal layer in the orbital-to-spin current conversion
G. Cipi, S. Rohart
Laboratoire de Physique des Solides, Orsay Cedex, France
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05:15 PM-05:30 PM
DC-10. Phenomenology of Orbital Torque in Metallic Bilayers
X. Ning[1, 2, 3], H. Jaffrès[4], W. Zhao[1, 3], A. Manchon[2]
[1]*National Key Laboratory of Spintronics, Hangzhou International Innovation Institute, Beihang University, Hangzhou, China,* [2]*Aix-Marseille University, CINaM, CNRS, Marseille, France,* [3]*Fert Beijing Institute, School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China,* [4]*Laboratoire Albert Fert, CNRS, Thales, Universite Paris-Saclay, Palaiseau, France*
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SESSION DD: ALTERNATIVE COMPUTING ARCHITECTURES WITH SPINTRONIC DEVICES

Chair(s): A. Chaurasiya, *Physics, University of Gothenburg, Gothenburg, Sweden*
Wednesday, April 15, 2026
02:00 PM-05:30 PM
Charter 3

02:00 PM-02:30 PM
DD-01. Entropy-Assisted Nanosecond Stochastic Operation In Perpendicular Superparamagnetic Tunnel Junctions
L. Desplat[1], L. Soumah[1], N. Phan[1], A. Sidi El Valli[1], A. Madhavan[2, 3], F. Disdier[1], S. Auffret[1], R. Sousa[1], U. Ebels[1], M. Stiles[2], P. Talatchian[1]
[1]*SPINTEC, Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, Grenoble, France,* [2]*Physical Measurement Laboratory, National Institute of Standards and Technology, Gaithersburg, Maryland, United States,* [3]*Institute for Research in Electronics and Applied Physics, University of Maryland, College Park, Maryland, United States*
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02:30 PM-03:00 PM
DD-02. Nanoscale Control and Electrical Detection of Chiral Domain Walls
A. Migliorini[1], J. Jeon[1], J. Yoon[1], L. Fischer[1], J. Jeong[2], S. Parkin[1]
[1]Max Planck Institute of Microstructure Physics, Halle (Saale), Germany, [2]Samsung Semiconductor, San Jose, California, United States
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03:00 PM-03:30 PM
DD-03. Let the Physics Do the Math: Spintronic oscillators as Physical Combinatorial Solvers
V. H. González[1, 2], A. Litvinenko[2], A. Kumar[2, 3], R. Khymyn[2], J. Akerman[2, 3]
[1]Applied Mathematics and Theoretical Physics, University of Cambridge, Cambridge , United Kingdom, [2]Physics, University of Gothenburg, Gothenburg, Sweden, [3]Center for Science and Innovation in Spintronics, RIEC, Tohoku University, Sendai, Japan
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03:30 PM-04:00 PM
Break

04:00 PM-04:15 PM
DD-04. On-the-fly All-Electrical Readout of a Single-Skyrmion-Counting Sensor Validated by Optical Detection
G. Beneke[1], K. Leutner[1], N. Vijayan[1, 2], F. Kammerbauer[1], D. Tran[1], S. Krishnia[1], J. Guettinger[2], A. Satz[2], R. Frömter[1], M. Kläui[1]
[1]Institute of Physics, Johannes Gutenberg-Universität Mainz, Ober-Olm, Rheinland-Pfalz, Germany, [2]Infineon Technologies Austria AG, Villach, Austria
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04:15 PM-04:30 PM
DD-05. Moving magnetic domain walls with sound alone
A. Rivelles[1, 2], R. Yanes[3], L. Torres[3], M. Abuín[1, 2], J. Grandal[1], M. Sepehr[1], G. Orero[4], R. Guedas Garcia[5], L. Fernández-García[6], R. Izquierdo[1, 7], M. C. Maicas[1], M. Sanz[1], J. Pedrós[1, 7], F. Calle[1, 7], S. Ruiz Gómez[8], W. Khaliq[8], M. Angel[8], S. Velez[4], M. Foerster[8], L. Lopez-Diaz[3], J. Prieto[1]
[1]Instituto de Sistemas Optoelectrónicos y Microtecnología (ISOM), Universidad Politécnica de Madrid (UPM), Madrid, Spain, [2]Escuela Técnica Superior de Ingeniería y Diseño Industrial, Universidad Politénica de Madrid, Madrid, Spain, [3]Applied Physics Department, Universidad de Salamanca, Salamanca, Salamanca, Spain, [4]Spintronics and Nanodevices Laboratory, Departamento de Física de la Materia Condensada and Condensed Matter Physics Center (IFIMAC), Universidad Autónoma de Madrid, Madrid, Madrid, Spain, [5]SPINTEC, Université Grenoble Alpes, CNRS, CEA, Grenoble, France, [6]Departamento de Física de Materiales, Universidad Complutense de Madrid, Madrid, Madrid, Spain, [7]Departamento de Ingeniería Electrónica, ETSI Telecomunicación, , Universidad Politécnica de Madrid, Madrid, Madrid, Spain, [8]ALBA Synchrotron Light Facility, Barcelona, Spain
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04:30 PM-04:45 PM
DD-06. Chiral Interlayer Coupling Induced Analog SOT Switching and Neuromorphic Functionality in Synthetic Ferrimagnets
S. Li, W. Yang, X. L. Lin
Hangzhou International Innovation Institute, Hang Zhou Shi, Zhejiang, China
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04:45 PM-05:00 PM
DD-07. Orbital-to-Spin Conversion Integration in 3-terminal MTJs with Vertical Non-Local Control of the Magnetization
C. C. Capriata[1], M. Biagi[1], C. Bouchard[2], L. Hutin[2], B. Viala[2], R. Sousa[1], K. Garello[1]
[1]IRIG, CEA-SPINTEC, Grenoble, France, [2]CEA-Leti, Grenoble, France
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05:00 PM-05:15 PM
DD-08. Self-consistent simultation of current-induced switching in nanopillars with perpendicular shape anisotropy
N. Boscolo Meneguolo[1, 2], M. Fattouhi[1], O. Fruchart[1, 3], J. Toussaint[4, 3], L. D. Buda-Prejbeanu[1, 4], I. Prejbeanu[1], D. Gusakova[1]
[1]CEA-SPINTEC, Grenoble, France, [2]Université Grenoble Alpes, Grenoble, France, [3]Institut Néel CNRS, Grenoble, France, [4]Grenoble INP, Grenoble, France
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05:15 PM-05:30 PM
DD-09. Controllable mutual synchronization in perpendicular magnetic anisotropy nanogap spin Hall nano-oscillators
M. Kang[1*^], J. Choi[2], J. Akerman[2], B. Park[1]
[1]Materials Science and Engineering, KAIST, Hwaseong-si, Korea (the Republic of), [2]Department of Physics, University of Gothenburg, Gothenburg, Sweden
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SESSION DE: ADVANCED MODELING AND DESIGN OF LINEAR MACHINES AND MAGNETIC SUSPENSION SYSTEMS
Co-Chair(s): H. Hamzehbahmani, *Durham University, Durham, United Kingdom* and C. Yan, *Xi'an Jiaotong University, Xi'an, China*
Wednesday, April 15, 2026
02:00 PM-05:30 PM
Charter 4

02:00 PM-02:15 PM
DE-01. A Comparative Study of Flux Reversal Motors with Different Permanent Magnet Arrangements
S. Tsunoda*, K. Nakamura
Engineering, Tohoku University, Sendai, Japan
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02:15 PM-02:30 PM
DE-02. Electromagnetic Performance Analysis of an Axially Active–Radially Passive Magnetically Levitated Motor
C. Wu[1], Z. Deng[2], X. Quan[1]
[1]College of Automation Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, Jiangsu, China, [2]College of Automation Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, Jiangsu, China
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02:30 PM-02:45 PM
DE-04. A novel Switched Halbach quick response Solenoid Valve for Aerospace Propulsion Applications
M. Sairam, V. Ravikumar, K. Madhusudhan Reddy, R. Chari
Electrical, Research Centre Imarat, Badangpet, Hyderabad, India
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02:45 PM-03:00 PM
DE-05. Design of a High-PM-Utilization Tubular Transverse Flux Dual-PM Linear Motor with π-Shaped Core for Long Stroke Application
Z. Li[1], K. Zhao[2], M. Jiang[1], S. Niu[1], W. Liu[1], K. Chau[1]
[1]The Hong Kong Polytechnic University, Hong Kong, Hong Kong, [2]School of Professional Education and Executive Development (SPEED), The Hong Kong Polytechnic University, Hong Kong, Hong Kong
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03:00 PM-03:15 PM
DE-06. The importance of a vertical magnetic field in novel magnetic levitation
J. M. Hermansen, F. L. Durhuus, A. R. Insinga, R. Bjørk
Energy Conversion and Storage, Technical University of Denmark, Kongens Lyngby, Denmark
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03:15 PM-03:30 PM
DE-07. A Data-Driven Magnetic Field Model for Halbach Arrays of the Magnetically Levitated Planar Motor with Variable Harmonic Coefficients
C. Wang[1], G. Cao[1, 2], H. Hu[1, 2], S. Huang[1, 2]
[1]Guangdong Key Laboratory of Electromagnetic Control and Intelligent Robots, Shenzhen University, Shenzhen, Guandong, China, [2]National Key Laboratory of Green and Long-Life Road Engineering in Extreme Environment (Shenzhen), Shenzhen University, Shenzhen, Guandong, China
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03:30 PM-04:00 PM
Break

04:00 PM-04:15 PM
DE-08. A Fast Method for Electromagnetic Force Prediction in Coreless Permanent-magnet Synchronous Linear Motors Considering Magnet Manufacturing Tolerances
S. Yu[1], H. Zhang[1, 2]
[1]The School of Electrical Engineering & Automation, Harbin Institute of Technology, Harbin, China, [2]Suzhou Research Institute of HIT, Suzhou, China
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DE-10. Modeling and Full-Scale Characterization of an Electrodynamic Suspension System for Lane-Switching
O. Kleikemper[1], M. Pakštys[2], S. Rink[1], F. Holzapfel[3], A. Tonoli[2]
[1]TUM Hyperloop, Technical University of Munich, Ottobrunn, Germany, [2]Department of Mechanical and Aerospace Engineering, Politecnico di Torino, Turin, Italy, [3]Institute of Flight System Dynamics, Technical University of Munich, Garching, Germany
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04:30 PM-04:45 PM
DE-11. Flux Analysis and Thrust Density Enhancement of Double-side Yokeless Multi-tooth PM Linear Motor with Dual PM Configuration for Long Stroke Application
Z. Li[1], Y. Luo[1], A. Chau[2], S. Niu[1]
[1]The Hong Kong Polytechnic University, Hong Kong, Hong Kong, [2]School of Energy and Environment, City University of Hong Kong, Hong Kong, Hong Kong
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SESSION DF: VORTICES AND DOMAIN WALLS

Chair(s): R. Rama-Eiroa, *School of Physics and Astronomy, The University of Edinburgh, Edinburgh, United Kingdom*
Wednesday, April 15, 2026
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Exchange 9

02:00 PM-02:15 PM
DF-01. Micromagnetic theory of Floquet magnon states in magnetic vortices
J. Kim[1], C. Heins[2, 3], L. Körber[2, 3, 4], T. Devolder[1], J. Mentink[4], A. Kákay[2], J. Fassbender[2, 3], K. Schultheiss[2], H. Schultheiss[2]
[1]C2N, CNRS / Université Paris-Saclay, Palaiseau, France, [2]Institut für Ionenstrahlphysik und Materialforschung, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany, [3]Fakultät Physik, Technische Universität Dresden, Dresden, Germany, [4]Institute for Molecules and Materials, Radboud Universiteit, Nijmegen, Netherlands
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02:15 PM-02:30 PM
DF-02. Hysteretic excitation of self-induced Floquet magnons in vortex-state magnetic tunnel junctions
G. Philippe[1], R. Lopes Seeger[1], J. KIM[2], T. Devolder[2], A. Jenkins[3], L. C. Benetti[3], A. Schulman[3], R. Ferreira[3]
[1]Université Paris-Saclay, Palaiseau, France, [2]CNRS, Palaiseau, France, [3]International Iberian Nanotechnology Laboratory, Braga, Portugal
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DF-03. Real-time characterization of vortex core reversal under nonlinear gyrotropic motion
M. Massouras[1], A. Jenkins[2], L. C. Benetti[2], A. Schulman[2], R. Ferreira[2], H. Schultheiss[3], K. Schultheiss[3], J. Kim[1], T. Devolder[1]
[1]Université Paris-Saclay, CNRS, Palaiseau, France, [2]International Iberian Nanotechnology Laboratory, Braga, Portugal, [3]Helmholtz-Center Dresden-Rossendorf, Dresden, Germany
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DF-04. Breaking magnetic vortex symmetry for resonant reconfiguration of radiofrequency synaptic chains
A. Jenkins, L. C. Benetti, M. Steblii, R. Ferreira
Spintronics, International Iberian Nanotechnology Laboratory, Braga, Portugal
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03:00 PM-03:15 PM
DF-05. Pulse-driven Domain Dynamics in Perpendicularly Magnetized Topological Insulator / Magnetic Multilayer Heterostructures
B. A. Brereton[1, 2, 3], S. Hait[1], A. Yagmur[1], F. Maccherozzi[3], C. Kinane[2], S. Conroy[4], S. Sasaki[1], T. A. Moore[1], S. S. Dhesi[3], D. Backes[3], S. Langridge[2], C. Marrows[1]
[1]School of Physics and Astronomy, University of Leeds, Leeds, West Yorkshire, United Kingdom, [2]ISIS Neutron and Muon Source, STFC Rutherford Appleton Laboratory, Didcot, Oxfordshire, United Kingdom, [3]Diamond Light Source Ltd, Didcot, Oxfordshire, United Kingdom, [4]Department of Materials, Imperial College London, London, United Kingdom
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DF-06. Imprinting Electrically Switchable Scalar Spin Chirality by Anisotropic Strain in a Kagome Antiferromagnet
D. Paul[1]^, S. Yadav[1], S. Gupta[1], B. Patra[1], N. Kulkarni[1], D. Mondal[1], K. Gavankar[1], S. Sahu[2], B. Satpati[3], B. Singh[1], O. Benton[4], S. Chatterjee[1]
[1]Department of Condensed Matter Physics and Material Science, Tata Institute of Fundamental Research, Colaba, Maharashtra, India, [2]School of Physical Sciences, National Institute of Science Education and Research, Bhubaneswar, India, [3]Surface Physics & Material Science Division, Saha Institute of Nuclear Physics, Kolkata, India, [4]School of Physical and Chemical Sciences, Queen Mary University of London, London, United Kingdom
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Break

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DF-07. Deterministic magnetic nanodomain switching via engineered anisotropy landscapes
G. Simons, R. van Haren, B. Koopmans
Applied Physics and Science Education, Eindhoven University of Technology, Eindhoven, Netherlands
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DF-08. Crossover from Universal Depinning to Free Domain-Wall Dynamics in Thin Iron Garnet Films

V. Jeudy[1], D. Gouéré[3], N. Beaulieu[2], S. Hussain[3], R. Diaz Pardo[4], A. Thiaville[1], J. Sampaio[1], J. George[3], A. Anane[3], J. Ben Youssef[2]

[1]Université Paris-Sud, Orsay, France, [2]Université Brest, Brest, France, [3]CNRS, University of Paris-Sud, Palaiseau, France, [4]UNAM, Mexico, Mexico

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DF-09. Dynamics of 3D domain walls in magnetic cylindrical nanowires under thermal gradients.

E. Saugar, O. Chubykalo-Fesenko

Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain

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DF-10. Delayed Walker Breakdown in Cylindrical Nanowires with Vortex Magnetization

L. Gómez-Cruz[1, 2], L. Álvaro-Gómez[1], C. Fernandez Gonzalez[3], G. Curci[2], S. Ruiz Gomez[3], L. Aballe[3], E. Pereiro[3], R. Belkhou[4], J. Toussaint[5], D. Gusakova[2], V. Raposo[6], E. Martinez Vecino[6], A. Masseboeuf[2], O. Fruchart[2], L. Perez[7]

[1]Departamento de Física de Materiales, Universidad Complutense de Madrid, Madrid, Spain, [2]Université Grenoble Alpes, CNRS, CEA, SPINTEC, Grenoble, France, [3]ALBA Synchrotron, CELLS, Cerdanyola del Vallès, Barcelona, Spain, [4]SOLEIL Synchrotron, Saint Aubin, France, [5]Université Grenoble Alpes, CNRS, Institut Néel, Grenoble, France, [6]Departamento de Física Aplicada, Universidad de Salamanca, Salamanca, Spain, [7]IMDEA Nanociencia, Madrid, Spain

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DF-11. Sequential Magnetization Reversal Processes in Dual-Modulated Co-Ni Cylindrical Nanowires

Y. Alvarez[1], M. Mendez[1], V. Vega[2], A. Adawy[1, 3], V. M. Prida[1]

[1]Departamento de Física, Universidad de Oviedo, Oviedo, Asturias, Spain, [2]Laboratorio de Membranas Nanoporosas, SCTs "Severo Ochoa", Universidad de Oviedo, Oviedo, Spain, [3]Unidad de Microscopía Electrónica y Microsonda, SCTs "Severo Ochoa", Universidad de Oviedo, Oviedo, Spain

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DF-12. Direct observation of vortex and Néel-type skyrmionic textures in 3D curved magnets under zero-field conditions

T. Almeida[1], K. Fallon[1], D. A. Dugato[2], W. Jalil[2], A. Kovács[3], D. Cooper[4], R. E. Dunin-Borkowski[3], S. McVitie[1], F. Garcia[2]

[1]School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom, [2]Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil, [3]Ernst Ruska-Centre, Forschungszentrum Jülich, Jülich, Germany, [4]Univ Grenoble Alpes, CEA, LETI, Grenoble, France

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SESSION DG: ELECTRONIC STRUCTURE AND SPIN DYNAMICS
Chair(s): J. Wiebe, *University of Hamburg, Hamburg, Germany*
Wednesday, April 15, 2026
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Exchange 10

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DG-01. Detection of magnons in a transmission electron microscope
D. Kepaptsoglou[1, 2], J. Á. Castellanos-Reyes[3], A. Kerrigan[2], J. A. Do Nascimento[2], P. Zeiger[3], K. El hajraoui[1, 2], J. Idrobo[4, 5], B. Mendis[6], A. Bergman[3], V. K. Lazarov[2], J. Rusz[3], Q. Ramasse[1, 7]
[1]SuperSTEM Laboratory, Daresbury, United Kingdom, [2]University of York, Heslington, United Kingdom, [3]Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden, [4]University of Washington, Seattle, Washington, United States, [5]Pacific Northwest National Laboratory, Richland, Washington, United States, [6]Durham University, Durham, United Kingdom, [7]University of Leeds, Leeds, United Kingdom
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DG-02. Spin Waves in Mn_2Au and CuMnAs
J. Jackson[1], S. Ruta[2], L. Petit[1], J. Hirst[2], T. Ostler[3]
[1]Scientific Computing, Science and Technology Facilities Council, Warrington, United Kingdom, [2]Sheffield Hallam University, Sheffield, United Kingdom, [3]University of Hull, Hull, United Kingdom
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DG-03. Relativistic Magnetic Interactions from Non-Orthogonal Basis Sets
D. T. Pozsár[1, 3], G. Martínez-Carracedo[2, 3], L. Oroszlany[1, 4], A. García-Fuente[2, 3], B. Nyári[5, 6], L. Udvardi[6], L. Szunyogh[5, 6], J. Ferrer[3, 2]
[1]Department of Complex Systems, Eötvös Loránd University, Budapest, Hungary, [2]Centro de Investigación en Nanomateriales y Nanotecnología, Universidad de Oviedo-CSIC, El Entegro, Spain, [3]Departamento de Física, Universidad de Oviedo, Oviedo, Spain, [4]Wigner Research Centre for Physics, Budapest, Hungary, [5]HUN-REN-BME Condensed Matter Research Group, Budapest University of Technology and Economics, Budapest, Hungary, [6]Department of Theoretical Physics, Budapest University of Technology and Economics, Budapest, Hungary
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DG-04. Exchange splitting at surfaces: a new paradigm for spin-polarization in antiferromagnets
W. A. Schaarman, S. F. Weber
Condensed Matter and Materials Theory, Chalmers University of Technology, Göteborg, Sweden
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DG-05. New Theoretical Insights into the Magnetism of $SmCo_5$
A. B. Shick
Condensed Matter Theory, Institute of Physics, the Czech Academy of Sciences, Prague, Czechia
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Break

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DG-06. A Lightweight Graph-to-Vector Framework for Efficient Magnetic Property Prediction
S. Singh[1], A. Sharma[2], A. Kashyap[1]
[1]School of Physical Sciences, Indian Institute of Technology, Mandi, Mandi, Himachal Pradesh, India, [2]School of Computing and Electrical Engineering, Indian Institute of Technology Mandi, Mandi, India
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DG-07. Field-Angle-Dependent Magnetotropic Susceptibility of Monoclinic α-$RuCl_3$
H. Nasir[1], Y. Kim[2], K. Modic[1]
[1]Physics, Institute of Science and Technology Austria, Klosterneuburg, Austria, [2]Department of Physics, University of Toronto, Toronto, Ontario, Canada
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DG-08. Altermagnetism in RuO_2 films: variant control and detection of magnetic moments by X-ray magnetic linear dichroism
J. Okabayashi[1], Z. Wen[2], Y. Miura[3], H. Sukegawa[2], S. Mitani[2]
[1]The University of Tokyo, Bunkyo-ku, Tokyo, Japan, [2]NIMS, Tsukuba, Japan, [3]Kyoto Institute of Technology, Kyoto, Japan
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DG-09. Strain-induced modifications of the Co electronic structure in La_2CoMnO_6 single crystals revealed by XAS and RIXS
G. A. Amorim[1, 2], M. Boldrin[1, 3], T. Rocha[1], E. M. Bittar[4], E. Granado[2], L. Bufaiçal[3], T. J. Mori[1]
[1]Brazilian Synchrotron Light Laboratory, Brazilian Center for Research in Energy and Materials, Campinas, São Paulo, Brazil, [2]Instituto de Física Gleb Wataghin, Universidade Estadual de Campinas, Campinas, Brazil, [3]Instituto de Física, Universidade Federal de Goiás, Gioânia, Brazil, [4]Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil
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DG-10. Quantum Griffiths-like anomalies and non-universal critical phenomena in the double perovskite Er_2NiMnO_6
D. Mazumdar
Physics, Arya Vidyapeeth College (Autonomous), Guwahati, Assam, India
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DG-11. From continuum excitations to sharp magnons via transverse magnetic field in the spin-1/2 Ising-like triangular lattice antiferromagnet Na2BaCo(PO4)2
L. Woodland[1, 2], R. Okuma[3, 2], R. Stewart[1], C. Balz[1], R. Coldea[2]
[1]ISIS Neutron and Muon Source, Rutherford Appleton Laboratory, Didcot, United Kingdom, [2]Physics Department, University of Oxford, Oxford, United Kingdom, [3]Institute for Solid State Physics, The University of Tokyo, Chiba, Japan
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SESSION DH: FERROMAGNETIC RESONANCE AND SPIN WAVES II

Chair(s): K. Levchenko, *Faculty of Physics, University of Vienna, Vienna, Austria*

Wednesday, April 15, 2026

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Exchange 11

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DH-01. Magnon Momentum Microscopy for the Study of Nonlinear Spin-Wave Dynamics below 100-nm Wavelength

S. Wittrock[1, 2], C. Klose[1], S. Perna[3, 2], K. Baumgaertl[4], A. Mucchietto[4], M. Scheider[1], J. Fuchs[1], V. Deinhart[1], T. Karaman[2], D. Grundler[4, 5], S. Eisebitt[1, 6], B. Pfau[1], D. Schick[1]

[1]Max-Born-Institut für Nichtlineare Optik & Kurzzeitspektroskopie, Berlin, Germany, [2]Helmholtz-Zentrum Berlin für Materialien & Energie GmbH, Berlin, Germany, [3]Dipartimento di Ingegneria Elettrica, Università di Napoli "Federico II", Napoli, Italy, [4]Institute of Materials, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, [5]Institute of Electrical & Micro Engineering, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, [6]Institut für Physik & Astronomie, Technische Universität Berlin, Berlin, Germany

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DH-02. Ultra-long-living magnons in the quantum limit

A. Chumak[1], R. Serha[1], K. H. McAllister[2], F. Majcen[1], S. Knauer[1], T. Reimann[3], C. Dubs[3], G. Melkov[4], A. A. Serga[5], V. Tyberkevych[6], D. A. Bozhko[2]

[1]Faculty of Physics, University of Vienna, Vienna, Austria, [2]University of Colorado Colorado Springs, Colorado Springs, Colorado, United States, [3]INNOVENT e.V. Technologieentwicklung, Jena, Germany, [4]Taras Shevchenko National University of Kyiv, Kyiv, Ukraine, [5]Rheinland-Pfälzische Technische Universität Kaiserslautern-Landau, Kaiserslautern, Germany, [6]Oakland University, Rochester, Michigan, United States

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DH-03. Perpendicular magnetization in sputtered YIG thin films for spin wave propagation and spin-orbit torque switching

Y. Shiota[1], R. Hisatomi[1], S. Karube[1], D. Kan[1], Y. Shimakawa[1], T. Ono[1, 2]

[1]Institute for Chemical Research, Kyoto University, Uji, Kyoto, Japan, [2]International Center for Synchrotron Radiation Innovation Smart, Tohoku University, Sendai, Japan

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DH-04. Magneto-resistive detection of spin-waves

Q. Rossi[1], D. Stoeffler[1], G. de Loubens[2], H. Merbouche[2], H. Majjad[1], I. Ngouagnia[1], A. Solignac[2], M. Bailleul[1]

[1]CNRS / Institut de Physique et Chimie des Matériaux de Strasbourg, Universite de Strasbourg, Strasbourg, France, [2]SPEC, CEA Saclay, Gif sur Yvette, France

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DH-05. Magnon mediated spin pumping in coupled ferrimagnetic garnets heterostructure

K. S. Rathore[1], A. Swain[1], P. Gupta[1], A. Mishra[1], J. Lim[2], Y. Lee[3], M. Ramanathan[3], A. Hoffmann[2], S. Bedanta[1, 4]

[1]Physics, National Institute of Science Education and Research, Bhubaneshwar, Odisha, India, [2]Department of Materials Science and Engineering and Materials Research Laboratory, University of Illinois Urbana-Champaign, Urbana, Illinois, United States, [3]Department of Physics, National University of Singapore, Singapore, Singapore, [4]Center for interdisciplinary Sciences, National Institute of Science Education and Research, Jatni, Odisha, India

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DH-07. Magnetic configurations of few-layer CrCl3
Q. Fenoy[1], S. Berciaud[1], A. Gloppe[2]
[1]*IPCMS, Université de Strasbourg, Strasbourg, France,* [2]*IPCMS, CNRS, Strasbourg, France*
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DH-08. Quantifying magnetic exchange with atomistic simulation, magnetometry and BLS.
C. Swindells[2, 3], W. K. Peria[1], J. Barker[4], J. J. Wisser[1], M. Schneider[1], M. Pufall[1], H. T. Nembach[1]
[1]*NIST, Boulder, Colorado, United States,* [2]*NIST, Associate, Boulder, Colorado, United States,* [3]*Electrical Engineering, UC Denver, Denver, Colorado, United States,* [4]*School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom*
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DH-09. Time-resolved splitting of magnons into vortex gyration and Floquet spin waves
T. Devolder[1], R. Lopes Seeger[1], C. Heins[2], A. Jenkins[3], L. C. Benetti[3], A. Schulman[3], R. Ferreira[3], G. Philippe[1], C. Chappert[1], H. Schultheiss[2], K. Schultheiss[2]
[1]*CNRS and Université Paris-Saclay, Palaiseau, France,* [2]*Helmholtz-Zentrum Dresden–Rossendorf, Dresden, Germany,* [3]*International Iberian Nanotechnology Laboratory, Braga, Portugal*
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DH-10. Reconfigurable Magnonic Crystals Formed by Stripe-Domain Textures in Perpendicularly Magnetized BiYIG
G. Doddi[1], P. Che[1], S. Mantion[1], N. Reyren[1], D. Gouéré[1], T. Srivastava[2], S. Salama[1], R. Lebrun[1], V. Cros[1], A. Anane[1]
[1]*Labaratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, Palaiseau, France,* [2]*Centre de Nanosciences et de Nanotechnologies, CNRS, Université Paris-Saclay, Palaiseau, France*
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DH-11. High-momentum nonlinear magnons under parametric pumping detected by Mie-enhanced Brillouin Light Scattering
D. Pavelka[1], O. Wojewoda[2], J. Holobradek[1], J. Panda[1], J. Feilhauer[3], M. Urbánek[1]
[1]*CEITEC BUT, Brno University of Technology, Brno, Czechia,* [2]*Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts, United States,* [3]*Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia*
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SESSION DP: ADVANCED ANALYSIS AND DESIGN OF PERMANENT MAGNET MOTORS (POSTER SESSION)

Chair(s): A. T. Huynh, *Power Electronics and Machines Centre, Faculty of Engineering, University of Nottingham, Nottingham, United Kingdom*

Wednesday, April 15, 2026

02:30 PM-05:30 PM

Exchange Hall

DP-01. Comparative Analysis of Field-Weakening Performance for Axial Modular Flux Switching and Flux Reversal Permanent Magnet Machines

Y. Wang[1], P. Su[1], X. Zhao[2], Y. Li[1]

[1]Hebei University of Technology School of Electrical Engineering, Tianjin, China, [2]University of York, York, United Kingdom

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DP-02. A Study on Geometrical optimization for the startup of a single-phase transverse flux motor

H. Bae[1], S. Lee[2], Y. Lee[2], D. Choi[2], W. Kim[1]

[1]Electrical Engineering, Gachon University, Seongnam, Korea (the Republic of), [2]Next Generation Smart Energy System Convergence, Gachon University, Seongnam, Korea (the Republic of)

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DP-03. Surrogate-Based Multi-Objective Optimization of Dual-Rotor Axial Flux Permanent Magnet Motors Considering Irreversible Thermal Demagnetization

S. Park, H. Yang, S. Jung

Sungkyunkwan University, Suwon-si, Gyeonggi-do, Korea (the Republic of)

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DP-04. Topology Optimization of AFPM Motor Rotor Core for Weight Reduction and Prevention of Irreversible Demagnetization

S. Choi[1], D. Choi[2], H. Han[2], J. Kim[2], W. Kim[1]

[1]Department of Electrical Engineering, Gachon University, Seongnam, Korea (the Republic of), [2]Next Generation Smart Energy System Convergence, Gachon University, Seongnam, Korea (the Republic of)

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DP-05. Modeling and Prediction of Post-Assembly Magnetization Characteristics in IPMSM Based on Nonlinear MEC Analysis

Y. Choi[1], J. Yang[1], S. Lee[1], J. Jang[1], K. Shin[2], J. Choi[1]

[1]Electrical Engineering, Chung Nam National University, Daejeon, Korea (the Republic of), [2]Electrical Engineering, Changwon National University, Changwon, Korea (the Republic of)

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DP-07. A Design Methodology to Reduce Energy Consumption of a Motor for Reciprocating Compressor

D. Cheo, N. Kim, J. Cho, C. Wang, S. Jeong, S. Jung, S. Jung

Department of Electrical and Computer Engineering, Sungkyunkwan University, Suwon, Korea (the Republic of)

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DP-10. Electrical Loading Enhancement and Flux-Path-Guided Rotor Core Partitioning in a PCB-Based AFM for Robotic Joints

H. Han[1], J. Lee[2], J. Moon[2], S. Jeon[1], W. Kim[3]

[1]Next Generation Smart Energy System Convergence, Ph.D. program, Seongnam, Korea (the Republic of), [2]Next Generation Smart Energy System Convergence, Master's program, Seongnam, Korea (the Republic of), [3]Electrical Engineering, Associate Professor, Seongnam, Korea (the Republic of)

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DP-11. A Study on the Miniaturized Design of a 40W Motor Based on PCB Winding
N. Jo, S. Ko, H. Kim, J. Moon, W. Kim
Gachon University, Seongnam-si, Korea (the Republic of)
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DP-13. A Study on the AFPM Design Process Considering Formula-Based FEA Stiffness Analysis
Y. Lim[1], Y. Lee[2], S. Lee[2], J. Moon[1], W. Kim[1]
[1]Electric Engineering, Gachon University, Seongnam-si, Gyeonggi-do, Korea (the Republic of), [2]Department of Next Generation Energy System Convergence, Gachon University, Seongnam, Korea (the Republic of)
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DP-13. Magnetic Network Modeling and Analysis of EE Core Based on Vector Magnetic Circuit Theory.
X. Ma, W. Qin, H. Wang, M. Cheng, C. Li, Z. Wang
Southeast University, Nanjing, Jiangsu, China
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SESSION DQ: SIMULATION AND DESIGN OPTIMIZATION OF ELECTROMAGNETIC SYSTEMS I (POSTER SESSION)
Chair(s): S. Niu, *Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong*
Wednesday, April 15, 2026
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DQ-01. Enhanced Coreless Current Sensing Using TMR: FEM Analysis and Comparison with Hall Sensors
R. Saoudi[1], D. Coutellier[1], Y. Nourrisson[1], A. Kostadinova[2], J. Veron[2]
[1]LEM TECH France, Allée des Parcs, Saint Priest, France, [2]LEM International SA, Meyrin, Switzerland
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DQ-02. Research on Pixel Model Based High-Precision Thermal Network for Axial Flux Permanent Magnet Motors
B. Ma[1], Z. Yi[1], J. Xing[1], S. Huang[1], S. Wang[2], G. Lei[3], J. Zhu[4]
[1]College of Electrical and Information Engineering, Hunan University, Changsha, China, [2]National Key Laboratory of Multi-perch Vehicle Driving Systems, Beijing Institute of Technology, Beijing, China, [3]School of Electrical and Data Engineering, University of Technology Sydney, Sydney, New South Wales, Australia, [4]University of Sydney, School of Electrical and Information Engineering, Sydney, New South Wales, Australia
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DQ-03. SSA-Based Optimization and Experimental Validation of Bi-Planar Compensation Coils
Y. Gao, M. Shi, S. Yuan, L. Zhang, C. Lian, Y. Huang, Z. Wang
Beihang University, Beijing, Beijing, China
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DQ-04. An Automatic Optimal Structure Generation Technique for Synchronous Reluctance Motors
B. Ma[1], S. Liu[1], Y. Li[1], J. Zheng[1], S. Wang[2], G. Lei[3], J. Zhu[4]
[1]Hunan University, Changsha, Hunan, China, [2]Beijing Institute of Technology, Beijing, China, [3]University of Technology Sydney, Sydney, New South Wales, Australia, [4]The University of Sydney, Sydney, New South Wales, Australia
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DQ-05. Hybrid Parameter–Topology Optimization of Asymmetric IPM Motors Considering Magnetic Axis Correction
Y. Otomo, R. Ogasawara, T. Abe
Graduate School of Integrated Science and Technology, Nagasaki University, Nagasaki, Japan
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DQ-06. Reverse Design Method for Cylindrical Uniform Magnetic Field Coils with Harmonic Expansion and Regularization
Y. Liu[1, 2], X. Xu[1, 2], Z. Zhao[1, 2], X. Zhang[1, 2], C. Han[1, 2]
[1]School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing, China, [2]Institute of Large-scale Scientific Facility and Centre for Zero Magnetic Field Science, Beihang University, Beijing, China
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DQ-07. Dynamic Computation base on Moore–Penrose pseudoinverse in Multi-Channel Magnetic Compensation Systems
Z. Wang, M. Shi, F. Yang, Y. Huang, C. Lian, Y. Li, R. Cheng, Y. Gao, H. Wang
Beihang University, Beijing, China
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DQ-08. Advanced Modeling Method applying Spatial Permeability by Zone to improve Magnetic Signature of Warship
H. Jeong, Y. Kim, D. Lee, C. Kim, H. Oh, H. Oh, B. Jeong, J. Choi
Hawhaocean, Seoul, Korea (the Republic of)
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DQ-09. Fast Parameter Extraction of an Extended Jiles–Atherton Model Using a Physics-Constrained CNN–KAN Framework
B. Zhang, M. Pfost
Chair of Energy Conversion, Technical University Dortmund, Dortmund, Germany
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DQ-10. Transition-Metal-Induced Uniaxial Anisotropy in Fe_3Y From Ab Initio to Micromagnetics
S. Pile[5], M. Hasan[1], A. Kovacs[5], R. M. Vieira[1, 2], A. Vishina[1], S. J. Holt[3], M. Lang[3], A. Petrocchi[3], H. Fangohr[3, 4], H. C. Herper[1], T. Schrefl[5]
[1]Uppsala University, Uppsala, Sweden, [2]Luleå University of Technology, Luleå, Sweden, [3]Max Planck Institute for the Structure and Dynamics of Matter, Hamburg, Germany, [4]University of Southampton, Southampton, United Kingdom, [5]University for Continuing Education Krems, Wiener Neustadt, Austria
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DQ-11. Matrix-Based Modeling of Hollow-Cup Motors with Extreme Air-Gaps for Axial-Flow Blood Pumps considering Axial Non-Uniformity
R. Wang, X. Huang, Z. Chen, A. Situ, K. Zhu, Y. Ma
Zhejiang University, Hangzhou, China
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DQ-12. Magnetic Field Reconstruction and Internal Current Inversion of GIS via Physics-Informed Deep Operator Network
X. Guan, X. Chen, H. Zhang, C. Xu
Fuzhou University, Fuzhou, China
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DQ-13. Cross-Domain Multi-Objective Optimization of VGRMGs Using Preference-Decoupled Domain-Adversarial Learning
X. Zhang, X. Liu, P. Lin, S. Huang
College of Electrical and Information Engineering, Hunan University, Changsha, Hunan, China
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DQ-14. Intra-particle Eddy Current Losses in Powder Cores: Comparison between Analytical Models and Experimental Data
M. Cotti, J. Biela
ETH Zurich, Zurich, Switzerland
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DQ-15. A New Axial-Flux Dual-Rotor Variable Reluctance Resolver
M. Onsal[2], M. Aydin[1]
[1]*Mechatronics Engr., Kocaeli University, Kocaeli, Kocaeli, Turkey,* [2]*MDS Motor Ltd., Kocaeli, Kocaeli, Turkey*
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DQ-16. Magnetic rotational permeability for mechanical stress evaluation: Simulation
R. Sabariego[3], Y. Tene Deffo[4, 1], T. Uchimoto[2], B. Ducharne[1, 2]
[1]*Institut National des Sciences Appliquees de Lyon, Villeurbanne, France,* [2]*Tohoku University, Sendai, Miyagi, Japan,* [3]*KU Leuven, Leuven, Belgium,* [4]*University of Buea, Buea, Cameroon*
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SESSION DR: SOFT MAGNETIC AMORPHOUS AND NANOCRYSTALLINE MATERIALS (POSTER SESSION)
Co-Chair(s): A. Zhukov, *IKERBASQUE, Basque Foundation for Science, San Sebastian, Spain* and R. Varga, *RVmagnetics a.s., Kosice, Slovakia*
Wednesday, April 15, 2026
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DR-01. Magnetic loss prediction in nanocrystalline core from LCR-meter characterization and viscoelastic model
B. Ducharne[1, 2], Y. Tomita[3]
[1]*Institut National des Sciences Appliquees de Lyon, Villeurbanne, France,* [2]*Tohoku University, Sendai, Miyagi, Japan,* [3]*Daido steel, Nagoya, Japan*
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DR-02. Stress Annealing and Recovery Effects in Long Co–Fe–Si–B Amorphous Magnetic Wires
H. Chiriac, S. Corodeanu, M. Lostun, L. Mazilu, S. Savin, T. A. Ovari, N. Lupu
National Institute of Research and Development for Technical Physics, Iasi, Romania
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DR-03. Nanocrystalline Wires with Reversible Magnetic Anisotropy for Tunable Sensing
N. Lupu, S. Corodeanu, M. Lostun, H. Chiriac, T. A. Ovari
National Institute of Research and Development for Technical Physics, Iasi, Romania
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DR-04. Grading of Magnetic Anisotropy and Engineering of Domain Wall Dynamics in Fe-rich Microwires by Stress-annealing
V. Zhukova[1, 2, 3], P. Corte-Leon[1, 2], J. Blanco[2, 3], A. Zhukov[2, 3, 4]
[1]*Polímeros y Materiales Avanzados: Física, Química y Tecnología, UPV/EHU, San Sebastian, Gipuzkoa, Spain,* [2]*Dept. Appl. Phys., University of Basque Country, EIG, UPV/EHU, San Sebastian, Spain,* [3]*EHU Quantum Center, University of the Basque Country, UPV/EHU, San Sebastian, Spain,* [4]*IKERBASQUE, Basque Foundation for Science, Bilbao, Spain*
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DR-06. A passive sensor for rotating elements based on magnetic amorphous glass-coated microwires
M. Kozachok[1], L. Fecova[4], K. Richter[1, 2, 3]
[1]*Faculty of electronics and informatics, Technical University of Kosice, Kosice, Slovakia,* [2]*Cassovia New Industry Cluster (CNIC)), Kosice, Slovakia,* [3]*Slovak Academy of Sciences, Kosice, Slovakia,* [4]*Pavol Jozef Safarik University, Kosice, Slovakia*
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DR-07. Exploring the Structural and Magnetic Effects of Nb Addition in Nanocrystalline NANOMET-Based Alloys
H. Yim, H. Lee
Department of Applied Physics, Sookmyung University, Seoul, Korea (the Republic of)
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DR-08. Influence of processing routes on the soft magnetic behaviour of amorphous Fe-Si-B-Nb alloy with Ni addition
P. Sharangi[1], U. Rajput[1], G. Barrera[1], A. Ghavimi[2], R. Busch[2], L. Thorsson[3], A. Tarasov[4], M. Rodriguez[5], S. Sadanand[5], M. Perez Prado[5], I. Gallino[4], E. Ferrara[1], P. Tiberto[1]
[1]INRIM, Torino, Italy, [2]Institute of Metallic Materials, Saarland University, Saarbrücken, Germany, [3]Hereaus AMLOY Technologies GmbH, Karlstein, Germany, [4]Department of Materials Science and Engineering, Metallic Materials, Technical University of Berlin, Berlin, Germany, [5]IMDEA Materials Institute, Getafe, Madrid, Spain
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DR-09. Study on Structural and Magnetic Properties of Cobalt Substituted Permalloy Amorphous Nanocrystalline Ribbons
E. Cho[1, 2], K. Lee[1, 3], J. Ahn[1], H. Lee[1], J. Kim[1]
[1]Matrials Science and Chemical Engineering, Hanyang University, Ansan, Korea (the Republic of), [2]Korea Testing Laboratory, Seoul, Korea (the Republic of), [3]Convergence Institute of ERICA, Hanyang University, Ansan, Korea (the Republic of)
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DR-10. Fe-Si-B-(Nb,Ni,Cr) Amorphous Ribbons as a Precursor to Laser Powder Bed Fusion of Soft Magnetic Components
U. Rajput[1, 2], P. Sharangi[2], E. Ferrara[2], G. Barrera[2], A. Ghavimi[3], R. Busch[3], I. Gallino[4], P. Tiberto[2]
[1]Department of Energy "Galileo Ferraris", Politecnico di Torino, Torino, Torino, Italy, [2]Metrology of Innovative Materials and Life Sciences, Istituto Nazionale di Ricerca Metrologica, TORINO, Turin, Italy, [3]Chair of Metallic Materials, Campus C6.3, Saarland University, Saarbrücken, Saarlandes, Germany, [4]Chair of Metallic Materials, Ernst-Reuter-Platz 1, Technical University of Berlin, Berlin, Berlin, Germany
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DR-11. Influence of Interparticle Electrical Insulators on the Magnetic Permeability of NiFeMo-based Soft Magnetic Composites
M. Tkáč[1, 2], P. Kollár[2], D. Oleksakova[3], R. Maciaszek[2], M. Fáberová[1], R. Bureš[1]
[1]Institute of Materials Research of Slovak Academy of Sciences, Košice, Slovakia, [2]Institute of Physics, Pavol Jozef Šafárik University in Košice, Košice, Slovakia, [3]Institute of Manufacturing Management, Technical University of Košice, Prešov, Slovakia
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DR-12. Magnetic Property Analysis and Loss Modeling of Amorphous Alloy and Ultra-thin Silicon Steel Considering Temperature Effects
J. Li[1], Y. Dou[2], J. Zhou[1], S. Yue[1], Y. Li[1, 3], Y. Li[1]
[1]State Key Laboratory of Intelligent Power Distribution Equipment and System, Hebei University of Technology, Tianjin, China, [2]University of Illinois at Urbana-Champaign Institute, Zhejiang University, Haining, China, [3]School of Engineering, Cardiff University, London, United Kingdom
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DR-14. Nanocrystalline stator core with small saturation magnetostriction
Z. Tang[1], C. Freemantle[2], M. Ganbold[2], R. Parsons[2], N. Ito[3], K. Suzuki[1]
[1]Materials Science and Engineering, Monash University, Clayton, Victoria, Australia, [2]Kite Magnetics, Notting Hill, Victoria, Australia, [3]CBMM Europe B.V., Amsterdam, Netherlands
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DR-15. RF-Sputtered CoFeB Films with Switch-Like Magnetic Response for Implantable Medical Devices
L. Mazon Maldonado[1], R. Parvizi[2], H. Heidari[2]
[1]College of Science and Engineering, University of Glasgow, Glasgow, Scotland, United Kingdom, [2]Engineering Electronics & Nano Eng, University of Glasgow, Glasgow, United Kingdom
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DR-16. Computable Knowledge Discovery in Soft Magnetic Materials via Large Language Model Driven Literature Meta-Analysis
R. Ying[1], Y. Liang[2], T. Taniguchi[1], Y. Song[1], S. Okamoto[1, 3, 4]
[1]IMRAM, Tohoku University, Sendai, Miyagi, Japan, [2]Chinese Academy of Sciences, Chengdu, Sichuan, China, [3]National Institute for Materials Science, Tsukuba, Japan, [4]Center for Spintronics Integrated System, Sendai, Miyagi, Japan
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SESSION DS: SPINTRONIC DEVICES (POSTER SESSION)
Chair(s): M. Rasly, *Neuranics, Glasgow, United Kingdom*
Wednesday, April 15, 2026
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DS-01. Epitaxial Magnon Junctions with Gadolinium Gallium Garnet/Pt Hybrid Spacer
J. Lin, C. Wan, X. Han
Institute of Physics, Chinese Academy of Sciences, Beijing, China
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DS-02. Spintronic Logic Architecture in Single-Layer Ferromagnetic Oxides
S. Mondal, B. Prasad
Materials Engineering, Indian Institute of Science, Bangalore, Bangalore, Karnataka, India
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DS-03. Large Spin Hall Angle in Highly-Textured Sputtered BiSb (012) Topological Insulator on Si/SiO_2 Substrates Enabled by Buffer/Seed Stack
H. Ho[1], W. Li[1], P. Van Thuan[1], S. Hirayama[2], Y. Kato[2], H. N. Pham[1]
[1]Electrical and Electric Engineering, Institute of Science Tokyo, Meguro-ku, Tokyo, Japan, [2]Samsung Device Solutions R&D Japan, Samsung Japan Corporation, Yokohama, Kanagawa, Japan
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DS-04. Field-Free Highly Efficient Spin-Orbit Torque Switching of Fe_3GaTe_2 Enabled by Unique Crystal-Symmetry of WTe_2
P. R. Sharma, B. Jang, J. Hong
Materials Science and Engineering, Yonsei University, Seoul, Seoul, Korea (the Republic of)
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DS-05. MnN as a Replacement for IrMn in Exchange Bias Systems
Y. Ghazwany
Physics, University of York, York, United Kingdom
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DS-06. Ruderman-Kittel-Kasuya-Yosida Interaction-Based Spintronic Physically Unclonable Functions
J. Lee, Y. Kim, M. Lee, Y. Kim
Materials science and engineering, Korea University, Seoul, Korea (the Republic of)
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DS-07. SPINfab – An Open Spintronics Pilot Line for Research and Industry
J. Faure-Vincent, G. Atcheson, C. Ducruet, M. R. Karim, S. Auffret, P. Warin, M. Rubio-roy, I. Prejbeanu
SPINTEC, CEA Grenoble, Grenoble, Isere, France
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DS-08. Spin texture propagation in stripe domain bifurcations under transverse fields
V. V. Fernández[1, 2], A. Herguedas-Alonso[1, 2], P. Suárez[1], Á. García-Casero[1], C. Fernandez Gonzalez[3], A. Sorrentino[3], R. Valcárcel[3], C. Quirós[1, 2], J. I. Martín[1, 2], A. Hierro-Rodriguez[1, 2], M. Velez[1, 2]
[1]Depto. Física, Universidad de Oviedo, Oviedo, Asturias, Spain, [2]CINN(CSIC-Universidad de Oviedo), El Entrego, Asturias, Spain, [3]ALBA Synchrotron, Cerdanyola del Vallès, Cataluña, Spain
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DS-10. Reconfigurable physical unclonable functions based on magnetic domain patterns
B. He, X. Zhang
PSE, King Abdullah University of Science and Technology (KAUST), Jeddah, Saudi Arabia
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DS-11. NAND Gates Based on Nonlinear Magnonic Resonators
R. Leenders[1], H. Tan[2], A. Lutsenko[2], K. Fripp[1], A. Shytov[1], C. Dubs[3], S. van Dijken[2], V. Kruglyak[1]
[1]University of Exeter, Exeter, United Kingdom, [2]Aalto University, Aalto, Finland, [3]INNOVENT e.V. Technologieentwicklung, Jena, Germany
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DS-12. Giant Perpendicular Magnetic Anisotropy in Mo / Boron-rich CoFeB / MgAl2O4 Junction for p-MTJ integration to 5-7 nm CMOS Processes
S. Kagami[1], R. Zhang[1], D. Ito[1], Q. Li[2], B. York[2], C. Hwang[2], X. Liu[2], S. Le[2], M. Maeda[3], T. Fan[3], Y. Tao[3], H. Takano[3], H. N. Pham[1]
[1]Electrical and Electronic Engineering, Science Tokyo, Tokyo, Japan, [2]Western Digital Inc, Great Oaks site, San Jose, California, United States, [3]Western Digital Inc., Fujisawa site, Kanagawa, Japan
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DS-13. The development of spin chips via co-integration of Magnetic Tunnel Junctions on full CMOS wafers
L. C. Benetti, A. Jenkins, R. Ferreira
International Iberian Nanotechnology Laboratory (INL), Braga, Portugal
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DS-15. Suppression of random telegraph noise (RTN) in magnetic tunnel junctions with thick MgO barriers
T. Azargoshasb[1], M. Rasly[2], H. Heidari[1, 2]
[1]James Watt School of Engineering, Microelectronics Lab, James Watt School of Engineering, University of Glasgow, G12 8QQ, Glasgow, Glasgow, United Kingdom, [2]Neuranics Ltd, Rothesay House, 134 Douglas St, Glasgow, G2 4HF, Glasgow, Glasgow, United Kingdom
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DS-16. MgO tunneling spintronics across capacitively-coupled atomic clusters
M. Bowen
IPCMS, Strasbourg, France
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SESSION DT: SENSORS (NON-RECORDING) II (POSTER SESSION)
Chair(s): S. Shreya, *Electrical and Computer Engineering Department, Aarhus University, Aarhus, Denmark*
Wednesday, April 15, 2026
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DT-01. Ferromagnetic Resonance Measurement of Nanoscale Thin Films Using A Lab-on-Chip Interferometer
Z. Liu, M. Sajal, Z. Xiang, M. Shen, B. J. Gonzalez, C. Shimp, L. Chomas, C. Fan, Y. I. Chen, L. R. Carley
Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania, United States
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DT-02. A Coil-embedded Beacon Pole for 3D Localization of Surrounding Magnetic Flux Sensors
Y. Adachi[1, 2], T. Fukui[2, 3], D. Oyama[1, 4], T. Shibuya[5]
[1]Applied Electronics Laboratory, Kanazawa Institute of Technology, Minato-ku, Tokyo, Japan, [2]Graduate School of Engineering, Kanazawa Institute of Technology, Nonoichi, Japan, [3]LibreFields LLC, Tokyo, Japan, [4]College of Engineering, Kanazawa Institute of Technology, Nonoichi, Japan, [5]Advanced Products Development Center, TDK Corporation, Chiba, Japan
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DT-03. Magnetic Sensitivity Enhancement in a $TbCo_2$/FeCo/Quartz Shear Acoustic Waveguide SAW Sensor
G. A. Sanchez[1, 2], O. Marbouh[1], O. Bou Matar-Lacaze[1], A. Mazzamurro[1], M. Boutghatin[1], Y. Dusch[1], A. Ammar[3], P. Pernod[1], N. Tiercelin[1], A. Tounzi[2], A. Benabou[2], A. Talbi[1]
[1]Centrale Lille, Hellemmes-Lille, France, [2]L2EP, University of Lille, Villeneuve d'Ascq, 59655, France, [3]Jeumont Electric, Jeumont, France
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DT-04. Exploration of Optimal Conditions for a Simple Anisotropy Control on Thin-film Element Using Joule Heating
H. Kikuchi, S. Kawasaki, H. Isomura
Iwate University, Morioka, Iwate, Japan
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DT-05. Inductive Generation of Rotation-Free Electric Fields and Non-Contact Liquid Characterization Using a Vector-Potential Transformer
J. Lyu, M. Daibo
Iwate University, Iwate, Japan
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DT-06. Acoustic Device Design for Ultra-Compact EVs Using a Giant Magnetostrictive Actuator: Vibration-Based Sound Radiation Performance Across Magnetostrictive Materials
T. Kato[1], H. Kato[2], T. Narita[3], M. Furui[1]
[1]Mechanical Engineering, Tokyo University of Technology, Hachioji, Tokyo, Japan, [2]Mechanical System Engineering, Tokai University, Kanagawa, Japan, [3]Mechanical System Engineering, Tokai University, Kanagawa, Japan
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DT-07. High-Sensitivity Detection of Minute Magnetic Fields Using Resonant Circuit with HTS Coils
T. Yoshihara, M. Matsuo, H. Sasa, T. Yoshida, T. Sasayama
Kyushu University, Fukuoka, Japan
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DT-08. Environmental Qualification of a Submarine-Deployable 3-Axis Fluxgate Magnetometer
C. Kim[1], J. Choi[2], S. Hong[3], M. Suk[3], B. Jeong[2], D. Lee[1], H. Jeong[1], Y. Kim[1], H. Oh[2], S. Joo[4]
[1]Performance Innovation R&D Center, Hanwha Ocean, Seoul, Seoul, Korea (the Republic of), [2]Naval Ship Technologies R&D Center, Hanwha Ocean, Seoul, Seoul, Korea (the Republic of), [3]Reach Center, Coam Tech, Bucheon-si, Bucheon-si, Korea (the Republic of), [4]Korea research institute of standards and science, Daejeon, Daejeon, Korea (the Republic of)
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DT-10. Improving the Reproducibility of Eddy Current Testing for Coating Thickness Estimation Using PCB-Based Coils
M. Koll[2], B. Salcher[2], M. Peer[2], D. Wöckinger[2], G. Bramerdorfer[2], S. Schuster[1], S. Scheiblhofer[1], N. Gstöttenbauer[1], J. Reisinger[1]
[1]voestalpine Stahl GmbH, Linz, Upper Austria, Austria, [2]Institute of Electric Machines and Power Electronics, Johannes Kepler University, Linz, Austria
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DT-11. Simulation study of the heavy-metal layer impact in SOT-based magnetic field sensors
J. F. Moutinho[1], D. Leitao[2], J. P. Araújo[1]
[1]Institute of Physics for Advanced Materials, Nanotechnology and Photonics (IFIMUP)), University of Porto, Guimarães, Braga, Portugal, [2]Department of Applied Physics and Science Education, Eindhoven University of Technology, Eindhoven, Netherlands
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DT-12. A New TDR-Based High-Speed Non-Destructive Testing Method for Large-Area Magnetic Sheets
S. Yabukami[1, 2], Y. Okuyama[2], K. Okita[2], M. Yamaguchi[1]
[1]Tohoku University, Sendai, Miyagi, Japan, [2]Tohoku-TMIT, Ltd, Sendai, Miyagi, Japan
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DT-13. A Compact Nondestructive Thickness Gauge for Nanocrystalline Alloys
A. Mizusawa, Y. Gao
Oita University, Oita, Japan
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DT-14. A Planar RVDT-Style Inductive Angle Sensor with Linear Push–Pull Output and Minimized Lift-off Sensitivity.
A. Appukuttan Nair Syamala Amma[1], P. Ripka[1], J. Thalapil Vaheeda[2]
[1]Department of Measurement, Czech Technical University in Prague, Prague, Czechia, [2]School of Engineering, Computing and Mathematics, Oxford Brookes University, Oxford, Oxfordshire, United Kingdom
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DT-15. A Near-field Magnetic Wireless Read-out Scheme for Combined Measurement of Variable Reluctance based Displacement Sensor and Resistance based Temperature Sensor.
A. Appukuttan Nair Syamala Amma[1], P. Ripka[1], J. Thalapil Vaheeda[2], S. Vijayakumar[3]
[1]Department of Measurement, Czech Technical University in Prague, Prague, Czechia, [2]School of Engineering, Computing and Mathematics, Oxford Brookes University, Oxford, Oxfordshire, United Kingdom, [3]Department of Electrical Engineering, Indian Institute of Technology Palakkad, Palakkad, Kerala, India
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SESSION DU: ANTIFERROMAGNETIC SPINTRONICS I (POSTER SESSION)
Chair(s): X. Han, *State Key Lab of Magnetism, Institute of Physics, Chinese Academy of Sciences, Beijing, China*
Wednesday, April 15, 2026
02:30 PM-05:30 PM
Exchange Hall

DU-01. Exchange Surface Spin Waves in Type-A van der Waals Antiferromagnets
Z. Sun
Southern University of Science and Technology, Guangdong, China
View Digest Text

DU-02. Resistive-switching-driven multibit magnetic states (6 - bit) for data storage in NiO/Ni bilayers
A. Husain, S. Jammalamadaka
Physics, Indian Institute of Technology, Hyderabad, Hyderabad, Telangana, India
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DU-03. BEOL-Compatible Spin-Orbit Torque Device Enabled by a Non-Collinear Antiferromagnet
Y. Huang[1], Y. Lin[1], S. Huang[2], J. Chen[1], Y. Huang[3], H. Ohmori[4], K. Kawabata[4], T. Kishi[4], Y. Tseng[1]
[1]Materials Science & Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan, [2]International College of Semiconductor Technology, Hsinchu, Taiwan, [3]Taiwan Semiconductor Research Institute, Hsinchu, Taiwan, [4]TopoLogic Incorp., Tokyo, Japan
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DU-04. Thermally-Induced Domain Wall Motion and Neel Skyrmion Generation in Synthetic Ferrimagnetic Multilayers
Y. Zhou[2], L. Shen[2], Z. Hou[3], K. Cai[1], Y. Zhou[2]
[1]Hua Zhong University of Science and Technology, Wuhan, Hubei, China, [2]School of Science and Engineering, The Chinese University of Hong Kong, Shenzhen, Shenzhen, Guangdong, China, [3]South China Normal University, Guangzhou, Guangdong, China
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DU-06. Novel 2D Altermagnetic Transition Metal Oxides with a Buckled Lieb Structure
T. Taskiran, C. Sahin
UNAM - National Nanotechnology Research Center and Institute of Materials Science and Nanotechnology, Bilkent University, Ankara, Turkey
View Digest Text

DU-07. Domain-wall width in uniaxial ferrimagnets
M. Yanguas Cariñena[1], L. Rózsa[2, 3], R. Otxoa[4], U. Atxitia[1]
[1]Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, MADRID, Spain, [2]HUN-REN Wigner Research Centre for Physics, Budapest, Hungary, [3]Budapest University of Technology and Economics, Budapest, Hungary, [4]Hitachi Cambridge Laboratory, Cambridge, United Kingdom
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DU-08. Coherent magnon transport in a van der Waals antiferromagnet
K. Yu[1], J. Chen[2], R. Yuan[3], H. Yu[1]
[1]School of Integrated Circuit Science and Engineering, Beihang University, Beijing, Beijing, China, [2]International Quantum Academy, Shenzhen, Guangdong, China, [3]Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom
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DU-11. Voltage-Controlled Skyrmions in Synthetic Antiferromagnetic Nanodiscs for Crossbar Memristors
R. Aboljadayel[1], S. Sivasubramani[2], A. Tsiamis[1], T. Prodromakis[1]
[1]Engineering, University of Edinburgh, Edinburgh , United Kingdom, [2]Indian Institute Of Technology Delhi, Delhi, India
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BIERSTUBE
Wednesday, April 15, 2026
05:30 PM-06:45 PM
Exchange Hall
Sponsored by

WOMEN IN MAGNETISM NETWORKING EVENT
Wednesday, April 15, 2026
05:30 PM-06:45 PM
The Gallery

MAGNETICS SOCIETY STANDARDS COMMITTEE MEETING
Wednesday, April 15, 2026
05:30 PM-07:00 PM
Exchange 6&7

AFMNET NETWORKING EVENT
Wednesday, April 15, 2026
06:45 PM-08:00 PM
The Gallery

SESSION EA: LOW-DIMENSIONAL QUANTUM MAGNETS ON SURFACES

Co-Chair(s): A. Bedoya Pinto, *Institute of Molecular Science, University of Valencia, Paterna, Spain* and J. Fischer, *University of Cologne, Cologne, Germany*

Thursday, April 16, 2026

08:30 AM-12:00 PM

Exchange Auditorium

08:30 AM-09:00 AM

EA-02. Above room temperature ferromagnetism in all-epitaxial 2D magnetic heterostructures

J. J. Lopes, T. Shinwari, K. I. Khan, H. Lv, M. Hanke, A. Trampert, J. Herfort, R. Engel-Herbert

Paul-Drude-Institute, Berlin, Germany

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09:00 AM-09:30 AM

EA-03. Proximity-Induced Magnetic Anisotropy and Interface States of Monolayer $FeCl_2$ on Bi(111)

S. Terakawa

Graduate School of Engineering, The University of Osaka, Suita, Japan

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09:30 AM-10:00 AM

EA-04. Epitaxial van der Waals materials for magnetism and spin-charge conversion

F. Bonell

SPINTEC-CNRS, Grenoble, France

View Digest Text

10:00 AM-10:30 AM

Break

10:30 AM-11:00 AM

EA-05. Laser-induced switching and magnetisation dynamics in van der Waals magnets

M. Dabrowski

Physics, University of Exeter, Exeter, United Kingdom

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11:00 AM-11:30 AM

EA-06. Creating an Anderson Impurity in MoS_2 Mirror Twin Boundaries

W. Jolie

II. Physikalisches Institut, University of Cologne, Cologne, Germany

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SESSION EB: FRONTIER RESEARCH IN MAGNETISM USING NEUTRONS AND MUONS

Co-Chair(s): S. Langridge, *ISIS Neutron and Muon Source, Rutherford Appleton Laboratory, Chilton, United Kingdom* and R. Ewings, *ISIS Pulsed Neutron and Muon Source, Didcot, United Kingdom*

Thursday, April 16, 2026

08:30 AM-12:00 PM

Charter 1

08:30 AM-09:00 AM

EB-01. Spin Architectures in Non-Collinear Antiferromagnets

F. Johnson[1], D. Boldrin[2], J. Zemen[3], L. F. Cohen[4]

[1]Physics, University of Cambridge, London, United Kingdom, [2]School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom, [3]Faculty of Electrical Engineering, Czech Technical University in Prague, Prague, Czechia, [4]Department of Physics, Blackett Laboratory, Imperial College London, London, United Kingdom

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09:00 AM-09:30 AM

EB-02. Neutrons and Muons for Topological Quantum Materials: Exploring Magnetic Order

E. Heppell[1, 2, 4], C. Kinane[2], A. Caruana[2], N. Steinke[3], X. Liu[5], X. Kou[5], G. van der Laan[4], D. Backes[4], S. Langridge[2], T. Hesjedal[1, 2, 4]

[1]University of Oxford, Oxford, United Kingdom, [2]ISIS Neutron and Muon Source, Didcot, United Kingdom, [3]Institut Laue-Langevin, Grenoble, France, [4]Diamond Light Source Ltd, Didcot, United Kingdom, [5]School of Physical Science and Technology, ShanghaiTech University, Shanghai, China

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09:30 AM-10:00 AM

EB-03. The pseudo-doublet ground state of $SrTm_2O_4$ and its frustrated interactions

D. Quintero Castro[1, 2], M. Spitaler[1, 3], D. Mazzone[1], J. Lass[1]

[1]Paul Scherrer Institut, Villigen, Switzerland, [2]University of Stavanger, Stavanger, Norway, [3]ETH Zurich, Zürich, Switzerland

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10:00 AM-10:30 AM

Break

10:30 AM-11:00 AM

EB-04. Quantitative analysis of nanoscale magnetic textures using polarized small angle neutron scattering

N. Steinke[1], R. Cubitt[1], I. Titov[2], E. M. Jefremovas[2], S. Shan[1], A. Michels[2], V. Ukleev[3], D. Singh[4], J. S. White[4]

[1]Institut Laue-Langevin, Grenoble, France, [2]University of Luxembourg, Luxembourg, Luxembourg, [3]Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany, [4]Paul Scherrer Institut, Villingen, Switzerland

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11:00 AM-11:30 AM

EB-05. Exotic magnetic ground states in quasicrystals and their approximants

L. Woodland[1], D. Khalyavin[1], P. Manuel[1], F. Orlandi[1], H. Luetkens[2], R. Tamura[3], F. Labib[3]

[1]ISIS Neutron and Muon Source, Rutherford Appleton Laboratory, Didcot, United Kingdom, [2]Laboratory for Muon-Spin Spectroscopy, Paul Scherrer Institut, Villigen, Switzerland, [3]Department of Materials Science and Technology, Tokyo University of Science, Tokyo, Japan

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11:30 AM-12:00 PM

EB-06. Polarized Neutrons Reveal Altermagnetism in MnF2

D. Bounoua

Laboratoire Léon Brillouin, UMR 12 CEA-CNRS, Gif-sur-Yvette, France

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SESSION EC: DEVELOPMENT OF SPINTRONIC DEVICES

Chair(s): F. Meng, *Computing and Memory Devices, Imec, Heverlee, Belgium*
Thursday, April 16, 2026
08:30 AM-12:00 PM
Charter 2

08:30 AM-09:00 AM
EC-01. Spinodal magnetoresistive memristors
T. Yamamoto[1], T. Ichinose[1], J. Uzuhashi[2], S. Tsunegi[1], T. Nozaki[1], T. Ohkubo[2], S. Tamaru[1], K. Yakushiji[1], H. Kubota[1], S. Yuasa[1]
[1]National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan, [2]National Institute for Materials Science (NIMS), Tsukuba, Japan
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09:00 AM-09:15 AM
EC-02. Realization of de Gennes' Absolute Superconducting Switch with a Heavy Metal Interface
H. Matsuki[1, 2], A. Hijano[3, 4], G. Mazur[5], S. Ilic[3, 4], B. Wang[6], I. Alekhina[2], K. Ohnishi[7], S. Komori[8], Y. Li[2], N. Stelmashenko[2], N. Banerjee[9], L. F. Cohen[9], D. McComb[6], S. Bergeret[3], G. Yang[10], J. Robinson[2]
[1]Kyoto University, Kyoto, Japan, [2]University of Cambridge, Cambridge, United Kingdom, [3]UPV/EHU, San Sebastian, Spain, [4]University of Jyväskylä, Jyväskylä, Finland, [5]University of California Santa Barbara, Santa Barbara, California, United States, [6]The Ohio State University, Columbus, Ohio, United States, [7]Kindai University, Osaka, Japan, [8]Nagoya University, Nagoya, Japan, [9]Imperial College, London, United Kingdom, [10]Beihang University, Beijing, China
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09:15 AM-09:30 AM
EC-03. Demonstration of High TMR ratio (>110%) in sub-10nm MTJ by Extremely Low Damage Process Based on the Physical Understanding of Edge Damage Region
H. Kanaya, T. Koike, R. Takashima, M. Toko, T. TADOKORO, S. Ono, C. Kamata, M. Saitoh, Y. Mimura, K. Koi, Y. Lee, M. Nakayama
Frontier Technology R&D institute, Kioxia Corporation, Yokohama, Japan
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09:30 AM-09:45 AM
EC-04. Engineering Dipolar-Coupled Spin Hall Nano-Oscillators Using an Asymmetric Nanoconstriction Geometry
R. Ovcharov[1], S. Nanda[1, 2], R. Khymyn[1], A. Kumar[1, 4, 3], J. Akerman[1, 4, 3]
[1]Department of Physics, University of Gothenburg, Gothenburg, Sweden, [2]Indian Institute of Science, Bangalore, India, [3]Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan, [4]Research Institute of Electrical Communication (RIEC), Tohoku University, Sendai, Japan
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09:45 AM-10:00 AM
EC-05. Bias-dependent Sensitivity in CoFeB/MgO/GaAs Spin Photodiode
G. Lan[2, 1], P. A. Dainone[4], V. I. Safarov[3], H. Jaffrès[1], Y. Lu[4], J. George[1], H. Drouhin[2]
[1]Laboratoire Albert Fert, CNRS, Palaiseau, France, [2]Laboratoire des Solides Irradiés, Ecole Polytechnique, Palaiseau, France, [3]ViasFiz, l'Hay-les-Roses, France, [4]Institut Jean Lamour, Nancy, France
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10:00 AM-10:30 AM
Break

10:30 AM-10:45 AM

EC-06. Thermal Robustness Enhancement of All-Optical Switching Tunnel Junctions Based on Tb/Co Multilayers

Q. Trinh[1], J. Lin[2], B. Kunyangyuen[2], D. Salomoni[1], S. Auffret[1], G. Malinowski[2], I. Prejbeanu[1], L. D. Buda-Prejbeanu[1], M. Hehn[2], S. Mangin[2], R. Sousa[1]

[1]Magnetic Random Access Memory (MRAM), SPINtronique et Technologie des Composants (SPINTEC), Grenoble, France, [2]Spintronics and Nanomagnetism, Institute Jean Lamour, Nancy, France

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10:45 AM-11:00 AM

EC-07. A Spintronic True Random Number Generator Using Vortex Nano-Oscillators and Probabilistic SOT-MTJ Programming

K. K. Das[1], S. Soni[1], A. Nisar[2], S. Shreya[3]

[1]Electronics and Communication Engineering, IIT Roorkee, Roorkee, Uttarakhand, India, [2]Electronics and Communication Engineering, NIT Srinagar, Srinagar, Jammu and Kashmir, India, [3]Electrical and Computer Engineering, Aarhus University Denmark, Aarhus, Aarhus, Denmark

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11:00 AM-11:15 AM

EC-08. Field-free auto-oscillation in epitaxial Co/Pt spin Hall nano-oscillators

J. Choi[2], A. Chaurasiya[2], J. Kang[1], P. G. Lim[3], V. Vadde[2], M. C. Hersam[3], V. P. Dravid[3], R. Khymyn[2], A. A. Awad[2, 4, 5], A. Kumar[2, 4, 5], P. Khalili Amiri[1], J. Akerman[2, 4, 5]

[1]Department of Electrical and Computer Engineering, Northwestern University, Evanston, Illinois, United States, [2]Department of Physics, University of Gothenburg, Gothenburg, Västra Götalands län, Sweden, [3]Department of Materials Science and Engineering, Northwestern University, Evanston, Illinois, United States, [4]RIEC, Tohoku University, Sendai, Japan, [5]Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan

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11:15 AM-11:30 AM

EC-11. Reconfigurable 2D Magnet-Based Logic with Fe3GaTe2 G-Hall Gates

C. Sang, P. Li

University of Science and Technology of China, Hefei, Anhui, China

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SESSION ED: ALL OPTICAL SWITCHING AND ULTRAFAST MAGNETIZATION

Co-Chair(s): M. Cherkasskii, *RWTH Aachen University, Aachen, Germany* and H. Hirori, *Kyoto University, Uji, Kyoto, Japan*

Thursday, April 16, 2026

08:30 AM-12:00 PM

Charter 3

08:30 AM-09:00 AM

ED-01. Nonlinear spin dynamics and ultrafast switching in antiferromagnets driven by terahertz magnetic pulses

H. Hirori

Kyoto University, Uji, Kyoto, Japan

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09:00 AM-09:15 AM

ED-02. Transient domain boundary drives ultrafast magnetisation reversal

M. Hennecke[1], D. Schick[1], T. P. Sidiropoulos[1], J. Lin[2], Z. Guo[2], G. Malinowski[2], M. Mattern[1], L. Ehrentraut[1], M. Schmidbauer[3], M. Schnuerer[1], C. von Korff Schmising[1], S. Mangin[2], M. Hehn[2], S. Eisebitt[1, 4]

[1]Max-Born-Institut für Nichtlineare Optik & Kurzzeitspektroskopie, Berlin, Germany, [2]Université de Lorraine, CNRS, Institut Jean Lamour, Nancy, France, [3]Leibniz-Institut für Kristallzüchtung, Berlin, Germany, [4]Institut für Physik & Astronomie, Technische Universität Berlin, Berlin, Germany

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09:15 AM-09:30 AM
ED-03. Laser-Induced Current Transients in Ultrafast All-Optical Switching of Metallic Spin Valves
S. Lepadatu[1], M. Gija[1], A. Dobrynin[2], K. McNeill[2], M. Gubbins[2], T. Mercer[1], S. M. McCann[1], P. Bissell[1]
[1]University of Central Lancashire, Bolton, United Kingdom, [2]Seagate Technology, Derry, United Kingdom
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09:30 AM-09:45 AM
ED-04. Atomistic modelling of ultra-fast magnetisation switching under the Inverse Faraday effect
S. Ruta[1], J. Hurst[2], M. Berritta[2], P. M. Oppeneer[2], R. W. Chantrell[3]
[1]Sheffield Hallam University, Sheffield, United Kingdom, [2]Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden, [3]University of York, York, United Kingdom
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09:45 AM-10:00 AM
ED-05. Sublattice dynamics manipulation in the ferrimagnet $FeCr_2S_4$ probed via ultrafast magneto-optical Kerr effect
D. Soranzio[1, 2], M. Savoini[2], F. Graf[2], R. T. Winkler[2], A. Nag[3, 1], H. Ueda[1, 4], K. Ohgushi[5], Y. Tokura[6, 7], S. Johnson[2]
[1]Paul Scherrer Institut, Zürich, Zürich, Switzerland, [2]Physics, ETH Zurich, Zürich, Switzerland, [3]Physics, Indian Institute of Technology, Roorkee, India, [4]Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany, [5]Tohoku University, Sendai, Japan, [6]RIKEN, Saitama, Japan, [7]The University of Tokyo, Tokyo, Japan
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10:00 AM-10:30 AM
Break

10:30 AM-11:00 AM
ED-06. High-resolution X-ray spectroscopy for ultrafast magnetism
T. Amrhein[2], D. Gupta[1], C. Krohn[2], K. Holldack[1], C. Schüßler-Langeheine[1], M. Weinelt[2], N. Pontius[1], N. Thielemann-Kühn[2, 1]
[1]Helmholtz-Zentrum Berlin, Berlin, Germany, [2]Freie Universität Berlin, Berlin, Germany
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11:00 AM-11:15 AM
ED-07. Ultrafast dynamics of magnetic anisotropy and magnetic structure in ferrimagnetic CoTb alloys.
M. Hemili[1, 2], J. Luning[4], C. Von Korff Schmising[5], B. Pfau[5], F. Capotondi[3], V. Chardonnet[1], G. Chiuzbaian[1], M. Hennes[2], E. Jal[1], B. Vodungbo[1]
[1]Laboratoire de Chimie Physique - Matière et Rayonnement (LCPMR) - CNRS - Sorbonne Université, Saint-Germain-en-Laye, France, [2]INSP - Institut des NanoSciences de Paris - CNRS - Sorbonne Université, Paris, France, [3]FERMI, Elettra-Sincrotrone Trieste, Basovizza, Trieste, Italy, [4]Helmholtz-Zentrum Berlin fur Materialien und Energie, Berlin, Germany, [5]Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie, Berlin, Germany
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11:15 AM-11:45 AM
ED-08. Coupled Dynamics of Quantum Orbitals and Quasi-Classical Magnons in Rare-Earth Iron Oxides
R. V. Mikhaylovskiy
Lancaster University, Lancaster, United Kingdom
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11:45 AM-12:00 PM
ED-09. Phonon-Driven Ultrafast Spin Dynamics in Rare-Earth Orthoferrites Across Spin Reorientation Temperatures
M. Hales[1], O. Kovalenko[1], A. Kimel[2], D. Afanasiev[2], R. V. Mikhaylovskiy[1]
[1]Physics, Lancaster University, Lancaster, United Kingdom, [2]Radboud University, Nijmegen, Netherlands
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SESSION EE: SIMULATION AND DESIGN OPTIMIZATION OF ELECTROMAGNETIC SYSTEMS II

Chair(s): W. Gao, *Harbin Institute of Technology Shenzhen Graduate School, Shen Zhen, Guang Dong, China*
and J. Yuan, *Wuhan University, China*
Thursday, April 16, 2026
08:30 AM-12:00 PM
Charter 4

08:30 AM-09:00 AM
EE-01. Investigation of the Anisotropic Vector Hysteresis Effect in Grain-Oriented Electrical Steel Applied to a Gapped-Core Reactor
B. Daniels
Electrical Engineering, Eindhoven University of Technology, Eindhoven, Noord-Brabant, Netherlands
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09:00 AM-09:15 AM
EE-02. Mathematical Model and Control Method of Linear Motor Based on Air and Magnetic-Bearings
K. Matsuda, J. Zhu, J. Fu, D. Nie
College of Electrical and Information Engineering, Hunan University, Changsha, China
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09:15 AM-09:30 AM
EE-03. AI-Assisted Design for Permanent Magnet Synchronous Motor
Y. Chang[2], C. Ting[2], J. Chang[2, 1]
[1]Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan, [2]Mechanical and Mechatronics Systems Research Laboratories, Industrial Technology Research Institute, Zhudong Township, Hsinchu County, Taiwan
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09:30 AM-09:45 AM
EE-04. Comparison of two electromagnetic analytical models for the optimal design of yokeless rotor Halbach-array Electric Motor
A. Salloukh[1, 2], A. Tounzi[1], N. Nguyen[1], D. Prieto[2], M. McClelland[2]
[1]Univ. Lille, Arts et Metiers Institute of Technology, Lille, France, [2]NIDEC - LEROY SOMER, Angoulême, France
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09:45 AM-10:00 AM
EE-05. Research on the Characteristics and Transfer Behavior of PMSM Mount Vibration Based on Equivalent Excitation Sources
R. Zhao, Z. Xu, Y. Xu, J. Zou
Department of Electrical Engineering, Harbin Institute of Technology, Harbin, China
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10:00 AM-10:30 AM
Break

10:30 AM-10:45 AM
EE-06. An Angle-dependance Magnetostriction Anisotropy Model and Experimental Validation
C. Lyu, K. Narazaki, K. Kiyota
Institute of Science Tokyo, Meguro, Tokyo, Japan
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10:45 AM-11:00 AM
EE-07. Optimization of a loudspeaker voice coil
A. Lowther[1], A. Perregaux[1], D. Lowther[2]
[1]Maya HTT, Westmount, Quebec, Canada, [2]Electrical and Computer Engineering, McGill University, Montreal, Quebec, Canada
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11:00 AM-11:15 AM
EE-08. Viscoelastic simulation for the magnetic loss and the influence of punching on non-oriented electrical steel
B. Ducharne[1, 3], F. Martin[2], A. Belahcen[2]
[1]Institut National des Sciences Appliquees de Lyon, Villeurbanne, France, [2]Department of Electrical Engineering and Automation, Aalto University, Helsinki, Finland, [3]Tohoku University, Sendai, Miyagi, Japan
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11:15 AM-11:30 AM
EE-09. Methods to reduce AC loss of ReBCO HTS coils in linear motors for high-dynamic motion applications
A. Desikan, D. Krop, B. De Bruyn, E. A. Lomonova
Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands
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11:30 AM-11:45 AM
EE-10. Impact of Residual-Stress-Based Flux Barriers on Iron Losses in Permanent Magnet Synchronous Machines
A. Douiri[1], P. Stöcks-Morgan[2], I. Gilch[2], W. Volk[2], N. Leuning[1]
[1]Institute of Electrical Machines (IEM), Institute of Electrical Machines (IEM), RWTH Aachen University, Germany, Aachen, Germany, [2]Chair of Metal Forming and Casting, Technical University of Munich, Garching, Germany
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11:45 AM-12:00 PM
EE-11. A 3-D Magneto-Thermal Coupling Model for Ferrite Toroidal Cores Based on Vector Magnetic-Circuit Theory
H. Wang, Z. Wang, M. Cheng, W. Qin, X. Ma, C. Li
School of Electrical Engineering, Southeast University, Nanjing, Jiangsu, China
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SESSION EF: MAGNETIC NANOSTRUCTURES FOR BIOMEDICAL APPLICATIONS

Chair(s): M. Rivas, *Department of Physics, Universidad de Oviedo, Gijón, Spain*
Thursday, April 16, 2026
08:30 AM-12:00 PM
Exchange 9

08:30 AM-09:00 AM
EF-01. Magnetically responsive nanomaterials for multimodal thermal actuation and chemotherapeutic activation
R. López-Méndez[1], N. Lafuente-Gómez[1], E. Céspedes[2], M. Dhanjani[1], M. París-Ogáyar[1, 4, 5], F. Terán[1], A. Serrano[4], J. Camarero[1, 6], G. Salas[1], C. Wilhelm[7], Á. Somoza[1], A. Espinosa[2, 3]
[1]IMDEA Nanociencia, Madrid, Spain, [2]Instituto de Ciencia de Materiales de Madrid (ICMM-CSIC), Madrid, Spain, [3]Unidad Asociada de Nanomateriales Avanzados, IMDEA Nanociencia – Instituto de Ciencia de Materiales de Madrid (ICMM-CSIC), Madrid, Spain, [4]Departamento de Electrocerámica, Instituto de Cerámica y Vidrio (ICV-CSIC), Madrid, Spain, [5]Nanomaterials for Bioimaging Group (nanoBIG), Departamento de Física de Materiales – Facultad de Ciencias, Universi-dad Autónoma de Madrid, Madrid, Spain, [6]Departamento de Física de la Materia Condensada and Instituto "Nicolás Cabrera", Universidad Autónoma de Madrid, Madrid, Spain, [7]Laboratoire Physico Chimie Curie (PCC), CNRS UMR168, Institut Curie, Sorbonne University, PSL University,, Paris, France
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09:00 AM-09:15 AM
EF-02. Connecting intra-particle magnetic disorder to heat release in iron oxide nanoparticles for hyperthermia applications
E. M. Jefremovas[1, 2], P. Rooms[3], A. Gallo-Cordova[4], K. De Buysser[3], M. d. Morales[4], F. Wiekhorst[5], J. Leliaert[6]
[1]Department of Physics and Materials Science, University of Luxembourg, Luxembourg, Luxembourg, Luxembourg, [2]Institute for Advanced Studies, Esch-sur-Alzette, Luxembourg, [3]Department of Chemistry, Ghent University, Gent, Belgium, [4]Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain, [5]Metrology of Magnetic Nanoparticles, Physikalisch-Technische Bundesanstalt, Berlin, Germany, [6]Dept. of solid state sciences, Ghent University, Gent, Belgium
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09:15 AM-09:30 AM
EF-03. Optimizing magnetic hyperthermia performance under safety limits: role of anisotropy, shape and interactions
D. Faílde[5], V. Ocampo-Zalvide[3], C. Puig[1], D. Serantes[3, 4], O. Iglesias[1, 2]
[1]Dpt. Condensed Matter Physics, University of Barcelona, Barcelona, Spain, [2]Institute of Nanoscience and Nanotechnology of the UB, IN2UB, Barcelona, Spain, [3]Applied Physics Dpt., Universidade de Santiago de Compostela, Santiago de Compostela, Spain, [4]Instituto de Materiais (iMATUS), Santiago de Compostela, Spain, [5]Galicia Supercomputing Center (CESGA), Santiago de Compostela, Spain
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09:30 AM-09:45 AM
EF-04. Harmonic Response and Heat Dissipation Effects of $Mn_{1-x}Gd_xFe_2O_4$ Nanoparticles for Theranostic Applications
T. Sakamoto[1], N. Kataoka[1], Y. Ichiyanagi[1, 2]
[1]Physics, Yokohama National University, Yokohama, Japan, [2]Science, The University of Osaka, Toyonaka, Osaka, Japan
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09:45 AM-10:00 AM
EF-05. Design of biocidal magnetic nanorods for magnetic field–driven broad-spectrum biofilm removal
M. Caf[1, 2], N. Zaveršek[3], S. Pajk[2], J. Sabotič[3], S. Kralj[1, 2]
[1]Department for Materials Synthesis, Jozef Stefan Institute, Ljubljana, Slovenia, [2]Faculty of Pharmacy, University of Ljubljana, Ljubljana, Slovenia, [3]Department of Biotechnology, Jozef Stefan Insitute, Ljubljana, Slovenia
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10:00 AM-10:30 AM
Break

10:30 AM-11:00 AM
EF-06. From Random to Aligned: Intracellular Vesicle Chaining in Magnetic Hyperthermia
A. Paez-Rodriguez[1], Y. Fernandez-Afonso[1], S. Ruta[2], S. Gleadhall[2], L. Chica[1], M. Perez Cortes[1], A. Satoh[3], R. W. Chantrell[4], T. van Zanten[1], D. Serantes[5], L. Gutiérrez[1]
[1]Instituto de Nanociencia y Materiales de Aragón, Zaragoza, Zaragoza, Spain, [2]Sheffield Hallam University, Sheffield, United Kingdom, [3]Akita Prefectural University, Akita, Japan, [4]University of York, York, United Kingdom, [5]Universidade de Santiago de Compostela, Santiago de Compostela, Spain
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11:00 AM-11:15 AM
EF-07. Magnetic Disk Particles for Hyperthermia and Magnetic Particle Imaging
H. J. Hug[1, 2], E. Mayr[1], J. Ackers[3], H. Wei[3], S. Helbig[4], S. Koraltan[4], M. Krupinski[5], D. Suess[4], M. Graeser[3], I. K. Herrmann[6]
[1]Magnetic and Functional Thin Films, Empa, Duebendorf, Zurich, Switzerland, [2]Physics, University of Basel, Basel, Basel, Switzerland, [3]Fraunhofer Research Institution for Individualized and Cell-Based Medical Engineering, Luebeck, Germany, [4]Physics of Functional Materials, University of Vienna, Vienna, Austria, [5]Institute of Nuclear Physics, Polish Academy of Sciences, Krakov, Poland, [6]Nanoparticle Systems Engineering Laboratory, Department of Mechanical and Process Engineering, ETH Zurich, Zurich, Switzerland
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11:15 AM-11:30 AM
EF-08. Role of Magnetic Anisotropy in Tracers for MPI: Silica-coated Co-Ni Ferrite Nanoparticles and their Magnetic Particle Spectra
L. Kubickova[1], T. Voltrova[1, 2], J. Kulickova[1], P. Veverka[1], K. Ahn[1], D. Kubaniova[2], J. Kohout[2], O. Kaman[1]
[1]Department of Magnetics and Superconductors, Institute of Physics of the Czech Academy of Sciences, Praha, Czechia, [2]Department of Low-Temperature Physics, Faculty of Mathematics and Physics of the Charles University, Praha, Czechia
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11:30 AM-11:45 AM
EF-09. Soft Micro-Magnets for Improved Dynamic Manipulation of Magnetic Nanoparticles
M. T. Nguyen[2], B. Bouvet[1], E. Secret[1], J. Siaugue[1], T. Devillers[2]
[1]Sorbonne University, Paris, France, [2]Institut Néel CNRS, Grenoble, France
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11:45 AM-12:00 PM
EF-10. Magnetic Source Localization Based on Magnetic Dipole-array Method for Demagnetizing Field Estimation
T. Fukui[1, 3], T. Shibuya[4], Y. Adachi[1, 2]
[1]Graduate School of Engineering, Kanazawa Institute of Technology, Ishikawa, Japan, [2]Applied Electronics Laboratory, Kanazawa Institute of Technology, Ishikawa, Japan, [3]LibreFields LLC, Tokyo, Japan, [4]Advanced Products Development Center, TDK, Chiba, Japan
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SESSION EG: SOFT MAGNETIC MATERIALS: FROM OXIDES TO NANOCRYSTALLINE ALLOYS
Chair(s): N. Shkodich, *Faculty of Physics, University of Duisburg-Essen, Duisburg, Germany*
Thursday, April 16, 2026
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Exchange 10

08:30 AM-09:00 AM
EG-01. Energy Losses in Soft Magnetic Ferrites
S. Dobák[1], C. Beatrice[2], F. Fiorillo[2], V. Tsakaloudi[3]
[1]Institute of Physics, P. J. Šafárik University, Kosice, Slovakia, [2]Istituto Nazionale di Ricerca Metrologica, Torino, Italy, [3]Center for Research and Technology Hellas, Thessaloniki, Greece
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09:00 AM-09:15 AM
EG-02. Magnetic losses in Mn-Zn ferrites over an extended frequency and temperature domain
E. Ferrara[1], N. Banu[1], C. Beatrice[1], V. Tsakaloudi[2], F. Fiorillo[1]
[1]Innovative Materials Metrology and Life Science, INRIM, Torino, Torino, Italy, [2]Laboratory of Inorganic Materials, CERTH, Thermis, Greece
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09:15 AM-09:30 AM
EG-03. Crystallization kinetics and perpendicular anisotropy of YIG thin films grown on SiO_2/Si substrate using localized laser annealing
J. Wang[1, 2, 3], T. Zhang[1, 2, 3], Y. Yang[4], Z. Wei[1, 2, 3], D. Wu[1, 2, 3], L. Bi[1, 2, 3]
[1]University of Electronic Science and Technology of China, Chengdu, Sichuan, China, [2]National Engineering Research Centre of Electromagnetic Radiation Control Materials, University of Electronic Science and Technology of China, Chengdu, Sichuan, China, [3]State Key Laboratory of Electronic Thin-Films and Integrated Devices, University of Electronic Science and Technology of China, Chengdu, Sichuan, China, [4]National Laboratory on Adaptive Optics, Chengdu, Sichuan, China
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09:30 AM-09:45 AM
EG-04. Compositional Design Guidelines for Low-Damping Rare-Earth Iron Garnets: First-Principles Insights into Lattice Distortion
Y. Yahagi, Y. Omori, H. Someya, M. Ishida
NEC Corporation, Tokyo, Japan
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09:45 AM-10:00 AM
EG-05. Annealing-Tuned Spin Reorientation and 4f--3d Sublattice Competition in Sputtered Thulium Iron Garnet Thin Films
C. C. Soares[2, 1, 3], T. J. Mori[3], F. Béron[1], J. S. Moodera[4, 5], J. Criginski Cezar[3], J. Brandao[3], G. Vilela[2, 6]
[1]Instituto de Física Gleb Wataghin, Universidade Estadual de Campinas, Campinas, São Paulo, Brazil, [2]Física dos Materiais, Universidade de Pernambuco, Recife, Pernambuco, Brazil, [3]Laboratório Nacional de Luz Síncrotron, Campinas, São Paulo, Brazil, [4]Department of Physics, Massachusetts Institute of Technology, Cambridge, Massachusetts, United States, [5]Plasma Science and Fusion Center and Francis Bitter Magnet Laboratory, Cambridge, Massachusetts, United States, [6]Center for Advanced Semiconductor Materials and Devices, State University of New York Polytechnic Institute,, Utica, New York, United States
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10:00 AM-10:30 AM
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10:30 AM-10:45 AM
EG-06. Impact of Dipolar Interactions on Magnetic Moment Distribution and Magnetization Process in Superparamagnetic Nanoparticle Systems
S. Rajput, S. Tiwari
Department of Physics and Materials Science, Thapar institute of engineering and technology, Patiala, Punjab, India
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10:45 AM-11:00 AM
EG-07. Co–M (M= Cu, Ni) Nanoparticles: a magnetic study to control the complex equilibrium between the structure and the magnetization reversal behavior
M. Lassoued[1], N. Mekeranter[2], C. Gatel[3], J. Piquemal[2], L. Sicard[2], S. Mercone[1]
[1]Indre et Loire, Université de Tours, Tours, France, [2]Université de Paris, Paris, France, [3]University Toulouse III, Toulouse, France
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11:00 AM-11:15 AM
EG-08. Ag-induced hardening and enhanced magnetic performance in SPS-consolidated CoCrFeMnNi-Ag_x (x = 0; 1; 2.5; 5.5 at. %) high-entropy alloys
E. Kasotakis[1], I. Tarasov[1], T. Smoliarova[1], H. Shokri[2], B. Gökce[2], A. Aubert[3], O. Gutfleisch[3], M. Farle[1], N. Shkodich[1]
[1]Faculty of Physics and Center of Nanointegration (CENIDE), University of Duisburg-Essen, Duisburg, Germany, [2]Chair of Materials Science and Additive Manufacturing, School of Mechanical Engineering and Safety Engineering, University of Wuppertal, Wuppertal, Germany, [3]Functional Materials, Institute of Materials Science, Technical University of Darmstadt, Darmstadt, Germany
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11:15 AM-11:30 AM
EG-09. Detailed Analysis of the Reversible and Irreversible Permeability Spectra of Fe-based Nanocrystalline Materials
Y. Tomita
Corporate R&D Center, Daido Steel Co., Ltd., Nagoya, Aichi, Japan
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11:30 AM-11:45 AM

EG-10. Tailoring of Magnetic Properties and Giant Magnetoimpedance Effect in Co-Fe-Si-B-Ni-Mo Amorphous Microwires

M. Salaheldeen[4, 2, 5], V. Zhukova[4, 2, 3], P. Rodríguez Jiménez[4, 2], J. Gonzalez[4, 3], A. Zhukov[1, 2, 3]

[1]Basque Foundation for Science, San Sebastian, Spain, [2]Dept. Appl. Phys., University of the Basque Country, San Sebastian, Spain, [3]EHU Quantum Center, University of the Basque Country, San Sebastian, Spain, [4]Dept. Polym. and Adv. Mater., University of the Basque Country, San Sebastian, Spain, [5]Phys. Dept, Fac.Science, University, Sohag, Sohag, Egypt

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EG-11. Direct Measurement of Geometry-Dependent Stress Sensitivity in Near-Zero-Magnetostriction Glass-Coated Microwires

J. Moya[1], M. Vázquez[2]

[1]Universidad Católica de Salta, INTECIN UBA-CONICET, Salta, Argentina, [2]Instituto de Ciencia de Materiales de Madrid, CSIC, Spain, Madrid, Spain

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SESSION EH: FERROMAGNETIC RESONANCE AND SPIN WAVES III
Chair(s): C. Swindells, *NIST, Boulder, Colorado, United States*
Thursday, April 16, 2026
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08:30 AM-09:00 AM
EH-01. Moving Abrikosov vortices generate sub-40-nm magnons
O. Dobrovolskiy
Cryogenic Quantum Electronics, EMG and LENA, Technische Universität Braunschweig, Braunschweig, Germany
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09:00 AM-09:15 AM
EH-02. Tailoring Spin-Wave Propagation in Nanoscale YIG Magnonic Crystals
K. Levchenko[1], K. Davidkova[1], M. Moalic[2], R. Serha[1], C. Dubs[3], M. Urbánek[4], M. Krawczyk[2], A. Chumak[1]
[1]Faculty of Physics, University of Vienna, Vienna, Vienna, Austria, [2]Department of Physics of Nanostructures, Adam Mickiewicz University, Poznan, Poland, [3]INNOVENT e.V. Technologieentwicklung, Jena, Germany, [4]CEITEC Nano, Brno University of Technology, Brno, Czechia
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09:15 AM-09:30 AM
EH-03. Reconfigurable spin-wave diffraction in integrated MEMS-magnonic device
A. Angotti[1], F. Travagnin[1], M. Cocconcelli[1], S. Pal[1], A. Papp[2], G. Csaba[2], B. Heinz[3], F. Kohl[3], P. Pirro[3], F. Maspero[1], R. Bertacco[1]
[1]Department of Physics, Politecnico di Milano, Milano, MI, Italy, [2]Faculty for Information Technology and Bionics, Pazmany Peter Catholic University of Budapest, Budapest, Hungary, [3]Department of Physics, Technische Universitat Kaiserslautern, Kaiserslautern, Germany
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09:30 AM-09:45 AM
EH-04. Spin-Wave Modes in Bismuth-doped Yttrium Iron Garnet : Uniform to Stripe Domains transition
T. Srivastava[1], V. Leroy[1], J. Adam[1], J. Ben Youssef[2], T. Devolder[1], J. Kim[1]
[1]Centre for Nanoscience and Nanotechnology, CNRS, Université Paris Saclay, Palaiseau, France, [2]LabSTICC, CNRS, Université de Bretagne Occidentale, Brest, France
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09:45 AM-10:00 AM
EH-05. Imaging Temperature-Tuneable Spin-Wave Refraction Using Spins in Diamond
P. Vree, M. Bouma, T. van der Sar
Quantum Nanoscience, Delft University of Technology, Delft, South-Holland, Netherlands
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10:00 AM-10:30 AM
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10:30 AM-10:45 AM
EH-08. Manifestation of Coupling Phases in Multiple Ferromagnetic Spheres Cavity Magnonics System
M. P. Avicena[1], G. Bourcin[2], V. Vlaminck[1], J. Bourhill[3], V. M. Castel[1]
[1]Microwave, IMT Atlantique, Plouzane, Finistere, France, [2]KWAN-TEK, Ploemeur, France, [3]Quantum Technologies and Dark Matter Research, The University of Western Australia, Perth, Western Australia, Australia
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10:45 AM-11:00 AM
EH-09. Spin waves involved in three-magnon splitting in synthetic antiferromagnets
A. Mouhoub[1], N. Bardou[1], J. Adam[1], A. Solignac[2], T. Devolder[1]
[1]C2N, CNRS / Université Paris-Saclay, Palaiseau, France, [2]CEA-SPEC, Gif-sur-Yvette, France
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11:00 AM-11:15 AM
EH-10. Electrical Control of Spin-Wave Transport in VO_2/YIG Heterostructures
A. A. Nikitin[1], E. Lähderanta[2], S. van Dijken[1]
[1]Applied Physics, Aalto University, Espoo, Finland, [2]Physics, LUT University, Lappeenranta, Finland
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11:15 AM-11:30 AM
EH-11. Dipolar-Field Imprinted Magnon Dynamics via Artificial Spin Ice
A. J. Wright[1], T. Zheng[1], T. Dion[2, 3], A. Vanstone[1], D. Bromley[1], V. K. Kushwaha[3], S. Yoshii[1], T. Hayward[4], T. Seki[3], H. Kurebayashi[5, 2], G. van der Laan[6], W. R. Branford[1], D. M. Burn[6], J. Gartside[1, 2]
[1]Physics, Imperial College London, London, United Kingdom, [2]CSIS, Tohoku University, Sendai, Japan, [3]IMR, Tohoku University, Sendai, Japan, [4]Department of Materials Science and Engineering, The University of Sheffield, Sheffield, United Kingdom, [5]Electronic and Electrical Engineering, University College London, London, United Kingdom, [6]Magnetic Spectroscopy Group, Diamond Light Source Ltd, Didcot, United Kingdom
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SESSION EP: ADVANCED MAGNETICS FOR TRANSFORMERS, POWER ELECTRONICS, AND SUSPENSION COMPONENTS (POSTER SESSION)

Co-Chair(s): T. Chang, *Department of Vehicle Engineering, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan* and P. Huang, *Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan*
Thursday, April 16, 2026
09:00 AM-12:00 PM
Exchange Hall

EP-01. Dynamic Wireless Power Transfer AI-Based Design Optimization Environment – EV Sedan Case Study
R. Almazmomi[1, 2], A. A. Arkadan[2]
[1]Electrical Engineering, King Abdualziz University, Rabigh, Makkah, Saudi Arabia, [2]Electrical Engineering, Colorado School of Mines, Golden, Colorado, United States
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EP-03. Micromagnetic Simulation Method Incorporating Scaled Magnetostatic Structures: A Case Study on Demagnetization Behavior in Halbach Arrays
X. Zheng, L. Wang, Z. Sun, L. Li, G. Yang
Nanjing University of Science and Technology, Nanjing, China
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EP-07. Impact of Interlayer Parasitic Capacitance in Dual-Layer Coils for Wireless Electric Vehicle Charging
S. Niu[1], W. Liu[1], C. Li[2], K. Chau[1]
[1]Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong, [2]Department of Design and Architecture, Technological and Higher Education Institute of Hong Kong (THEi), Hong Kong, Hong Kong
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EP-08. Novel PCB Coil Design for Internally Illuminated Photoreactors
B. Ortner, A. Sutor
Institute of Measurement and Sensor Technology, UMIT TIROL, Hall in Tirol, Tirol, Austria
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EP-09. Magnetic propeties of dust cores composed of PREP iron powders
Y. Kodama[1], S. Yoshida[2], S. Ajia[1], S. Muroga[1], S. Okamoto[2, 3, 4], Y. Endo[1, 3]
[1]Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan, [2]Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan, [3]Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Japan, [4]National Institute for Materials Science (NIMS), Tsukuba, Japan
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EP-10. Topology-Dependent Induced Voltage in a Toroidal Vector-Potential Transformer: Simulation and Experiment
S. Ogata, M. Daibo
Graduated School of Science and Engineering, Iwate University, Morioka, Iwate, Japan
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EP-11. A Magnetic-Informed Multitask Convolutional Neural Network for Fault Detection During Transformer Energization
H. Zhan[1], C. Yan[1], M. Dai[1], X. Yang[1], D. Liang[1, 2], X. Kang[1], B. Zhang[1]
[1]Xi'an Jiaotong University, Xi'an, Shaanxi, China, [2]Xi'an XD Smart Electrical Manufacturing Co., Ltd, Xi'an, China
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EP-12. An Efficient Hybrid Magnetic Circuit Modeling Method for Transformer Interturn Short-circuit Fault Calculations
M. Dai[1], C. Yan[1], H. Zhan[1], X. Yang[1], D. Liang[1, 2], X. Kang[1], B. Zhang[1]
[1]Xi'an Jiaotong University, Xi'an, Shaanxi, China, [2]Xi'an XD Smart Electrical Manufacturing Co., Ltd, Xi'an, China
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EP-13. High-Current Regulation System Based on an Inductance with Local Saturations: Study of Magnetic Coupling Between the Power Circuit and the Command Coils
J. Imaankaf[1], C. Demian[1], R. Romary[1], D. Roger[1], M. Zmirli[2], P. Bernard[2]
[1]Laboratoire Systèmes Electrotechniques et Environnement (LSEE), UR 4025, Université Artois, Béthune, France, [2]Bernard Bonnefond, Saint-Etienne, France
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EP-14. Analysis of Internal Electric Field Characteristics in a 500kVA Three-Phase Transformer
J. Yu, C. Kim, J. Jung, C. Jin
Department of Electrical Engineering, Wonkwang University, Iksan, Korea (the Republic of)
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EP-16. Air gap permeance method in a segmented stator, segmented rotor switched reluctance motor
R. Santos, L. Tria
Electrical and Electronics Engineering Institute, University of the Philippines Diliman, Quezon City, Metro Manila, Philippines
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SESSION EQ: MAGNETIZATION DYNAMICS AND MICROMAGNETICS II (POSTER SESSION)
Chair(s): N. Reyren, *Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, CNRS, Palaiseau, France*
Thursday, April 16, 2026
09:00 AM-12:00 PM
Exchange Hall

EQ-01. Easy-Axis Reorientation Analysis of Magnetic Nanoparticles Using BD-kMC Simulations
S. u. Haq[1], K. Okada[2], I. López Vázquez[1], O. Iglesias[4], D. Serantes[1], R. W. Chantrell[3]
[1]Applied Physics, University de Santiago de Compostela, Santiago de Compostela, Spain, [2]Mechanical Engineering, Saitama Institute of Technology, Fukaya, Japan, [3]School of Physics, Engineering and Technology, The University of York, York, United Kingdom, [4]Dpt. de Física de la Matèria Condensada, Universitat de Barcelona and IN2UB, Barcelona, Spain
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EQ-02. Advanced atomistic simulations of magnetic materials using the VAMPIRE software package
R. F. Evans
School of Physics, Engineering and Technology, University of York, York, United Kingdom
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EQ-03. Serial Magnetic Force Microscopy of Skyrmion Nucleation in Multilayers
A. Temiriazev, M. Temiriazeva
Horiba France SAS, Lille, France
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EQ-04. Current-driven dynamics of an isolated skyrmion in a racetrack with material defects: Influence of defect size and density
P. Kamal
Physics, Indian Institute of Technology (IIT) ,Ropar, Ropar, Punjab, India
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EQ-05. Fast Multipole Methods for Efficient Demagnetisation Field Computation in Micromagnetics
M. Haahr, R. Bjørk, A. R. Insinga
Department of Energy Conversion and Storage, Technical University of Denmark, København NV, Denmark
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EQ-06. Fully Quantum-Mechanical Simulations of an Iron(II) Spin-Crossover Complex
E. R. Crawford, S. Felton, D. M. Wilkins
Centre for Quantum Materials and Technologies, Queen's University Belfast, Grange, United Kingdom
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EQ-07. Topological nucleation mechanism and Bloch point formation in weak stripe domain racetracks
V. V. Fernández[1, 2], S. Ferrer[3], A. Hierro-Rodriguez[1, 2], M. Velez[1, 2]
[1]Departamento de Física, Universidad de Oviedo, Oviedo, Asturias, Spain, [2]CINN-CSIC, El Entrego, Asturias, Spain, [3]ALBA Synchrotron, Cerdanyola del Vallès, Barcelona, Spain
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EQ-08. Nonlinear Skyrmion Motion Controlled by Voltage-Induced Magnetic Exchange Gradients
R. S. Verma[2], R. K. Raj[1, 2], S. Soni[2], T. Pramanik[2], S. Shreya[1]
[1]Electrical and Computer Engineering Department, Aarhus University, Aarhus, Denmark, [2]Indian Institute of Technology Roorkee, Roorkee, Uttrakhand, India
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EQ-09. Prediction of Magnetic Properties from Domain Images: Microscopy, Modeling, and Machine Learning
A. Talapatra[1, 2], U. Gajera[3], A. Chelvane[4], J. Mohanty[2]
[1]GlobalFoundries, Dresden, Germany, [2]Physics, Indian Institute of Technology Hyderabad, Hyderabad, India, [3]Department of Physics and CSMB, Humbolt University, Berlin, Germany, [4]Defence Metallurgical Research Laboratory, Hyderabad, India
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EQ-10. Mode-Selective Microwave Annealing of Skyrmion Lattices
T. Srivastava, J. Kim
Centre for Nanocience and Nanotechnology, CNRS, Université Paris Saclay, Palaiseau, France
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EQ-11. Skyrmion generation via domain wall anchoring
S. Jeong[1], D. Jung[1], G. Kim[1], M. Kang[1], Y. Park[4], H. Han[2], M. Im[3], K. Lee[1, 4]
[1]Ulsan National Institute of Science and Technology (UNIST), Ulsan, Ulju-gun, Korea (the Republic of), [2]Korea National University of Transportation, Chungju, Korea (the Republic of), [3]Lawrence Berkeley National Laboratory, Berkeley, California, United States, [4]Graduate School of Semiconductor Materials and Devices Engineering, Ulsan National Institute of Science and Technology, Ulsan, Korea (the Republic of)
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EQ-14. Elemental asymmetries of spin and electron dynamics in an insulating ferrimagnet
S. Saha[1], R. Knut[2], R. Mailk[2], K. Jatkar[2, 3], R. Stefanuik[2], S. Jana[2, 4], J. Soderstrom[2], A. Gupta[5], F. Radu[6], C. Luo[6, 7], O. Karis[2], D. A. Arena[8]
[1]Department of Physics, Ashoka University, Baden, Switzerland, [2]Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden, [3]Department of Microtechnology and Nanoscience, Chalmers University of Technology, Gothenberg, Sweden, [4]Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy, Berlin, Germany, [5]Center for Materials for Information Technology, The University of Alabama, Alabama, Alabama, United States, [6]Helmholtz-Zentrum Berlin fur Materialien und Energie, Berlin, Germany, [7]Technical University of Munich, Munich, Germany, [8]Department of Physics, University of South Florida, Tampa, Florida, United States
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EQ-15. Investigation of magnetic-domain dynamics for integrated spintronic–photonic devices
T. Zhang[1], Y. Herrera Moreno de Acevedo[1], G. Simons[1], M. van der Schans[1], Y. Jiao[2], B. Koopmans[1]
[1]Applied physics, Eindhoven University of Technology, Eindhoven, Netherlands, [2]Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands
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EQ-16. Optical control of RKKY coupling and perpendicular magnetic anisotropy in a synthetic antiferromagnet
M. Ma[1], J. Wu[2], B. Liu[1], Y. Xu[1]
[1]Nanjing Unversity, Nanjing, China, [2]University of York, York, United Kingdom
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SESSION ER: MAGNETO-ELASTICS AND NEW COUPLED MAGNETIC PHENOMENA I (POSTER SESSION)
Chair(s): M. Krawczyk, *Faculty of Physics and Astronomy, Adam Mickiewicz University, Poznan, Poland*
Thursday, April 16, 2026
09:00 AM-12:00 PM
Exchange Hall

ER-01. Nb-Driven Alterations in Lattice Structure and Low-Temperature Magnetism of Spin Ice Pyrochlore $Dy_2Ti_2O_7$
R. Sain, A. Rai, C. Upadhyay
School of Materials Science and Technology, IIT (BHU) Varanasi, Varanasi, India
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ER-02. Tailoring Shape-Memory Properties in Ni-Fe-Ga Microwires
M. Elias[1, 3, 2], L. Nulandaya[2], S. Sakthivel[1], T. Ryba[1], M. Vavra[1], O. Milkovic[1, 4, 5], L. Straka[2], O. Heczko[2], R. Varga[1, 2]
[1]RVmagnetics a.s., Kosice, Slovakia, [2]Inst. Phys., Academy of Sciences of the Czech Republic, Prague, Czechia, [3]Technical University in Kosice, Kosice, Slovakia, [4]Institute of Experimental Physics, Slovak Academy of Sciences, Kosice, Slovakia, [5]Inst. Materials Reseach, Slovak Academy of Sciences, Kosice, Slovakia
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ER-03. Search for Increased Transformation Temperatures in Ni-Mn-Ga Magnetic Shape Memory Heusler Alloys by Combined Alloying with Transitional Metals
O. Heczko
Magnetic Materials, FZU - Institute of Physics Czech Academy of Science, Praha, Czechia
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ER-04. Role of Bi3+ in Modulating the Lattice and Spin Dynamics of Terbium Iron Garnet
P. Saha, O. Manner, T. Bora
Physics, NIT Meghalaya, Sohra, Meghalaya, India
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ER-05. Magnetized Enhancement as 2655-fold at Room Temperature, Prussian Blue for Radioactive Cesium Adsorption
H. Ok[1, 2], K. Lee[1, 2]
[1]Ulsan National Institute of Science and Technology (UNIST), Ulsan, Ulju-gun, Korea (the Republic of), [2]Blue Magnet Co., Ltd., Ulju-gun, Ulsan, Korea (the Republic of)
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ER-06. Perpendicularly Anisotropic Nanocomposite Films Exhibiting Large Magneto-Optical Effects
H. Kijima-Aoki[1], H. Ohba[1], K. Ikeda[2], N. Kobayashi[2], T. Hasegawa[3], M. Ohnuma[3], H. Masumoto[1], S. Yabukami[1]
[1]Tohoku University, Sendai, Japan, [2]Research Institute for Electromagnetic Materials, Sendai, Miyagi, Japan, [3]Hokkaido University, Sapporo, Japan
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ER-08. Hidden antiferromagnetism and localized magnetoelastic coupling in ferromagnetic $LaMn_2Ge_2$
J. K. Dey, S. Chowdhury, M. Hoesch
PETRA III, Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany
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ER-09. Exploring New Magnetostrictive Materials
T. Okada, T. Davies, D. de Mounteney, R. Rowan-Robinson, J. Baylis, Y. Azakli, J. Berry, N. Morley
Materials Science and Engineering, University of Sheffield, Sheffield, United Kingdom
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ER-11. Magnetoelastic anisotropy in ordered double perovskite Sm_2CoFeO_6
W. Ahmad[1], A. Ghosh[1], D. Palai[2], S. G. Bhat[3], R. J. Choudhary[4], P. Anil Kumar[3], D. Samal[2], C. Sow[1]
[1]Physics, Indian Institute of Technology Kanpur, Kanpur 208016, Uttar Pradesh, India, [2]Institute of Physics, Bhubaneswar 751005, India, [3]Physics, Indian Institute of Science, Bangalore 560012, India, [4]UGC DAE Consortium for Scientific Research, Indore 452001, India
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ER-12. Preparation of Fe-6.5 wt. % Si Alloy Epitaxial Thin Films with Disordered and Ordered Phases for Magnetostrictive Characterization
K. Imamura[1], Y. Okabe[1], Y. K. Takahashi[2], M. Ohtake[1]
[1]Yokohama National University, Yokohama, Japan, [2]National Institute for Materials Science (NIMS), Tsukuba, Japan
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ER-13. Magnetostrictive Properties of Cubic $Cu_{0.6}Co_{0.4}Fe_2O_4$ and Tetragonal $Cu_{0.8}Co_{0.2}Fe_2O_4$ under Pulsed High Magnetic Fields
S. Kosugi[1], T. Kida[2], M. Hagiwara[2], S. Seino[1], T. Nakagawa[1], S. Fujieda[3]
[1]Graduate School of Engineering, The University of Osaka, Suita, Osaka, Japan, [2]Graduate School of Science, The University of Osaka, Toyonaka, Japan, [3]Co-Creation Institute for Advanced Materials, Shimane Universtiy, Matsue, Japan
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ER-14. Thin film $BiFeO_3$ for interfacing with epitaxial CoPt
S. Song[1], M. F. Jankowski[3], C. J. McCluskey[2], M. Gregg[2], A. J. Bell[3], T. A. Moore[1]
[1]School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom, [2]Centre for Quantum Materials and Technologies, Queen's University Belfast, Belfast, United Kingdom, [3]School of Chemical and Process Engineering, University of Leeds, Leeds, United Kingdom
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SESSION ES: RECORDING MEDIA AND SENSORS (POSTER SESSION)
Chair(s): T. Wu, *Huawei Technologies Co., Ltd., Moscow, Russian Federation*
Thursday, April 16, 2026
09:00 AM-12:00 PM
Exchange Hall

ES-01. Design of A Novel Linear Variable Differential Flux Position Sensor
M. Mirzaei, J. Maier, P. Ripka
Electrical Engineering, Czech Technical University, Prague, Czechia
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ES-02. Linearity Range Extension of Linear Variable Inductive Transducer Position Sensor
M. Mirzaei, J. Maier, P. Ripka
Electrical Engineering, Czech Technical University, Prague, Czechia
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ES-04. Analytical Modeling of Angle Errors in TMR Angle Sensors with Synthetic Antiferromagnet Reference Layers
Y. Wang[1], S. cardoso[1, 2], P. Freitas[1, 2]
[1]Instituto de Engenharia de Sistemas e Computadores–Microssistemas e Nanotecnologias, Lisbon, Portugal, [2]Physics Department, Instituto Superior Tecnico, Lisbon, Portugal
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ES-06. A Mixed-Core Checkerboard Configuration for Improved Offset Stability in a Four-Rod Fluxgate Sensor
H. K. Aydogan, U. Sevgen
BILGEM, TUBITAK, Kocaeli, Turkey, Turkey
View Digest Text

ES-07. Calibration of Wide-Range Magnetometers Using Residual-Driven Adaptive Local Linearization
L. Qi[1], B. Han[1, 2], R. Feng[1, 2]
[1]School of Instrumentation Science and Optoelec- tronics Engineerin, Beihang University, Beijing, China, [2]Hefei National Laboratory, Beijing, China
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ES-08. Boosting the Signal From the Lower Recording Structure in Three-Dimensional Magnetic Recording
S. Greaves[1], H. Suto[2], Y. Nakamura[3], Y. Kanai[4]
[1]Tohoku University, Sendai, Japan, [2]National Institute for Materials Science (NIMS), Tsukuba, Japan, [3]Ehime University, Matsuyama, Japan, [4]Niigata Institute of Technology, Kashiwazaki, Japan
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ES-09. Magnetic Properties and Microstructure of FePt (BN, Zn, C) Films
J. Tsai, R. Xie, W. Cheng, Y. Chuang, H. Huang
Department of Materials Science and Engineering, National Chung Hsing University, Taichung, Taiwan, Taiwan
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ES-10. Analysis of Nonmagnetic Interlayer Thickness in Three-Dimensional Heat-Assisted Magnetic Recording Using a Three-Recording-Layer Bit-Patterned Medium
K. Sugawara, F. Akagi
Kogakuin University, Tokyo, Japan
View Digest Text

ES-11. Plasmonic Nanoantennas for Helicity-Dependent All-Optical Switching
T. E. McCormack, J. N. Scott, W. R. Hendren, N. Kuninski, R. M. Bowman
Centre for Quantum Materials and Technologies, Queen's University Belfast, Belfast, Antrim, United Kingdom
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ES-12. Perpendicular Magnetic Field-Assisted Vibration Power Generators Using Amorphous and Nanocrystalline Fe-Based Alloy Ribbons
N. Isogai, S. Kamiya, Y. Nakamura, T. Kawai, M. Ohtake
Faculty of Engineering, Yokohama National University, Yokohama, Japan
View Digest Text

ES-13. Multi-Axis atomic comagnetometer enabled by nuclear spin perturbation
A. Papneja, B. Buchler, M. hedges
Department of Quantum Science, Australian National University, Cook, Australian Capital Territory, Australia
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ES-14. Design of a Low-frequency Enclosed Differential Driver-Pickup Eddy-Current Sensor for Surface Defect Detection in Reformer Tubes
C. Sun[1], C. Chen[1], Y. Wu[1], C. Lin[1], Y. Lin[2]
[1]National Taiwan University, Taipei City, Taiwan, [2]Industrial Technology Research Institute, Taipei City, Taipei, Taiwan
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SESSION ET: ANTIFERROMAGNETIC SPINTRONICS II (POSTER SESSION)
Co-Chair(s): T. Shiino, *Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Bellaterra, Barcelona, Spain* and D. Kriegner, *Academy of Sciences of the Czech Republic, Praha, Czechia*
Thursday, April 16, 2026
09:00 AM-12:00 PM
Exchange Hall

ET-01. Spin Hall and unidirectional magnetoresistance in Non-Collinear Antiferromagnet/Molecular Interfaces
H. Vasili
School of Physics & Astronomy, University of Leeds, Leeds, West Yorkshire, United Kingdom
View Digest Text

ET-02. Chiral Domain-Wall Logic in a Two-Sublattice Ferrimagnet: Operation Window and Failure Mechanisms
D. Wu[2], Y. Ma[1], Z. Luo[3], K. Cai[2]
[1]Beijing Superstring Academy of Memory Technology, Beijing, China, [2]Hua Zhong University of Science and Technology, Wuhan, China, [3]Peking University, Beijing, China
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ET-03. Ab initio Study of Magnetic and Transport Properties of Fully Compensated Ferrimagnetic Heusler Alloys at Finite Temperatures
S. Yamashita[1], E. Pandey[1], G. Fecher[1], C. Felser[1], A. Hirohata[1, 2]
[1]Max Planck Institute for Chemical Physics of Solids, Dresden, Germany, [2]Tohoku University, Sendai, Miyahi, Japan
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ET-04. Thin films of the non-collinear antiferromagnet Mn_3Sn
E. Abboubi, G. Atcheson, R. Guedas Garcia, M. Rubio Roy, J. Faure-Vincent, O. Boulle, V. Baltz
CEA-SPINTEC, Grenoble, France
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ET-05. Strong non-linear current response in platinum/ferrimagnetic-insulator sytems
M. Fettizio, T. Shiino, C. Avci
Institut of Material Science of Barcelona (ICMAB-CSIC), Barcelona, Spain
View Digest Text

ET-06. Broadly Tunable Compensation in Ferrimagnetic MnFeVAl Heusler Alloy Thin Film
E. Pandey[1], S. Yamashita[1], E. Lesne[1], G. Fecher[1], C. Felser[1], A. Hirohata[1, 2]
[1]Topological Quantum Chemistry, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany, [2]Tohoku University, Sendai, Japan
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ET-08. Electrical switching of altermagnetism
Y. Chen
Southern University of Science and Technology, Shenzhen, Guangdong, China
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ET-09. Anisotropic spin transport and TMR effect based on quasi two-dimensional d-wave altermagnet
Q. Zhang, J. Dong, S. Wang, J. Zhang
School of Physics, Huazhong University of Science and Technology, Wuhan City, Hubei Province, China
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ET-10. Magnetic memory driven by spin splitting torque in nonrelativistic collinear antiferromagnet.
Y. Guo[3, 4, 1], A. Chen[2, 5], Z. Zeng[5], T. An[3], X. Zhang[2], H. Wu[3, 4]
[1]Great Bay University, Dongguan, Guangdong, China, [2]Physical Science and Engineering Division, Thuwal, Saudi Arabia, [3]Songshan Lake Materials Laboratory, Guangdong, China, [4]Institute of Physics, Chinese Academy of Sciences, Beijing, China, [5]State Key Laboratory of Electronic Thin Film and Integrated Devices, Chengdu, China
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MEET THE DISTINGUISHED LECTURERS WORKSHOP
Thursday, April 16, 2026
12:15 PM-01:15 PM
The Gallery

EUROPEAN RESEARCH COUNCIL SESSION: NOVELTIES AND TIPS FOR WRITING YOUR PROPOSAL
Thursday, April 16, 2026
12:30 PM-01:30 PM
Exchange 9

SESSION FA: KERR ANNIVERSARY SYMPOSIUM

Chair(s): R. Hicken, *Physics and Astronomy, University of Exeter, Exeter, United Kingdom*

Thursday, April 16, 2026

01:30 PM-03:45 PM

Exchange Auditorium

01:30 PM-01:57 PM

FA-01. The magneto-optic Kerr effect: Reflections on 150 years of history, present usage and future developments

A. Berger

CIC nanoGUNE, San Sebastian, Spain

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01:57 PM-02:24 PM

FA-02. Magneto-optical Kerr effect spectroscopy

J. Hamrle[1, 2]

[1]Faculty of Mathematics and Physics, Charles University in Prague, Prague, Czechia, [2]Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in Prague, Prague, Czechia

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02:24 PM-02:51 PM

FA-03. Magneto-Optical Microscopy and Magnetometry

R. Schaefer

Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany

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02:51 PM-03:18 PM

FA-04. Multi-Scale Magnetization Dynamics Through the Lens of the Magneto-Optical Kerr Effect

C. S. Davies[1, 2]

[1]HFML-FELIX, Nijmegen, Gelderland, Netherlands, [2]Radboud University, Nijmegen, Netherlands

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FA-05. The Magneto-Optical Kerr Effect: Looking to the future

C. Donnelly

Max Plank Institute for Chemical Physics of Solids, Dresden, Germany

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SESSION FB: ELECTRON SPINS FOR QUANTUM COMPUTING AND SENSING
Chair(s): J. Abadillo-Uriel, *Instituto de Ciencia de Materiales de Madrid (ICMM), Madrid, Spain*
Thursday, April 16, 2026
01:30 PM-03:45 PM
Charter 1

01:30 PM-02:00 PM
FB-01. Progress in Silicon-based Quantum Computing
S. Tarucha
Center for Emergent Matter Science, RIKEN, Wako, Saitama, Japan
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02:00 PM-02:30 PM
FB-02. Nanoscale quantum sensing of 2D magnetic systems
J. Wrachtrup
Center for Applied Quantum Technologies, University of Stuttgart, Stuttgart, Germany
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02:30 PM-03:00 PM
FB-03. Charge Noise and Decoherence in Si Spin Qubits: Challenges and Mitigation Strategies
J. Nichol[1, 2]
[1]Physics and Astronomy, University of Rochester, Rochester, New York, United States, [2]Center for Coherence and Quantum Science, University of Rochester, Rochester, New York, United States
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03:00 PM-03:30 PM
FB-04. Spin-based microwave quantum memories approaching unit efficiency
J. Morton
University College London, London, United Kingdom
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SESSION FC: MAGNETIC ORDER AND CONTROL IN TWO-DIMENSIONAL MAGNETS
Chair(s): A. Bedoya Pinto, *Institute of Molecular Science, University of Valencia, Paterna, Spain*
Thursday, April 16, 2026
01:30 PM-03:45 PM
Charter 2

01:30 PM-02:00 PM
FC-01. Magnetic Order in 2D Materials Beyond Bulk Constraints
J. Fischer
Institute of Physics II, University of Cologne, Cologne, Germany
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02:00 PM-02:15 PM
FC-02. Graphene Coupled to CrX_3 van der Waals 2D Magnets: A Promising Host for Correlated Electrons
I. Rozhansky, V. Fal'ko
University of Manchester, Manchester, United Kingdom
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02:15 PM-02:45 PM
FC-03. Manipulation of spin ordering in 2D magnets
Y. Xu[1], X. Zhang[1], B. Liu[1], L. He[1], X. Ruan[1], G. Bian[2], J. Wu[3]
[1]Nanjing University, Nanjing, Jiangsu, China, [2]University of Missouri, Columbia, Missouri, United States, [3]The University of York, York, Yorkshire, United Kingdom
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02:45 PM-03:00 PM
FC-04. Programmable Magnetic Switching in Orthogonally-Twisted Two-Dimensional Magnets
S. Mañas-Valero
Universitat de Valencia, Valencia, Spain
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03:00 PM-03:30 PM
FC-05. Dzyaloshinskii-Moriya interaction in Fe_5GeTe_2 epitaxial thin films
J. Sampaio[1], A. Pascaud[1], E. Quero[1], A. Thiaville[1], V. Polewczyk[2], A. Marty[2], F. Bonell[2], A. Mougin[1]
[1]Laboratoire de Physique des Solides, CNRS / Université Paris-Saclay, Orsay, France, [2]CEA-SPINTEC, Grenoble, France
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03:30 PM-03:45 PM
FC-06. Strong Magnetoelectronic Coupling in the van der Waals Magnet $CrPS_4$
G. Buccoliero[1, 2], R. Nickel[1], M. dos Reis Cantarino[1], R. Sant[3], A. Rogalev[1], N. J. Yutronkie[1], T. Riccardi[2], K. Kummer[1], J. Coraux[2], N. Brookes[1]
[1]The European Synchrotron, Grenoble, France, [2]Institut Néel CNRS, Grenoble, France, [3]Physics, Politecnico di Milano, Milano, Lombardia, Italy
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SESSION FD: INNOVATIONS IN MAGNETIC MEASUREMENTS: FROM NANO TO MACROSCALE TECHNIQUES

Chair(s): V. Lauter, *Neutron Scattering Division, ORNL, Oak Ridge, Tennessee, United States*
Thursday, April 16, 2026
01:30 PM-03:45 PM
Charter 3

01:30 PM-02:00 PM
FD-01. Theory and experiment of momentum-resolved magnon electron energy spectra: prospects for nanoscale magnon and spin structure mapping by electron microscopy
J. A. Do Nascimento[1, 2, 3], D. Cheshire[1], F. Cossu[1, 4], A. Kerrigan[1, 2], P. Hasnip[1], D. Kepaptsoglou[1, 3], S. Cavill[1], Q. Ramasse[3, 5], V. K. Lazarov[1, 2]
[1]School of Physics, Engineering and Technology, University of York, York, UK, United Kingdom, [2]York-JEOL Nanocentre, University of York, York, United Kingdom, [3]SuperSTEM, Sci-Tech Daresbury Campus, Daresbury, United Kingdom, [4]Department of Physics, School of Natural and Computing Sciences, University of Aberdeen, Aberdeen, United Kingdom, [5]School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom
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02:00 PM-02:15 PM
FD-02. Magnetic Vector Tomography of Thick Chiral Magnets
P. Mitchell[1], L. Turnbull[2], M. Raboni-Ferreira[1], R. Yamamoto[1, 3], J. Neethirajan[1], B. Kaulich[2], L. Higgins[2], C. Donnelly[1, 3]
[1]Spin3D, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany, [2]Diamond Light Source Ltd, Didcot, United Kingdom, [3]International Institute for Sustainability with Knotted Chiral Meta Matter, Hiroshima, Japan
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02:15 PM-02:30 PM

FD-04. Detailed magnetization reversal characteristic of magnetic force microscopy probes in inhomogeneous microcoil fields

R. Ravishankar[3, 1], A. Sathyadharma Prasad[3, 1], A. Singh[3, 1], M. Heigl[2], R. Schaefer[3, 1], M. Albrecht[2], T. Mühl[3], V. Neu[3]
[1]Dresden Unversity of Technology, Dresden, Germany, [2]University of Augsburg, Augsburg, Germany, [3]Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany

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FD-05. Skyrmion-superconducting vortex pairs in a chiral magnet-superconductor heterostructure

X. Qiu
Institute of Physics, Chinese Academy of Sciences, Beijing, China

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02:45 PM-03:00 PM

FD-06. Wafer-scale estimation of thermal stability with magneto-optical measurement system for STT-MRAM

K. Suzuki[1], I. Kim[2], S. Ueyama[1], J. Shin[2], J. Song[3], W. Kim[3], T. Kim[3], J. Jeong[3], S. Bae[2], S. Jang[4], J. Park[3], M. Lee[3]
[1]Samsung Device Solutions R&D Japan, Samsung Japan Corp., Yokohama, Kanagawa, Japan, [2]Memory Equipment & component Technology Team, Samsung Electronics Co., Ltd., Hwaseong-si, Gyeonggi-do, Korea (the Republic of), [3]Advanced Process Development Team, Semiconductor R&D Center, Samsung Electronics Co., Ltd., Hwaseong-si, Gyeonggi-do, Korea (the Republic of), [4]Foundry Equipment & component Technology Team, Samsung Electronics Co., Ltd., Hwaseong-si, Gyeonggi-do, Korea (the Republic of)

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03:00 PM-03:15 PM

FD-07. Noise-Induced Deformation of PCA Representations in Magnetically Split Mössbauer Spectra

S. Sharmin, C. Mitsumata, H. Yanagihara, E. Kita
Applied Physics, University of Tsukuba, Tsukuba, Ibaraki, Japan

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FD-08. A Compensated Mini-Permeameter for Localized Magnetic Loss Measurements on Magnetic Laminations

O. de la Barrière[2], G. Khan[1], C. Ragusa[1], F. Mazaleyrat[2], L. Solimene[1], A. Prete[3]
[1]Department of Energy, Politecnico di Torino, Torino, Italy, [2]Laboratoire SATIE, CNRS/ENS Paris-Saclay, Gif-sur-Yvette, France, [3]Lagor S.r.l., Cerro Tanaro, Asti, Italy

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SESSION FE: PERMANENT MAGNET MACHINES AND MAGNETICALLY GEARED MACHINES IV

Chair(s): R. M. Hilal, *Faculty of Art & Design, Egypt Japan University of Science and Technology, Alexandria, Egypt* and Min-Fu Hsieh, *National Cheng Kung University, Taiwan*

Thursday, April 16, 2026

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Charter 4

01:30 PM-01:45 PM

FE-01. Investigation of Rotor Manufacturing Imperfections in Permanent Magnet Synchronous Motors

A. Ceylan[2], M. Aydin[1]

[1]Mechatronics Engr., Kocaeli University, Umuttepe, Izmit, Kocaeli, Turkey, [2]MDS Motor Ltd., Kocaeli, Kocaeli, Turkey

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FE-02. Iron Loss Comparison in Ring Test Excited by Linear Amplifier with Sinusoidal and Trapezoidal Voltage/Current Control Methods

K. Akizuki[1], T. Fujita[1], H. Fujimoto[1], K. Fujisaki[2], M. Nakagawa[3], T. Miyajima[3], Y. Yasuda[3], A. Yamagiwa[3]

[1]The University of Tokyo, Kashiwa, CHIBA, Japan, [2]Toyota Technological Institute, Nagoya, Japan, [3]DAIKIN INDUSTRIES, Settsu, Japan

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02:00 PM-02:15 PM

FE-03. Electro-Thermal Coupling-Based Comparative Analysis and Optimal Topology Selection for Axial Flux Permanent Magnet Machine

J. Liu, W. Jiang

Nanjing University of Aeronautics and Astronautics, Nanjing, China

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02:15 PM-02:30 PM

FE-04. A Novel 2D Technique for Stator Slot Effect Mitigation in Spoke-type Permanent Magnet Machines Using Unequal Rotor Bridge Openings

A. Mohammadi Ajamloo[1, 2], M. Ibrahim[1, 2, 3], P. Sergeant[1, 2]

[1]Electromechanical, Systems and Metal Engineering, Ghent University, Gent, Belgium, [2]FlandersMake@UGent– corelab MIRO, Leuven, Belgium, [3]Department of Electrical Engineering, Kafrelshiekh University, Kafr el-Sheikh, Egypt

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02:30 PM-02:45 PM

FE-05. Suppression of Open-Circuit and On-Load Vibration in IPM Machine for Electric Vehicles by Rotor Auxiliary Slots

L. Liu, Z. Wu, W. Hua

School of Electrical Engineering, Southeast University, Nanjing, Jiangsu Province, China

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02:45 PM-03:00 PM

FE-06. Design and Analysis of a Dual Ironless-Rotor Support Structure for Lightweight Permanent Magnet Motor Considering Electromagnetic and Mechanical Aspects

Q. Lin, Z. Zhang, H. Xue, Y. Hua

Nanjing University of Aeronautics and Astronautics, Nanjing, China

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03:00 PM-03:15 PM
FE-07. Analysis of Flux-Switching and Vernier PM Machines Using Field Harmonic Theory
M. Azeem, M. Gulec, P. Sergeant
University of Ghent, Ghent, Belgium
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03:15 PM-03:30 PM
FE-08. A Causal-Interventional and Physics-Disentangled Graph Neural Network Surrogate Model for Dynamic Optimization of Variable Gear Ratio Magnetic Gears
X. Zhang, P. Lin, X. Liu, S. Huang
College of Electrical and Information Engineering, Hunan University, Changsha, Hunan, China
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03:30 PM-03:45 PM
FE-09. A Novel Consequent-Pole Bearingless Permanent Magnet Motor with Active Axial Suspension
X. Quan, Z. Deng, C. Wu
College of Automation Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, China
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SESSION FF: EMERGING MAGNETIC MATERIALS AND FUNCTIONAL MAGNETISM
Co-Chair(s): C. Favieres, *Science. Physics, Public University of Navarre, Pamplona, Navarre, Spain* and J. Palomares, *Nanoscience and Nanotechnology, Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Madrid, Spain*
Thursday, April 16, 2026
01:30 PM-03:45 PM
Exchange 9

01:30 PM-01:45 PM
FF-02. Ordering in an Einstein Artificial Spin Ice
T. Wang[1, 2], F. Museur[1, 2], G. Macauley[3, 1, 2], F. Flicker[4], L. Berchialla[1, 2], P. Derlet[1, 2], L. Heyderman[1, 2]
[1]Paul Scherrer Institut, Hausen, Switzerland, [2]ETH Zurich, Zurich, Switzerland, [3]Princeton University, Princeton, New Jersey, United States, [4]University of Bristol, Bristol, United Kingdom
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01:45 PM-02:00 PM
FF-03. Discovery of a Nw Magnetic MAX Phase MoCrCoC with Ferromagnetic-Like Behavior Near Room Temperature
B. K. Rai, G. Tran, T. Koenig
Savannah River National Laboratory, Martinez, Georgia, United States
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02:00 PM-02:15 PM
FF-04. Melt spinning processing of CoMnFeNi High-Entropy Alloys textured magnets
L. M. Feitosa[1], R. Gitti Tortoretto Fim[1], M. R. M. da Silva[1], M. Farle[2], B. Gault[3, 1], N. Shkodich[2]
[1]Circular Metallurgy and Alloy Design (MA), Max-Planck-Institut für Nachhaltige Materialien GmbH, Düsseldorf, NRW, Germany, [2]University Duisburg-Essen, Duisburg, NRW, Germany, [3]Universite de Rouen Normandie, Rouen, France
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02:15 PM-02:30 PM
FF-05. Laser-induced magnetic lignin for sustainable microwave absorption
D. C. Santacruz Estevez, B. Liu
Ningbo Global Innovation Center, Zhejiang University, Ningbo, China
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02:30 PM-02:45 PM
FF-06. EMMO-based Ontology for Magnetic Materials
W. Hortschitz[1], S. Pile[1], S. J. Holt[2, 3], M. Lang[2, 3], S. A. Pathak[2, 3], A. Petrocchi[2, 3], H. Fangohr[2, 3, 4], T. Schrefl[1]
[1]Department for Integrated Sensor Systems, University for Continuing Education Krems, Wiener Neustadt, Austria, [2]Max Planck Institute for the Structure and Dynamics of Matter, Hamburg, Germany, [3]Center for Free-Electron Laser Science, Hamburg, Germany, [4]SO17 1BJ, University of Southampton, Southampton, United Kingdom
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02:45 PM-03:00 PM
FF-07. Magnetic based Physically Unclonable Functions
A. Magni[1], G. Barrera[1], F. Celegato[1], F. Riboli[2, 3], D. Wiersma[2, 3], S. Nocentini[1], P. Tiberto[1]
[1]Materials and Life Sciences, INRIM, Torino, Italy, [2]Istituto Nazionale di Ottica, CNR, Sesto Fiorentino, Italy, [3]LENS, Sesto Fiorentino, Italy
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03:00 PM-03:15 PM
FF-08. Magnetic Scale Mitigation in Dynamic Ionic Fluids Using Modular External Permanent-Magnet Devices
B. G. Silva[1], E. López Meza[2], H. E. Schluter[3], A. L. Martins[3], A. M. de Paula Silva[1], R. L. Sommer[1]
[1]Condensed Matter Physics, Applied Physics and Nanoscience., Brazilian Center for Research in Physics, Rio de Janeiro, Rio de Janeiro, Brazil, [2]Physics, Federal University of Rio de Janeiro, Rio de Janeiro, Rio de Janeiro, Brazil, [3]Petrobras, Rio de Janeiro, Rio de Janeiro, Brazil
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03:15 PM-03:30 PM
FF-09. Microstructural Origin of Domain-Wall Pinning in Cu-Doped $CeCo_{5.4}$ Magnets
T. Smoliarova[1], A. Kovács[2], X. Chen[3], G. Kanu[4], B. Ekitli[5], A. Aubert[5], S. Disch[4], O. Gutfleisch[5], K. Skokov[5], B. Gault[3], M. Farle[1], R. E. Dunin-Borkowski[2]
[1]Faculty of Physics and Center for Nanointegration (CENIDE), University Duisburg Essen, Duisburg, Germany, [2]Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons, Forschungszentrum Jülich, Jülich, Germany, [3]Max-Planck-Institut für Nachhaltige Materialien, Düsseldorf, Germany, [4]Faculty of Chemistry and Center for Nanointegration (CENIDE), University Duisburg Essen, Essen, Germany, [5]Institute of Materials Science, Technische Universität Darmstadt, Darmstadt, Germany
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SESSION FG: MAGNETO-CALORIC MATERIALS

Chair(s): O. Gutfleisch, *Material Science, TU Darmstadt, Darmstadt, Germany*
Thursday, April 16, 2026
01:30 PM-03:45 PM
Exchange 10

01:30 PM-01:45 PM
FG-02. Investigation of High Entropy Alloys as low temperature magnetocaloric materials
D. Oksuz, D. Wright, Y. Azakli, T. Wilkinson, L. Ellwood, N. Morley
Materials Science and Engineering, University of Sheffield, Sheffield, United Kingdom
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01:45 PM-02:00 PM
FG-03. Study of Thermal Hysteresis in FeRh Films Under Fast Temperature Modulation of the Phase Transition
A. Pecheux[2, 3, 1], L. Thevenard[7, 6], J. A. Arregi[4, 5], V. Uhlir[4, 5], M. Almanza[2, 3], D. Fournier[7, 6], C. Gourdon[7, 6], M. LoBue[1, 2, 3]
[1]CNRS - SATIE, Gif-sur-Yvette, France, [2]Université Paris-Saclay, Gif-sur-Yvette, France, [3]ENS Paris Saclay, Gif-sur-Yvette, France, [4]CEITEC BUT,, Brno, Czechia, [5]Brno University of Technology, Brno, Czechia, [6]Sorbonne Université, Paris, France, [7]CNRS - Institut de Nanosciences de Paris, Paris, France
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02:00 PM-02:15 PM
FG-04. Unveiling the potential of $NdPO_4$ magnetocaloric phases in cryogenic refrigeration
M. Balli[1, 2], L. Attou[1], S. Bouzarmine[1, 3], S. Oubad[1], K. El Maalam[4], P. Fournier[2], S. Mangin[3]
[1]International University of Rabat, Rabat, Morocco, [2]Institut Quantique, Université de Sherbrooke, Sherbrooke, Quebec, Canada, [3]Université de Lorraine, CNRS, IJL, Nancy, France, [4]MAScIR, Mohammed VI Polytechnic University, Ben Guerir, Morocco
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02:15 PM-02:30 PM
FG-05. The Key Parameters of the Shape Anisotropy-based Rotating Magnetocaloric Effect : a Gd Case study
R. Pinto[1], R. Almeida[1], J. Silva[1], J. Revuelta-Losada[2], V. Franco[2], J. Law[2], H. Souza[3], R. Kiefe[3], J. Amaral[3], N. Dempsey[4], A. Pires[1], G. Oliveira[1], J. Ventura[1], J. P. Araújo[1], J. H. Belo[1]
[1]IFIMUP – Institute of Physics for Advanced Materials, Nanotechnology and Photonics, Department of Physics and Astronomy, Faculty of Sciences, University of Porto, Porto, Portugal, [2]Multidisciplinary Unit for Energy Science (MUFENS), Departamento de Física de la Materia Condensada, ICMS-CSIC, Universidad de Sevilla, Sevilla University, Sevilla, Spain, [3]Department of Physics and CICECO, University of Aveiro, University of Aveiro, Aveiro, Portugal, [4]University Grenoble Alpes, CNRS, Institut Néel CNRS, Grenoble, France
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02:30 PM-02:45 PM
FG-08. Lock-In Thermography for Studying the Reversibility and Thermal Hysteresis of Magnetocaloric Materials
J. Revuelta-Losada, A. N. Khan, L. M. Moreno-Ramírez, J. Law, V. Franco
University of Seville, Sevilla, Sevilla, Spain
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02:45 PM-03:00 PM
FG-09. Enhanced local homogeneity obtained by induction melting for optimizing reversible magnetocaloric response in all-d-metal Ni(Co)-Mn-Ti Heusler alloys
A. N. Khan[1], L. M. Moreno-Ramírez[1], F. García-García[2], M. Varela[2], J. Revuelta-Losada[1], J. Law[1], V. Franco[1]
[1]University of Seville, Sevilla, Sevilla, Spain, [2]Complutense University of Madrid, Madrid, Spain
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SESSION FH: MAGNETIC LAYERED SYSTEMS AND THEIR APPLICATIONS
Chair(s): C. Kinane, *ISIS, Reflectivity , Rutherford Appleton Lab, Abingdon, United Kingdom*
Thursday, April 16, 2026
01:30 PM-03:45 PM
Exchange 11

01:30 PM-02:00 PM
FH-01. Unconventional magnetic field sensors with flexibility, transparency, and eco-sustainability
R. Xu
Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany
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02:00 PM-02:15 PM
FH-02. A three-dimensional approach for dynamic control of domain-wall motion in magnetic multilayers
X. Yang[2], B. Paikaray[1], G. Bernard[2], J. Grollier[1], V. Cros[1], N. Reyren[1], L. Diez[2]
[1]Laboratoire Albert Fert, CNRS, Thales, Universite Paris-Saclay, Paris, France, [2]Centre de Nanosciences et de Nanotechnologies, CNRS, Universite Paris-Saclay, Paris, France
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02:15 PM-02:30 PM
FH-03. Induced In-Plane Anisotropy by Parallel Stripe Domains in Tilted and high PMA Systems
P. Heinig[1, 2], J. O. Oyuga[1], R. Salikhov[2], O. Hellwig[1, 2, 3]
[1]Institut of Physics, Chemnitz University of Technology, Chemnitz, Saxony, Germany, [2]Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Saxony, Germany, [3]Center for Materials, Architectures and Integration of Nanomembranes (MAIN), Chemnitz University of Technology, Chemnitz, Saxony, Germany
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02:30 PM-02:45 PM
FH-04. Role of Tungsten Phase in Stabilizing Skyrmions in W-Based Multilayers
S. Thyagarajan Sumaraj[3], G. Atcheson[3], I. Trikoilis Koll[3], L. Malucelli[3], S. Auffret[3], L. Ranno[2], F. Ibrahim[3], M. Chshiev[3], K. Garello[3], J. Fischer[3], H. Béa[3, 1]
[1]Institut Universitaire de France (IUF), Paris, France, [2]Univ. Grenoble Alpes, CNRS, Néel Institute, Grenoble, France, [3]University Grenoble Alpes, CEA, CNRS, Spintec, Grenoble, France
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02:45 PM-03:00 PM
FH-05. Compensation-Like Temperature and Field-Induced Spin-Flip of the Tm Sublattice in Strained TmIG Thin Films
C. C. Soares[3, 2, 1], T. J. Mori[2], F. Béron[1], J. S. Moodera[5, 4], J. Criginski Cezar[2], J. Brandao[2], G. Vilela[3, 5, 6]
[1]Universidad Estadual de Campinas, Campinas, Sao Paulo, Brazil, [2]Laboratório Nacional de Luz Síncrotron, Nacional de Pesquisa em Energia e Materiais, Campinas, São Paulo, Brazil, [3]Física de Materiais, Universidade de Pernambuco, Recife, Pernambuco, Brazil, [4]Physics, Massachusetts Institute of Technology, Cambridge, Massachusetts, United States, [5]Plasma Science and Fusion Center and Francis Bitter Magnet Laboratory, Massachusetts Institute of Technology, Cambridge, Massachusetts, United States, [6]Center for Advanced Semiconductor Materials and Devices, State University of New York Polytechnic Institute, Utica, New York, United States
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03:00 PM-03:15 PM
FH-06. Stabilizing Skyrmions by Ion Irradiation in X/CoFeB/MgO Thin Films
V. Ahrens, M. Wilke, T. Mohr, M. Becherer
Department of Electrical Engineering, Technical University of Munich, Garching Bei München, Germany
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03:15 PM-03:30 PM
FH-08. Balancing Permeability and Resistivity in FeCoB–AlN Nanogranular Thin Films for Next-Generation Power Delivery
R. Anjum, G. Wei, R. Sai
Tyndall National Institute, Cork, Ireland
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WL: WOHLFARTH LECTURE
Chair(s): L. O'Brien, *University of Liverpool, Liverpool, United Kingdom*
Thursday, April 16, 2026
04:00 PM-05:00 PM
Exchange Auditorium

WL-01. Spin-orbit Torques for Magnetisation Control and Nonequilibrium Magnonics
H. Kurebayashi
UCL/Tohoku University, Sendai, Japan
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IEEE AWARDS CEREMONY

Co-Chair(s): Adekunle Adeyeye, Magnetics Society Honors and Awards Chair, *Durham University*; and Ron Goldfarb, Magnetics Society President, *NIST*

Thursday, April 16, 2026

05:00 PM-06:00 PM

Exchange Auditorium

The IEEE Magnetics Society will recognize the winners of the following:

- Achievement Award
- Mid-Career Award
- Early-Career Award
- Distinguished Service Award

Awards and recognition will also be given to the New Fellows, Distinguished Lecturers, Best Student Oral Presentation Finalists, Neil Smith Award Finalists and Most Compelling Image Finalists.

PL: PLENARY LECTURE

Chair: T. Thomson, *Dept. of Computer Science, University of Manchester, Manchester, United Kingdom*

Thursday, April 16, 2026

06:00 PM-07:00 PM

Exchange Auditorium

06:00 PM-07:00 PM

Magnetic van der Waals Heterostructures

Prof. Sir Kostya Novoselov

National University of Singapore

PLENARY RECEPTION

Thursday, April 16, 2026

07:00 PM-10:00 PM

Offsite - The National Football Museum

SESSION GA: MAGNETISM AND NANOMATERIALS: A PERFECT MATCH FOR LIFE SCIENCE APPLICATIONS

Chair(s): M. Salvador, *Nanoscience and Nanotechnology, Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain*

Friday, April 17, 2026

08:30 AM-12:00 PM

Charter 1

08:30 AM-09:00 AM

GA-01. Photothermal Effect of Magnetic Nanoparticles for Biosensing in Paper-Supported Rapid Tests

V. Pilati[1], M. M. Fadel[1], L. B. Fraile[1], L. Marcano[1], A. M. Pérez-Mas[1], M. Salvador[2], J. L. Marques[1], M. Rivas[1]

[1]Department of Physics, Universidad de Oviedo, Gijón, Spain, [2]Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain

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09:00 AM-09:30 AM

GA-02. Modulation of Ion Channel Activity and Calcium Signaling with Nanomagnets

V. Zablotskii

Institute of Physics of the Czech Academy of Sciences, Prague, Czechia

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09:30 AM-10:00 AM

GA-04. Magnetic nanostructures for efficient thermal therapies

V. Pilati[1], M. Vardanega[1], M. González de la Vega[1], A. M. Pérez-Mas[1], M. Fernández García[1], D. Arranz[2], J. L. Marques[1], I. Orue[3], I. Rodrigo[4], N. García de Iturrospe[4], J. C. Martinez-Garcia[1], M. Rivas[1], L. Marcano[1]

[1]Physics, Oviedo University, Gijón, Asturias, Spain, [2]Instituto de Magnetismo Aplicado (UCM-ADIF-CSIC), Madrid, Spain, [3]SGIKER, Universidad del País Vasco/Euskal Herriko Unibertsitatea, Leioa, Spain, [4]Departamento de Física, Universidad del País Vasco, Leioa, Spain

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10:00 AM-10:30 AM

Break

10:30 AM-11:00 AM

GA-05. Advanced magnetic nanomaterials for early biomarker detection in gastrointestinal surgery

Z. Altintas

Bioinspired Materials and Biosensor Technologies, Kiel University, Kiel, Germany

View Digest Text

11:00 AM-11:30 AM

GA-06. Design of magnetic nanozymes for environmental remediation

N. Nuñez[1, 2, 3], V. M. Sánchez[4, 5], E. Lima Jr.[1, 2], J. S. Grassano[4, 5], A. Gallo-Cordova[6], P. Lustemberg[7], M. A. Morales Ovalle[1, 2, 3], M. Vasquez Mansilla[1, 2, 3], J. Daneri[4, 5], D. A. Estrin[4, 5], M. d. Morales[6], M. V. Ganduglia-Pirovano[7], E. L. Winkler[1, 2, 3]

[1]Magnetismo y Materiales Magnéticos, Centro Atómico Bariloche, S. C. de Bariloche, Rio Negro, Argentina, [2]Instituto de Nanociencia y Nanotecnología, CNEA/CONICET, S. C. de Bariloche, Argentina, [3]Instituto Balseiro, CNEA/UNCuyo, S. C. de Bariloche, Argentina, [4]Instituto de Química Física de los Materiales, Medio Ambiente y Energía, CONICET/UBA, Buenos Aires, Argentina, [5]Departamento de Química Inorgánica, Analítica y Química Física, UBA, Buenos Aires, Argentina, [6]Instituto de Ciencia de Materiales de Madrid, ICMM-CSIC, Madrid, Spain, [7]Instituto de Catálisis y Petroleoquímica-CSIC, Madrid, Spain

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SESSION GB: TODAY'S DEBATES IN ORBITRONICS

Chair(s): N. Reyren, *Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, CNRS, Palaiseau, France*

Friday, April 17, 2026

08:30 AM-12:00 PM

Exchange Auditorium

08:30 AM-09:00 AM

GB-01. From Spintronics to Orbitronics: a Quantum Kinetic Perspective

T. Valet[1, 2], H. Jaffrès[3], V. Cros[3], R. Raimondi[4]

[1]MPhysX OÜ, Tallinn, Estonia, [2]AIMR & CSIS, Tohoku University, Sendai, Japan, [3]Laboratoire Albert Fert, CNRS Thales, Palaiseau, France, [4]Dipartimento di Matematica e Fisica, Universita Roma Tre, Roma, Italy

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09:00 AM-09:30 AM

GB-02. Electron orbital relaxation in solids

H. Lee

Department of Physics, POSTECH, Pohang, Gyeongbuk, Korea (the Republic of)

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09:30 AM-10:00 AM

GB-03. Evidence for strong localization of orbital polarization

L. Zhu

Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China

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10:00 AM-10:30 AM

Break

10:30 AM-11:00 AM

GB-04. Experimental exploration of orbital current generation

K. Ando

Keio University, Yokohama, Japan

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11:00 AM-11:30 AM

GB-05. Production, conversion and detection of orbital polarization created by FMR or thermal gradient

M. S. Yactayo[1, 2], A. Pezo[3, 6], J. Ampuero[1], M. Tian[4], L. Badie[1], J. Quispe-Marcatoma[2], C. Landauro Saenz[2], Y. Xu[5], S. Petit-Watelot[1], M. Hehn[1], A. Fert[3], J. Rojas-Sanchez[1]

[1]Universite de Lorraine, CNRS, Institut Jean Lamour – CNRS:UMR7198, Nancy, France, [2]Universidad Nacional Mayor de San Marcos, Lima, Peru, [3]Laboratoire Albert Fert, CNRS, Thales, Universite Paris-Saclay, Paris, France, [4]Southeast University, Nanjing, China, [5]MIIT Key Laboratory of Spintronics, School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China, [6]Institute for Solid State Physics, University of Tokyo, Tokyo, Japan

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11:30 AM-12:00 PM

GB-06. Long-Range Orbital Transport or Local Generation? Insights from Nonlocal Measurements

Y. Otani[1, 2], L. Liao[1, 3]

[1]ISSP, University of Tokyo, Kashiwa, Japan, [2]Physics, Tohoku University, Sendai, Miyagi, Japan, [3]Physics, Shanghai Tech, Shanghai, China

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SESSION GC: ANTIFERROMAGNETIC AND FERRIMAGNETIC SPINTRONICS

Co-Chair(s): V. Baltz, *SPINTEC, Grenoble, France* and A. Chekhov, *Freie Universität Berlin, Berlin, Germany*

Friday, April 17, 2026

08:30 AM-12:00 PM

Charter 2

08:30 AM-09:00 AM

GC-01. Theory of circular dichroism in resonant inelastic x-ray scattering

M. Furo[2], A. Hariki[2], J. Kuneš[1]

[1]Institute of Condensed Matter Physics, Masaryk University, Brno, Czechia, [2]Osaka Metropolitan University, Osaka, Japan

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09:00 AM-09:15 AM

GC-02. Interfacial Spin Configurations and the Microscopic Origin of Exchange Bias at the IrMn/CoFeB Interface

J. Liu[1, 2, 3], X. Chen[4], J. Lu[1, 2, 3], W. Li[1, 2, 3], Z. Liu[1, 2, 3], Z. Yongzhuo[1, 2, 3], P. Bencok[5], P. Steadman[5], W. Liu[6], W. Zhao[1, 2, 3], S. Peng[1, 2, 3]

[1]Fert Beijing Institute, School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China, [2]Hefei Innovation Research Institute, Beihang University, Hefei, Anhui, China, [3]National Key Laboratory of Spintronics, Hangzhou International Innovation Institute, Beihang University, Hangzhou, Zhejiang, China, [4]Department of Physics, Royal Holloway University of London, Surrey, United Kingdom, [5]Diamond Light Source, Didcot, United Kingdom, [6]Department of Electrical Engineering and Electronics, University of Liverpool, Liverpool, United Kingdom

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09:15 AM-09:30 AM

GC-03. Unconventional spin Hall magnetoresistance in a noncollinear antiferromagnet/heavy-metal stack

T. Uchimura[1], J. Han[1], P. Tang[1], J. Yoon[1], Y. Takeuchi[2], Y. Yamane[1], S. Kanai[1], G. Bauer[1], H. Ohno[1], S. Fukami[1]

[1]Tohoku University, Sendai, Japan, [2]National Institute for Materials Science (NIMS), Tsukuba, Japan

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09:30 AM-09:45 AM

GC-04. Orientation-Engineered Chiral Antiferromagnets on Si for Spin–Orbit Torque Switching Exceeding 70%

Y. Lin[1], Y. Huang[1], J. Chen[1], S. Huang[5], J. Hsu[2], H. Ohmori[4], K. Kawabata[4], T. Kishi[4], Y. Huang[3], Y. Tseng[1, 2]

[1]Materials Science & Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan, [2]Industry Academia Innovation School, Hsinchu, Taiwan, [3]Taiwan Semiconductor Research Institute, Hsinchu, None Selected, Taiwan, [4]TopoLogic Incorp., Tokyo, Japan, [5]International College of Semiconductor Technology, Hsinchu, Taiwan

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09:45 AM-10:00 AM

GC-05. Mn/Pt Multilayer Stacks for Tunable Noncollinear Antiferromagnet

B. Lim[1], D. Lin[1], H. Tan[1], Y. Hnin[1], M. Zhang[1], J. Soh[1], J. Louremban[1], H. Tan[1], L. Huang[1], T. Zhao[2], R. Laskowski[3], K. Khoo[3], S. Chen[1], P. Ho[1]

[1]Institute of Materials Research and Engineering, Singapore, Singapore, [2]National University of Singapore, Singapore, Singapore, [3]Institute of High Performance Computing, Singapore, Singapore

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10:00 AM-10:30 AM

Break

10:30 AM-10:45 AM

GC-06. Rare-Earth Iron Garnets for Spintronics: Advances in Interface Engineering, Magnetization Control, and Electrical Detection

C. Avci, W. Janus

Institut de Ciència de Materials de Barcelona, Bellaterra, BARCELONA, Spain

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10:45 AM-11:00 AM

GC-07. Magnetization and Anisotropy Variations in Compositionally Graded Rare-Earth Transition-Metal Alloy Thin Films for Spintronics

D. Rianto[1], A. W. Hodgkiss[1], B. Nicholson[1], A. Caruana[2], C. Kinane[2], L. Bouchenoire[3], P. Michalowski[4], T. Hase[5], D. Atkinson[1]
[1]Physics, Durham University, Durham, United Kingdom, [2]ISIS, Reflectivity, Rutherford Appleton Laboratory, Oxfordshire, United Kingdom, [3]XMaS, ESRF, Grenoble, France, [4]Institute of Microelectronics and Photonics, Lukasiewicz Research Network, Warsaw, Poland, [5]Physics, University of Warwick, Coventry, United Kingdom

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11:00 AM-11:15 AM

GC-10. Substrate-controlled strain and magnetic anisotropy in epitaxial YIG films

L. M. Solis[1, 2], J. Santiso[3], F. Bonetto[4, 5], P. Vavassori[6, 7], J. Rojas-Sanchez[8], S. Petit-Watelot[8], L. Steren[1], M. Aguirre[2, 9, 10]
[1]Institute of Nanoscience and Nanotechnology CNEA/CONICET, Ciudad Autónoma de Buenos Aires, Ciudad Autónoma de Buenos Aires, Argentina, [2]Instituto de Nanociencia y Materiales de Aragón, Zaragoza, Spain, [3]Catalan Institute of Nanoscience and Nanotechnology (ICN2), Bellaterra, Spain, [4]Instituto de Física del Litoral (CONICET-UNL), Santa Fe, Argentina, [5]Institute of Environmental Technology, Ostrava-Poruba, Czechia, [6]CIC nanoGUNE BRTA, Donostia-San Sebastián, Spain, [7]IKERBASQUE, Bilbao, Spain, [8]Institut Jean Lamour, Nancy, France, [9]Departamento de Física de la Materia Condensada, Zaragoza, Spain, [10]Laboratorio de Microscopías Avanzadas, Zaragoza, Spain

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SESSION GD: QUANTUM, MAGNONIC, AND UNCONVENTIONAL COMPUTING

Chair(s): J. Atulasimha, *Virginia Commonwealth University, Richmond, Virginia, United States*
Friday, April 17, 2026
08:30 AM-12:00 PM
Charter 3

08:30 AM-09:00 AM

GD-01. Spontaneous Emergence of Phase Coherence in a Quasiparticle Bose–Einstein Condensate

B. Hillebrands[1], M. Koster[1], M. R. Schweizer[1], T. B. Noack[1], V. I. Vasyuchka[1], D. A. Bozhko[2], M. Weiler[1], A. A. Serga[1], G. von Freymann[1]
[1]Physics, RPTU Kaiserslautern, Kaiserslautern, Germany, [2]Department of Physics and Energy Science, University of Colorado, Center for Magnetism and Magnetic Nanostructures, Colorado Springs, Colorado, United States

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09:00 AM-09:30 AM

GD-02. Interplay of internal and external coupling phases in cavity magnonics: from level repulsion to attraction

G. Bourcin[3], M. P. Avicena[1, 2], V. Vlaminck[1, 2], J. Bourhill[4], V. M. Castel[1, 2]
[1]Micro-ondes, IMT Atlantique Bretagne-Pays de la Loire - Campus de Brest, Plouzané, Finistère, France, [2]LABSTICC, Brest, France, [3]KWAN-TEK, Ploemeur, France, [4]Quantum Technologies and Dark Matter Labs, University of Western Australia, 35 Stirling Hwy, 6009 Crawley, Perth, Western Australia, Australia

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09:30 AM-09:45 AM

GD-03. Dispersion-tunable Low-loss Spin-wave Waveguides Fabricated by Maskless Ion Implantation

J. Bensmann[1], R. Schmidt[1], K. Nikolaev[2], D. Raskhodchikov[1], S. Choudhary[1], R. Bhardwaj[1], S. Taheriniya[1, 3, 4], A. Varri[1, 3], S. Niehues[1], A. El Kadri[1], J. Kern[1], W. Pernice[1, 3, 4], S. Demokritov[2], V. E. Demidov[2], S. Michaelis de Vasconcellos[1], R. Bratschitsch[1]
[1]Institute of Physics and Center for Nanotechnology (CeNTech), University of Münster, Münster, Germany, [2]Institute of Applied Physics, University of Münster, Münster, Germany, [3]Center for Soft Nanoscience, University of Münster, Münster, Germany, [4]Heidelberg University, Kirchhoff-Institute for Physics, Heidelberg, Germany

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09:45 AM-10:00 AM
GD-04. Phase-Controlled Spin-Wave / CMOS Hybrid System
F. Ciubotaru[1], A. Bunea[2], N. Naskas[3], I. Tsakiridis[3], N. Alexiou[3], G. Kousparis[3], G. Ntounas[3], K. Kontaxis[3], D. Kalampakas[3], P. Kassanos[3], L. Borchardt[4], M. Hempel[4], A. Micelli[1, 6], X. Sun[1], F. Kohl[5], B. Heinz[5], P. Anagnostou[7], S. Mantion[8], P. Bortolotti[8], D. Neculoiu[2], P. Pirro[5], S. Cotofana[7], C. Adelmann[1]
[1]imec, Leuven, Flemish Brabant, Belgium, [2]National Institute for Research and Development in Microtechnologies – IMT Bucharest, Bucharest, Romania, [3]AKRONIC, Athens, Greece, [4]Fraunhofer IZM, Berlin, Germany, [5]University of Kaiserslautern-Landau and Landesforschungszentrum OPTIMAS, Kaiserslautern, Germany, [6]KU Leuven, Leuven, Belgium, [7]Delft University of Technology, Delft, Netherlands, [8]Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, Palaiseau, France
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10:00 AM-10:30 AM
Break

10:30 AM-10:45 AM
GD-05. Magnonic Physical Reservoir Computing Employing the Three-wave Decay of Spin Waves
M. Kostylev, K. Tempest
University of Western Australia, Crawley, Western Australia, Australia
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10:45 AM-11:00 AM
GD-06. Nonlinear Dynamics in Magnonic Fabry-Pérot Resonators: Low-Power Neuron-like Activation and Transmission Suppression
A. Lutsenko[1], K. Fripp[2], L. Flajsman[1], A. Shytov[2], V. Kruglyak[2], S. van Dijken[1]
[1]Applied Physics, Aalto University, Espoo, Finland, [2]University of Exeter, Exeter, United Kingdom
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11:00 AM-11:15 AM
GD-07. Combining Chiral Magnonic Resonators with Machine Learning in Multiple Input Multiple Output Functional Magnonic Circuits
K. Fripp[1], Y. Wang[2], O. Kyriienko[2], A. Shytov[1], V. Kruglyak[1]
[1]University of Exeter, Exeter, United Kingdom, [2]University of Sheffield, Sheffield, United Kingdom
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11:15 AM-11:30 AM
GD-08. Realization of Inverse-Design Magnonic Logic Gates
F. Majcen[1, 2], N. Zenbaa[1, 2], C. Abert[1, 3], F. Bruckner[1, 3], N. J. Mauser[3, 4], T. Schrefl[3, 5], Q. Wang[6], D. Suess[1, 3], A. Chumak[1, 3]
[1]Faculty of Physics, University of Vienna, Vienna, Vienna, Austria, [2]Vienna Doctoral School in Physics, University of Vienna, Vienna, Austria, [3]Research Platform Mathematics–Magnetism–Materials, University of Vienna, Vienna, Austria, [4]Faculty of Mathematics, University of Vienna, Vienna, Austria, [5]Center for Modelling and Simulation, Donau-Universität Krems, Wiener Neustadt, Austria, [6]School of Physics, Huazhong University of Science and Technology, Wuhan, China
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11:30 AM-11:45 AM
GD-09. Experimental Implementation of a Magnonic Neural Network Using the Discrete k-Space Spectrum of (Bi)YIG Microdisks
D. Zehner[1], P. Che[1], J. Ben Youssef[2], M. Muñoz[3], R. Lebrun[1], D. Sanz Hernandez[1], A. Papp[4, 5], V. Cros[1], P. Bortolotti[1], I. Boventer[1], A. Anane[1]
[1]Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, Palaiseau, France, [2]LabSTICC, CNRS, Université de Bretagne Occidentale, Brest, France, [3]Instituto de Tecnologías Físicas y de la Información (CSIC), Madrid, Spain, [4]Faculty of Information Technology and Bionics, Pázmány Péter Catholic University, Budapest, Hungary, [5]Jedlik Innovation Kft., Budapest, Hungary
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11:45 AM-12:00 PM
GD-10. Complexity Analysis of FMR Driven Chaotic Magnetization Dynamics in a Nanodisk
A. Kolli[2, 1], H. Merbouche[2, 1], G. de Loubens[2, 1], P. Colin[3], S. Jovanovic[3], S. Petit-Watelot[3], D. Rontani[4], S. Perna[5]
[1]Physics, Université Paris-Sud, Paris, Ile-de-France, France, [2]CEA Paris-Saclay, Gif-sur-Yvette, France, [3]Université de Lorraine, Nancy, France, [4]CentraleSupélec Metz, Metz, France, [5]University of Naples, Naples, Italy
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SESSION GE: INDUCTION AND SPECIAL MACHINES
Chair(s): H. Hamzehbahmani, *Durham University, Durham, United Kingdom*
Friday, April 17, 2026
08:30 AM-12:00 PM
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08:30 AM-08:45 AM
GE-01. An Approach Toward AC Power Loss Reduction in Additively Manufactured Winding for Electrical Machine
Z. Ahmad, A. Kallaste, M. Naseer, T. Vaimann, S. Hussain
Department of Electrical Power Engineering and Mechatronics, Tallinn University of Technology, Tallinn, Estonia
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08:45 AM-09:00 AM
GE-02. A Permeance-Based Grey-Box Modeling Framework for Variable Flux Reluctance Machines Using SINDy
G. Bayazit, E. Ilhan Caarls, E. A. Lomonova
Eindhoven University of Technology, Eindhoven, North Brabant, Netherlands
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09:00 AM-09:15 AM
GE-03. High-Frequency Cable–Motor Impedance Modelling and Optimization for Transient Voltage Stress Mitigation in Induction Machines
M. Sardar, T. Vaimann, L. Kütt, B. Asad, A. Kallaste, M. Naseer
Department of Electrical Power Engineering and Mechatronics, Tallinn University of Technology, Tallinn, Estonia
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09:15 AM-09:30 AM
GE-04. Localised Flux Density Measurement: A New Diagnostic Indicator for Inter-Laminar Faults in Magnetic Cores with Non-Oriented Electrical Steels
H. Hamzehbahmani
Durham University, Durham, United Kingdom
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09:30 AM-09:45 AM
GE-05. Study on 2-Pole Induction Motor with Concentrated Winding
J. Asami[1], N. Niguchi[1], T. Yamamoto[2], T. Minari[2]
[1]Osaka University, Suita, Osaka, Japan, [2]Sumitomo Heavy Industries, Ltd, Yokosuka, Japan
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09:45 AM-10:00 AM
GE-06. A Concentrated-Winding Rotary-Linear Generator with Tangential and Radial PMs for Wind-Wave Harvesting
G. Ma[1, 2], Z. Li[2], H. Zhang[2], S. Niu[2], J. Yuan[1]
[1]Electrical Engineering and Automation, Wuhan University, Wuhan City, Hubei Province, China, [2]Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, Kowloon, Hong Kong
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10:00 AM-10:30 AM
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10:30 AM-10:45 AM
GE-08. Analytical Modelling and Design of a Limited Angle Rotary Voice Coil Actuator
E. Cevik[1], M. Gulec[3], M. Aydin[2]
[1]MDS Motor Ltd., Kocaeli, Turkey, [2]Kocaeli University, Kocaeli, Kocaeli, Turkey, [3]Ghent University, Ghent, Belgium
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10:45 AM-11:00 AM
GE-09. Novel Modular Dual-PM Yokeless Stator Dual-Rotor Machine with Improved Torque Density
F. Ni, Z. Li, S. Niu, Z. Huang
Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong
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11:00 AM-11:15 AM
GE-10. Inter-Turn Short Circuit Diagnosis for Dual Three-Phase Machine Based on High-Frequency Voltage Injection Considering Series Winding Magnetic Coupling
Y. Sui[1, 2], L. Liu[1], P. Zheng[1], X. Qiu[1, 3], W. Liu[1], Y. Shijie[1]
[1]School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China, [2]Zhengzhou Research Institute, Harbin Institute of Technology, Zhengzhou, China, [3]CSG Shenzhen Power Supply Co., Ltd., Shenzhen, China
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11:15 AM-11:30 AM
GE-11. Open-Circuit Fault Diagnosis Method for Dual Three-Phase PMSM Based on Harmonic Subspace Current Features
Y. Sui[1, 2], L. Liu[1], P. Zheng[1], X. Qiu[1, 3], W. Liu[1], M. Wang[1]
[1]School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China, [2]Zhengzhou Research Institute, Harbin Institute of Technology, Zhengzhou, China, [3]CSG Shenzhen Power Supply Co., Ltd., Shenzhen, China
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SESSION GF: MAGNETO-ELASTICS AND NEW COUPLED MAGNETIC PHENOMENA II
Chair(s): N. Morley, *Materials Science and Engineering, University of Sheffield, Sheffield, United Kingdom*
Friday, April 17, 2026
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08:30 AM-09:00 AM
GF-01. Magnet-Free Integrated Photonic Isolators achieved via Magnetic Design
B. Stadler[1], P. Liu[1], B. Moghal[1], S. Ghosh[2], R. Das[2], J. Bellotti[3], Y. Chen[3]
[1]University of Minnesota, Minneapolis, Minnesota, United States, [2]Tyndall National Institute, Cork, Ireland, [3]Coherent, Budd Lake, New Jersey, United States
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09:00 AM-09:15 AM
GF-02. Integrating High-Throughput DFT Descriptors with Machine Learning for Efficient Materials Discovery
Z. Cui, C. R. Muñiz, J. Law, V. Franco
University of Seville, Sevilla, Spain
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09:15 AM-09:30 AM
GF-04. 4-inch wafer-scale monolithic integration and magneto-optical ellipsometry characterization of Ce:YIG films on silicon
T. Zhang[1], Y. Yang[2], W. Yang[3], J. Wang[1], Z. Wei[1], D. Wu[1], Y. Shuai[1], L. Bi[1]
[1]University of Electronic Science and Technology of China, Chengdu, Sichuan, China, [2]Institute of Optics and Electronics, Chengdu, Sichuan, China, [3]University of Hong Kong, Hong Kong, China
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09:30 AM-09:45 AM
GF-05. Topological Surface Magnon-Polariton in an Insulating Canted Antiferromagnet
F. Zhong[1], W. Li[2]
[1]University of Cambridge, Cambridge, England, United Kingdom, [2]Beihang University, Beijing, China
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09:45 AM-10:00 AM
GF-06. Effect of Praseodymium Addition on Magnetostriction of Fe–Al Alloys
T. Okada, Y. Azakli, N. Morley
School of Chemical, Materials and Biological Engineering, University of Sheffield, Sheffield, United Kingdom
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10:30 AM-10:45 AM
GF-07. Simultaneous Multi-Property Analysis of Magneto-Structural Transitions at ESRF ID12
A. Aubert[1], K. Skokov[1], G. Gomez[2], F. Wilhelm[2], H. Wende[3], A. Rogalev[2], K. Ollefs[3], O. Gutfleisch[1]
[1]Technische Universitat Darmstadt, Darmstadt, Germany, [2]European Synchrotron Radiation Facility, 38043 Grenoble, France, Grenoble, France, [3]Faculty of Physics, University of Duisburg-Essen, Duisburg, Germany
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10:45 AM-11:00 AM
GF-08. Influence of Composition on the Intrinsic Characteristic of the Magnetoelastic Phase Transitions of Bulk Fe–Rh
K. Padron Aleman[1, 2], G. Cuello[1], J. L. Sanchez Llamazares[3], P. Álvarez-Alonso[2], P. Gorria[2]
[1]Diffraction, Institut Laue Langevin, Grenoble, France, [2]Physics, University of Oviedo, Oviedo, Spain, [3]Materiales Avanzados, Instituto Potosino de Investigacion Cientifica y Tecnologica A.C. (IPICyT), San Luis Potosi, Mexico
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11:00 AM-11:15 AM
GF-10. Strain-Gradient-Controlled Magnetization Reversal in Multilayer FeGaB for Lamb Wave Magnetoelastic Sensors
Y. Wang[1, 2, 3], M. Du[1, 4], J. Li[1, 4], D. Luo[1, 4], T. Wu[1, 2, 3]
[1]Shanghaitech University, Shanghai, China, [2]Shanghai Institute of Microsystem and Information Technology, Shanghai, China, [3]University of Chinese Academy of Sciences, Beijing, China, [4]Shanghai Engineering Research Center of Energy Efficient and Custom AI IC, Shanghai, China
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11:15 AM-11:30 AM
GF-11. Characterization of powdered magnetostrictive materials of Fe-Ga for additive manufacturing
L. Chen[1, 2], M. Sato[3], N. Yodoshi[4], Y. Su[5], R. Umetsu[1, 6]
[1]Instituite for Material Research, Tohoku University, Sendai shi, Miyagi, Japan, [2]Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan, [3]Graduate School of Systems Science and Technology, Akita Prefectual University, Yurihonjo, Akita, Japan, [4]Faculty of Engineering, Kyushu University, Fukuoka, Fukuoka, Japan, [5]Technologies Corporation, NTT DATA XAM, Osaka, Osaka, Japan, [6]Centre for Science and Innovation in Spintronics, Tohoku University, Sendai, Miyagi, Japan
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SESSION GG: ENERGY, MICROWAVE AND SENSING APPLICATIONS I

Chair(s): K. Srinivasan, *Electrical and Computer Engineering, Boise State University, Boise, Idaho, United States*

Friday, April 17, 2026

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08:30 AM-08:45 AM

GG-01. Magnetic Topology Optimization of an Electromagnetic Harvester Tuned to In-Situ Stochastic Railway Vibrations

M. Mansattha[1], R. Dixon[2], E. Stewart[1]

[1]Electronic, Electrical and Systems Engineering, University of Birmingham, Birmingham, United Kingdom, [2]School of Engineering, University of Birmingham, Birmingham, United Kingdom

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GG-02. Scalable magnetic tunnel junction arrays for wireless radiofrequency sensing and energy harvesting

A. Sandhu, R. Sharma, R. Sharma

Electrical Engineering, Indian Institute of Technology Ropar, Delhi, India

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GG-03. Broadband rectification with perpendicular magnetic tunnel junctions

S. K. Panigrahy, A. Purbawati

Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, SPINTEC, Grenoble, France

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GG-04. Optimal Impedance Matching Method of Magnetic Field Energy Harvesters for Railway Systems

P. Jeong, H. Lee, S. Ahn

Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea (the Republic of)

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GG-05. Anomalous Nernst Effect of Magnetic Multilayers with Flexible Substrate

P. Martinez Outomuro[1], C. Belloso[1], G. Lopez-Polin[2], D. Navas[1], A. Asenjo[1]

[1]Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Madrid, Spain, [2]Universidad Autónoma de Madrid, Madrid, Spain

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GG-06. Exchange bias-based miniature magnetoelectric antennas for radio-frequency applications

P. Velvaluri[2, 1], B. Luo[2], F. Gossing[3], E. Mackensen[3], I. Martos-Repath[2], S. Mahdi Seyed Abrishami[2], B. Davaji[2], D. Meyners[3], J. McCord[3], N. X. Sun[2]

[1]University of Freiburg, Freiburg im Breisgau, Baden-Würtemberg, Germany, [2]Electrical and Computer Engineering, Northeastern University, Boston, Massachusetts, United States, [3]Materials Science, Kiel University, Kiel, Schleswig-Holstein, Germany

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GG-07. Stress Monitoring Using Amorphous Glass-coated Microwire Assessed by Free Space Measurements at Microwaves

V. Zhukova[4, 1, 3], M. Ipatov[5], A. Zhukov[1, 2, 3]

[1]Dept. Appl. Phys., University of the Basque Country, San Sebastian, Spain, [2]IKERBASQUE, Basque Foundation for Science, Bilbao, Spain, [3]EHU Quantum Center, University of the Basque Country, San Sebastian, Spain, [4]Dept. Polym. & Adv. Mater., University of the Basque Country, EHU, San Sebastian, Spain, [5]General Magnetic Measurement Service of Advanced Research Facilities (SGIker),, University of the Basque Country, EHU, San Sebastian, Spain

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GG-08. Broadband double-layer electromagnetic wave absorber using $Nd_2Fe_{17}N_3$ with planar magnetocrystalline anisotropy

N. Mitsui, J. Akamatsu, S. Abe, R. Okazaki, N. Imaoka

Nichia Corporation, Anan, Tokushima, Japan

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GG-09. Magnetic Pattern Classification Based on Three-Dimensional Field Sensing and Convolutional Neural Networks

T. Kubota[1], S. Akamatsu[2], H. Fukushima[2], T. Hojo[1, 3], M. Endo[1], K. Fujiwara[2], T. Yoshidome[3, 1], H. Wagatsuma[2], S. Kumagai[2], H. Matsuzaki[2], R. Otsuka[4], K. Yokoi[4], S. Oyagi[4], I. Yamane[4], J. Jinno[4], K. Onishi[4], Y. Ando[1, 3, 5]

[1]Advanced Spintronics Medical Engineering, Tohoku University, Sendai, Miyagi, Japan, [2]Spin Sensing Factory Corporation, Sendai, Japan, [3]Department of Applied Physics, Tohoku University, Sendai, Japan, [4]Otsuka Pharmaceutical Co., Ltd., Tokyo, Japan, [5]Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Miyagi, Japan

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GG-10. Deep learning based Point Cloud Classification of Magnetization Patterns Measured by Tunnel Magnetoresistance Sensors

T. Hojo[1, 2], T. Kubota[1], H. Wagatsuma[3], K. Fujiwara[3], M. Endo[1], H. Fukushima[3], T. Yoshidome[2, 1], S. Kumagai[3], H. Matsuzaki[1], K. Yokoi[4], S. Oyagi[4], R. Otsuka[4], I. Yamane[4], J. Jinno[4], K. Onishi[4], M. Oogane[2, 5], Y. Ando[1, 5]

[1]Department of Advanced Spintronics Medical Engineering, Tohoku University, Sendai, Miyagi, Japan, [2]Department of Applied Physics, Tohoku University, Sendai, Miyagi, Japan, [3]Spin Sensing Factory Corporation, Sendai, Miyagi, Japan, [4]Otsuka Pharmaceutical Co., Ltd., Tokushima, Tokushima, Japan, [5]Center for Science and Innovation in Spintronics (Core Research Cluster) Organization for Advanced Studies, Tohoku University, Sendai, Miyagi, Japan

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GG-11. 3D Flexible Ferrite Structures for Absorption, Non-reciprocity and Polarization Enhancement for Millimeterwave Applications

S. Akkapanthula, S. Sharma, S. Kagita

Indian Institute of Technology Tirupati, Tirupati, India

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GG-12. Experimental and theoretical verification of the nonlinear Seebeck effect at room temperature

Y. Hirata[1], T. Kikkawa[1, 2], H. Arisawa[1, 3], E. Saitoh[1, 3, 4]

[1]Applied Physics, University of Tokyo, Bunkyo-ku, Tokyo, Japan, [2]ASRC, Japan Atomic Energy Agency, Ibaraki, Japan, [3]CEMS, RIKEN, Saitama, Japan, [4]Beyond AI, Tohoku University, Miyagi, Japan

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SESSION GH: NEW APPROACHES IN SIMULATIONS OF MAGNETIC MATERIALS
Chair(s): S. Ruta, *Sheffield Hallam University, Sheffield, United Kingdom*
Friday, April 17, 2026
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GH-01. Regularized Micromagnetic Theory for Bloch Points
V. Kuchkin[1], A. Haller[1], A. Michels[1], T. L. Schmidt[1], N. Kiselev[2]
[1]University of Luxembourg, Strassen, Luxembourg, [2]PGI-1, Forschungszentrum Julich, Julich, Germany
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09:00 AM-09:15 AM
GH-02. Dynamic Atomistic Modelling of Domain Walls in Layered van der Waals Antiferromagnets
R. Rama-Eiroa[1, 2]
[1]School of Physics and Astronomy, The University of Edinburgh, Edinburgh, Midlothian, United Kingdom, [2]Higgs Centre for Theoretical Physics, Edinburgh, United Kingdom
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09:15 AM-09:30 AM
GH-03. A solution to the permalloy problem---a micromagnetic analysis with magnetostriction
A. Renuka Balakrishna
Materials, University of California, Santa Barbara, Santa Barbara, California, United States
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09:30 AM-09:45 AM
GH-04. Towards a MAgnetic Multiscale MOdelling Suite (MaMMoS)
H. Fangohr[1, 2, 3], S. J. Holt[1, 2], M. Lang[1, 2], S. A. Pathak[1, 2], A. Petrocchi[1, 2], W. Hortschitz[4], S. Pile[4], A. Vishina[5], M. Hasan[5], G. A. Marchant[5], T. Colnaghi[6], C. Winkler[6], J. Winkler[7], N. Dempsey[8], T. Woodcock[7], A. Marek[6], H. C. Herper[5], T. Schrefl[4]
[1]Computational Science, Max Planck Institute for the Structure and Dynamics of Matter, Hamburg, Hamburg, Germany, [2]Center for Free-Electron Laser Science, Hamburg, Germany, [3]University of Southampton, Southampton, United Kingdom, [4]University for Continuing Education Krems, Krems, Austria, [5]Uppsala University, Uppsala, Sweden, [6]Max Planck Compute and Data Facility, Garching, Germany, [7]Leibniz IFW, Dresden, Germany, [8]Institute Neel, Grenoble, France
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GH-05. Including sample shape in micromagnetics with periodic boundary conditions
F. L. Durhuus, A. R. Insinga, R. Bjørk
DTU Energy, Technical University of Denmark, Kongens Lyngby, Denmark
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GH-06. Exploring the space of hard magnet materials with machine learning models
P. Palczynski, M. Werwinski
IFM, PAN, Poznan, Poland
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10:45 AM-11:00 AM
GH-07. Physical Magnetization Analysis of Silicon Steel Sheet under Biaxial Mechanical Stress
T. Matsuo[1], F. Martin[2], A. Belahcen[2]
[1]Department of Electrical Engineering, Kyoto University, Kyoto, Japan, [2]Department of Electrical Engineering and Automation, Aalto University, Aalto, Finland
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GH-08. Atomistic simulations of antiferromagnets and ultrafast switching of exchange bias
R. F. Evans
School of Physics, Engineering and Technology, University of York, York, United Kingdom
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GH-09. Ultrafast spin dynamics in 2D vdW magnets
M. Strungaru[1], R. F. Evans[2], R. W. Chantrell[2]
[1]Computer science, University of Manchester, Manchester, United Kingdom, [2]School of Physics, Engineering and Technology, University of York, York, United Kingdom
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SESSION GP: HARD MAGNETIC MATERIALS (POSTER SESSION)
Chair(s): C. de Julián Fernández, *Istituto dei Materiali per l'Elettronica ed il Magnetismo Consiglio Nazionale delle Ricerche, Parma, Italy*
Friday, April 17, 2026
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Exchange Hall

GP-02. Revealing high coercivity in Nd-Fe-B with gradient rare earth-rich phase sizes
M. Zhu, D. Zhang, Q. Sun, Y. Fang, W. Li
State Key Laboratory of Rare Earth Permanent Magnetic Materials, Anhui, Anhui, China
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GP-03. Solubility of Zn in Rare Earth Free τ-MnAl Investigated with Diffusion Couples
J. Winkler[1, 2], F. A. Urban[1, 2], N. Kornelius[1, 2], T. Woodcock[1]
[1]Institute for Metallic Materials, Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany, [2]TU Dresden, Dresden, Germany
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GP-04. The Development of Carbon-based Magnets to Reduce Dependency on Rare Earth Metals
S. M. Alghamdi[2], J. McGowan[1], M. Ali[1], B. Hickey[1], O. Céspedes[1]
[1]University of Leeds, Leeds, United Kingdom, [2]Taibah University, Yanbu Governorate, Saudi Arabia
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GP-05. Grain-Boundary Engineering and Magnetic Properties of Ga-Substituted $Sm_{1.7}(Fe_{1-x}Ga_x)_{10}V_2$ $ThMn_{12}$-Type Sintered Magnets
X. Zheng, P. Si, B. Zhang, Y. Song, J. Park
Nano Materials Research Division, Korea Institute of Materials Science, Changwon, Gyeongsangnam-do, Korea (the Republic of)
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GP-06. Exchange Spring behaviour in electrodeposited Co-rich CoPtP films on Cu(111)/Si substrates
S. Seth[1, 2], S. Roy[1, 2]
[1]Micropower Devices & Nanomagnetics group, Tyndall National Institute, Cork, Munster, Ireland, [2]School of Physics, University College Cork, Cork, Munster, Ireland
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GP-07. Combined Effect of Grain Size and Hematite Content on the Magnetic Properties of $Sr_xBa_{1-x}Fe_{12}O_{19}$ Ceramic Powders
I. Lorenzo[1], J. P. Andrés[2], D. Robles-Cuenca[2], N. Cotón[1], J. Ramírez-Castellanos[3], R. Ranchal[1]
[1]Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Madrid, Spain, [2]Universidad Castilla-La Mancha, Ciudad Real, Spain, [3]Química Inorgánica, Universidad Complutense de Madrid, Madrid, Spain
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GP-09. Improvement of the magnetic properties of recycled NdFeB sintered magnets through inline classification of fine powders
M. Schönfeldt[1, 2], M. Hasan[1], M. Villacís[1, 2], K. Opelt[1, 2], O. Gutfleisch[2]
[1]Magnetic Materials, Fraunhofer Research Institution for Materials Recycling and Resource Strategies IWKS, Hanau, Germany, [2]Department of Materials and Geosciences, Functional Materials, TU Darmstadt, Darmstadt, Germany
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GP-10. A study on the Pr Diffusion Depth-Coercivity Correlation Using a Statistical Approach to Micromagnetic Simulation
G. Kim[1], S. Lee[2], S. Kim[2], T. Kim[2], K. Bae[4], D. Kim[4], J. Lee[2], K. Lee[1, 3]
[1]School of Materials Science and Engineering, Ulsan National Institute of Science and Technology (UNIST), Ulsan, Korea (the Republic of), [2]Department of Magnetic Materials, Korea Institute of Materials Science (KIMS), Changwon, Korea (the Republic of), [3]Graduate School of Semiconductor Materials and Devices Engineering, Ulsan National Institute of Science and Technology (UNIST), Ulsan, Korea (the Republic of), [4]R&D Center, Star Group Ind. Co., Ltd., Daegu, Korea (the Republic of)
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GP-11. Magnetic anisotropy and coercivity in hcp Co-Mo solid solution: A first-principles investigation
D. Sagar[1], S. Dhapola[2], J. Shield[2], A. Kashyap[1]
[1]School of Physical Sciences, Indian Institute of Technology Mandi, Mandi, Himachal Pradesh, India, [2]Department of Mechanical Engineering and Nebraska Center for Materials and Nanoscience, University of Nebraska, Lincoln, Nebraska, United States
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GP-12. Perpendicular high coercivity of bct FeCo-Cr granular films
T. Hasegawa, T. Satou, J. Liu
Akita University, Akita, Japan
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GP-13. Controlling the Magnetic Anisotropy of YFe_3 through Transition-Metal Doping
B. Lessmann Fertig[1, 2], M. Hasan[3], N. Kornelius[1, 2], H. C. Herper[3], T. Woodcock[1]
[1]Institute of Metallic Materials, Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Saxony, Germany, [2]Institute of Materials Science, Technical University Dresden, Dresden, Germany, [3]Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden
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GP-14. Low-Pressure Hydrogen Decrepitation for Recycling Magnets into Bonded Magnets
I. Nlebedim[1], H. Parmar[1], M. P. Paranthaman[2]
[1]Division of Critical Materials, Ames National Laboratory, Ames, Iowa, United States, [2]Chemical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee, United States
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GP-15. Magnetic properties and microstructure of melt spun $SmFe_{12}$ ribbons with V substitution and B-doping
H. W. Chang, W. Lin, W. Wong, W. C. Chang
Department of Physics, National Chung Cheng University, Taichung, Taiwan
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GP-16. Coercivity enhancement of NdFeB sintered magnets by grain boundary diffusion with $R_{35}Pr_{35}Zn_{15}Al_{15}$ (R= Dy and Tb) alloys
W. Wong, H. W. Chang, W. C. Chang
Department of Physics, National Chung Cheng University, Taichung, Taiwan
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SESSION GQ: HIGH-SPEED, INDUCTION, AND RELUCTANCE MACHINES (POSTER SESSION)
Co-Chair(s): S. Niu, *Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong* and F. Zhao, *Harbin Institute of Technology (Shenzhen), Shenzhen, China*
Friday, April 17, 2026
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Exchange Hall

GQ-01. Effect of Stator-Slot Winding Placement on AC Copper Loss in High-Speed Modular Motors
D. Ahn[2, 1], S. Oh[2], J. Lee[2]
[1]Hanyang University, Seoul, Korea (the Republic of), [2]Korea Automotive Technology Institute, Cheonan-si, Korea (the Republic of)
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GQ-03. Development of Polar Anisotropic Rare Earth Nd-Fe-B Bonded Magnets with Sinusoidal Magnetic Flux Distribution for High Speed Motor Application
C. Mishima[1], T. Yoshimatsu[1], E. Kikuchi[1], Y. Honkura[1], J. Asama[2]
[1]Magnedesign, Aichi-ken, Mihama-cho, Japan, [2]Shizuoka University, Hamamatsu, Japan
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GQ-04. Analytical Solution for AC Copper Loss in Hairpin Winding Machines Using Harmonic Modeling and a 1-D Computation Model
Y. Kim[1], D. Hoang[1], S. Eom[1], Y. Kim[2], K. Shin[3], J. Choi[1]
[1]Electrical Engineering, Chungnam National University, Daejeon, Korea (the Republic of), [2]Biosystems Machinery Engineering, Chungnam National University, Daejeon, Korea (the Republic of), [3]Electrical Engineering, Changwon National University, Chagnwon, Korea (the Republic of)
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GQ-05. Current-Balancing Control of Paralleled Inverters for a High-Speed Dynamometer Motor Drive
J. Lee[1], I. Cho[2], Y. Kim[3], K. Lee[1], B. Jung[4]
[1]Electric Drive Lab., KATECH, Cheonan-si, Chungcheongnam-do, Korea (the Republic of), [2]Seoho Drives, Anyang-si, Korea (the Republic of), [3]Electrical Engineering, University of Hoseo, Asan-si, Korea (the Republic of), [4]Electrical Engineering, University of Changwon, Changwon-si, Korea (the Republic of)
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GQ-06. Integrated Mechanical–Electromagnetic Design and Experimental Validation of a High-Speed Permanent Magnet Synchronous Motor Considering Sleeve Interference Fit and Harmonic Losses
S. Kim[1], K. Kwak[1], J. Jang[1], Y. Kim[2], K. Shin[3], J. Choi[1]
[1]Electrical Engineering, Chungnam National University, Daejeon, Korea (the Republic of), [2]Biosystems Machinery Engineering, Chungnam National University, Daejeon, Korea (the Republic of), [3]Electrical Engineering, Changwon National University, Changwon, Korea (the Republic of)
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GQ-07. A study on design technology for improving the high-speed driving stability of vehicle traction motors.
M. Park, S. Song, J. Lee, K. Lee
Korea Electronics Technology Institute, Bucheon, Korea (the Republic of)
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GQ-08. Optimal Design of a High-Efficiency Permanent Magnet Assisted Synchronous Reluctance Motor Considering Anti-Demagnetization Performance
X. Liu[1, 2, 3], W. Zhao[1, 2, 3], D. Lu[4]
[1]College of Electrical and Information Engineering, Hunan University, Changsha, Hunan, China, [2]Greater Bay Area Institute for Innovation, Hunan University, Guangzhou, China, [3]State Key Laboratory of Offshore Wind Power Equipment and High-efficient Utilization Wind Energy, Hunan University, Changsha, China, [4]NR Electric Co., Ltd, Nanjing, China
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GQ-09. 12/10 Switched Reluctance Motor Capable of Operating as Induction Motor
A. Kohara[1], N. Niguchi[2]
[1]the Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology, Toyohashi, Aichi, Japan, [2]Osaka University, Suita, Osaka, Japan
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GQ-10. Two-Stage Optimization of an IE4-Class Induction Motor for Rated Efficiency Improvement
H. Ban[1], S. Kim[1], K. Yu[1], S. Kim[1], J. Park[1], S. Eom[1], Y. Kim[2], K. Shin[3], J. Choi[1]
[1]Department of Electrical Engineering, Chungnam National University, Daejeon, Daejeon, Korea (the Republic of), [2]Department of Biosystems Machinery Engineering, Chungnam National University, Daejeon, Korea (the Republic of), [3]Department of Electrical Engineering, Changwon National University, Changwon, Korea (the Republic of)
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GQ-11. Inclusion of Finite Magnetic Properties in Electrical Machine Modeling Using Harmonic Analysis and Conformal Mapping
M. Ramos Friedmann, D. Ceylan, M. Merdzan, E. A. Lomonova
Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands
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GQ-12. Dynamic Modeling of Permanent Magnet Assisted Synchronous Reluctance Machines Using Data-Driven Surrogate Models
G. Behling da Silveira[1], I. P. Wiltuschnig[1], A. Tergolina Salton[1], A. Ferreira Flores Filho[1], D. Dorrell[2], P. Eckert[1]
[1]Federal University of Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil, [2]University of Turku, Turku, Finland
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GQ-13. FEM Analysis of an Internal Stator Tooth Coil for Broken Rotor Bar Detection
I. Bennia, A. Tounzi, J. Korecki, A. Benabou
Arts et Metiers Institute of Technology, Université de Lille, Villeneuve d'Ascq, France
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GQ-14. Design and Analysis of Single-phase Synchronous Reluctance Motor for Ceiling Fan Applications
P. A. D'sa[2, 1], A. Kushwaha[3], S. Dey[1], S. Sengupta[1], B. G. Fedrnandes[1]
[1]Electrical Engineering, Indian Institute of Technology,Bombay, Udupi, Karnataka, India, [2]Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, Karnataka, India, [3]Electrical, Electronics and Communication Engineering, Indian Institute of Technology Dharwad, Dharwad, Karnataka, India
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GQ-15. Design, Fabrication, and Experimental Verification of a Hybrid-Conductor Rotor for Super Premium Efficiency Induction Motors Using a Gravity Casting Process
K. Lee, J. Seo, S. Lee
Purpose Built Mobility Group, Korea Institute of Industrial Technology, Gwangju, Korea (the Republic of)
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GQ-16. Analytical Modeling of a Dual Three-Phase Squirrel-Cage Induction Motor with Harmonic Injection
B. Mustafa[1], A. Hemeida[1, 2], F. Ahmed[3], A. Belahcen[1]
[1]Department of Electrical Engineering and Automation, Aalto University, ESPOO, Finland, [2]Department of Electrical Engineering, Cairo University, Cairo, Egypt, [3]Drives, Oy Danfoss Drives Ab, Helsinki, Helsinki, Finland
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SESSION GR: DATA-DRIVEN AND FUNCTIONAL MAGNETISM: FROM QUANTUM MATERIALS TO ELECTROMAGNETIC SYSTEMS (POSTER SESSION)

Chair(s): A. Meo, *Department of Electrical and Information Engineering, Politecnico di Bari, Bari, Italy*
Friday, April 17, 2026
09:00 AM-12:00 PM
Exchange Hall

GR-01. Interplay of Ferromagnetism and Valley Physics in Stacking-Dependent Janus VSSe Bilayers
K. Dange[1], A. Shukla[2]
[1]Physics, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India, [2]Physics, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India
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GR-03. Machine learning accelerated High-Throughput study of Electronic and Magnetic properties of $M_4X_3T_x$ MXenes
S. Goel, S. Singh, A. Kashyap
IIT Mandi, Mandi, Himachal Pradesh, India
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GR-04. Trained by magnetic data only, artificial neural network predicts mechanical and structural properties of WC-Co hardmetals
H. Brueckl[1], L. Breth[1], J. Fischbacher[1], T. Schrefl[1], S. Kuehrer[2], J. Pachlhofer[2], M. Schwarz[2], T. Weirather[2], C. Czettl[2]
[1]Dept. for Integrated Sensor Systems, University for Continuing Education Krems, Wiener Neustadt, Lower Austria, Austria, [2]R&D Cutting Tools, Ceratizit Austria GmbH, Reutte, Austria
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GR-06. Hysteresis Loop Measurement Method for Setting Demagnetization Current Parameters of MSR Based on Pulse Response
Z. Kan[1], J. Sun[1, 2], J. Ma[2]
[1]Beihang University, Beijing, China, [2]Hangzhou Institute of National Extremely-weak Magnetic Field Infrastructure, Hangzhou, China
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GR-07. Improvements in CEM's Primary Magnetics Laboratory
S. Moltó, Y. A. Sanmamed, J. Díaz de Aguilar
Electriciy and Energy, Centro Español de Metrología, Tres Cantos, Madrid, Spain
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GR-08. Impact of Electrostatic Forces in High-Gradient Magnetic Chromatography
N. Carlstedt, P. Andrei
Florida State University, Tallahassee, Florida, United States
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GR-09. An Intelligent Inversion Method to Identify Railway Ballast Gradation Parameters Using Electromagnetic Wave Reflection
H. Hu[1, 2], Z. Yang[1], G. Cao[1, 2]
[1]Guangdong Key Laboratory of Electromagnetic Control and Intelligent Robots, Shenzhen University, Shenzhen, China, [2]National Key Laboratory of Green and Long-Life Road Engineering in Extreme Environment (Shenzhen), Shenzhen University, Shenzhen, China
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GR-10. Dynamic-to-Static Wireless Charging for Railway Internet of Things
S. Niu[1], W. Liu[1], C. Liu[1], C. Li[2], K. Chau[1]
[1]Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong, [2]Department of Design and Architecture, Technological and Higher Education Institute of Hong Kong, Hong Kong, Hong Kong
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GR-12. Exploring the potential of machine-learning guided screening in magnetic high-throughput studies
M. Hasan[1], S. Pile[2], T. Schrefl[2], H. C. Herper[1]
[1]Physics and Astronomy, Uppsala University, Uppsala, Sweden, [2]University for Continuing Education Krems, Wiener Neustadt, Austria
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SESSION GS: ADVANCES IN MAGNETIC SENSING (POSTER SESSION)
Chair(s): D. Leitao, *Eindhoven University of Technology, Eindhoven, Netherlands*
Friday, April 17, 2026
09:00 AM-12:00 PM
Exchange Hall

GS-01. From magnetic incremental permeability to magnetic rotational permeability in non-destructive testing and evaluation
Y. Tene Deffo[2, 3], T. Uchimoto[2], B. Ducharne[1, 2]
[1]Institut National des Sciences Appliquees de Lyon, Villeurbanne, France, [2]Tohoku University, Sendai, Miyagi, Japan, [3]University of Buea, Buea, Cameroon
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GS-02. Focused electron beam induced deposition and characterization of 3D racetrack memory systems
T. Almeida[1], K. Edgar[1], S. Okasha[1], A. Silinga[1], A. Kovács[2], R. E. Dunin-Borkowski[2], S. McVitie[1]
[1]School of Physics and Astronomy, University of Glasgow, Glasgow, United Kingdom, [2]Ernst Ruska-Centre, Forschungszentrum Jülich, Jülich, Germany
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GS-04. Harmonic Analysis of Magnetic Measurement Signals for Case Depth Evaluation
W. Cheng[1, 2], B. Ducharne[3, 4], Y. Kamiyama[1]
[1]Japan Power Engineering and Inspection Corporation, Yokohama, Japan, [2]Tohoku University, Sendai, Japan, [3]ELyTMaX IRL3757, CNRS, Univ. Lyon, INSA Lyon, Centrale Lyon, Universite Claude Bernard Lyon 1, Tohoku University, Sendai, Japan, [4]Univ Lyon, INSA-Lyon, Lyon, France
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GS-05. Combinatorial Optimization of Magnetic Films Toward Rare-Earth Free and Rare-Earth Lean Applications
S. Fields, C. White, K. Knipling, O. M. van 't Erve, S. P. Bennett
U.S. Naval Research Laboratory, Washington, District of Columbia, United States
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GS-06. Polarised Neutron Reflectivity for Structural and Magnetic Depth Profiling of Magnetic Thin Films with the POLREF Reflectometer
C. Kinane, A. Caruana, S. Langridge
ISIS, Reflectivity, Rutherford Appleton Lab, Abingdon, Oxfordshire, United Kingdom
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GS-07. Recent Developments on the Beamline for Advanced Dichroism Experiments (BLADE)
K. Dhaliwal, P. Bencok, R. Fan, P. Steadman
Diamond Light Source Ltd, Didcot, Oxfordshire, United Kingdom
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GS-08. Combination of Magnetic Force Microscopy in a Variable Magnetic Field with Micro Raman Spectroscopy
A. Belyaev, A. Yagovkin, M. Temiriazeva, A. Temiriazev, J. L. Rangel
Horiba France SAS, Lille, France
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GS-09. Reference Magnetization Measurements for Metrological Characterization of Magnetic Nanoparticles
S. Arsalani, U. Steinhoff, F. Wiekhorst
Physikalisch-Technische Bundesanstalt, Berlin, Germany
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GS-10. Topological transitions and protection in Fe_3GeTe_2 van der Waals ferromagnetic thin flake
S. Chowdhury
Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany
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GS-11. Towards Topography-Robust High Sensitivity Quantitative Magnetic Force Microscopy in Vacuum
C. Habenschaden, S. Sievers, H. W. Schumacher
Physikalisch-Technische Bundesanstalt, Braunschweig, Germany
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GS-12. Quantitative laser-free Magnetic Force Microscopy using a vortex calibration sample
L. Breth[1], S. Nandan[2], E. Fantner[2], H. Brueckl[1]
[1]Department for Integrated Sensor Systems, University for Continuing Education Krems, Wr. Neustadt, Austria, [2]c-sense Nanotechnology GmbH, Wr. Neustadt, Austria
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GS-13. Developing a new instrument for coherent soft x-ray imaging of magnetic materials at Diamond Light Source
D. M. Burn, L. Turnbull, A. Walters
Physics, Diamond Light Source, Harwell, Oxfordshire, United Kingdom
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GS-15. Methods for Improving the Quality of MFM Images
A. Temiriazev, M. Temiriazeva
Horiba France SAS, Lille, France
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GS-16. Detecting Chemical Order on the Local Scale in Ferromagnetic, $L1_0$ Compounds using EBSD Band Profiles
T. Woodcock, A. Payattuvalappil
IFW Dresden, Dresden, Germany
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SESSION GT: MAGNETOELECTRIC MATERIALS AND PHENOMENA (POSTER SESSION)
Chair(s): H. Kuwahara, *Sophia University, Tokyo, Japan*
Friday, April 17, 2026
09:00 AM-12:00 PM
Exchange Hall

GT-01. Magnetic Properties Quantification of Nanocomposite YIG with High Concentrations of Zn Doping
R. Mohammed[1], Y. Shepelytskyi[1, 2], H. Chumak[3], M. Popov[3], V. Batarchuk[1, 2], A. Reznik[1], M. S. Albert[1, 2]
[1]Lakehead University, Thunder Bay, Ontario, Canada, [2]Thunder Bay Regional Health Research Institute, Thunder Bay, Ontario, Canada, [3]Taras Shevchenko National University of Kyiv, Kyiv, Ukraine
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GT-02. Experimental and DFT Investigation of Ni-doped LaCoO3 Nanoparticles: Structure, Morphology, magnetic, and Electronic Properties
S. Khaireddine
Physics, Mohammed V University, Rabat, Morocco
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GT-05. Flexible Magnetoelectric Laminates for Sensing and Cellular Magnetoelectric Stimulation
H. Chiriac, A. Railean, C. Hlenschi, S. Corodeanu, A. Minuti, G. Ababei, M. Tibu, N. Lupu
National Institute of Research and Development for Technical Physics, Iasi, Romania
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GT-06. Magneto-ionic tuning of ferrimagnetic $Tb_{35}Co_{65}$ through deuterium loading with in-situ polarized neutron reflectometry
R. G. Hunt[1], G. K. Pálsson[1], M. P. Grassi[1], V. Kabanova[1, 2], A. Vorobiev[1, 2], G. Andersson[1]
[1]Material Physics, Uppsala University, Uppsala, Sweden, [2]Institut Laue-Langevin, Grenoble, France
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GT-08. Crystal and Magnetic Structures of Tetragonal Spinel $Fe_{2.99}V_{3.01}O_8$ Studied by Neutron and X-ray Diffraction
M. Liao[1], C. Lu[2], Y. Lin[2], C. Wang[3], W. Liu[4], C. Huang[5], Y. Lee[2], C. Yang[1]
[1]Department of Physics, National Central University, Taiwan, Zhongli, Taoyuan, Taiwan, [2]Department of Physics, Chung Yuan Christian University, Chung-Li, Taoyuan, Taiwan, [3]Neutron Group, National Synchrotron Radiation Research Center, Hsinchu, Taiwan, Taiwan, [4]Department of Chemical Engineering, Chung Yuan Christian University, Chung-Li, Taoyuan, Taiwan, [5]Department of Physics, National Cheng Kung University, Tainan, Taiwan
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GT-09. AlN and FeGaB Thin Film-based Magnetoelectric Resonators with Different Magnetic Sensitivity units
M. Du[1], Y. Wang[1, 2, 3], J. Li[1], X. Xu[1], T. Wu[1, 2, 3]
[1]Shanghaitech university, Shanghai, Shanghai, China, [2]Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, Shanghai, China, [3]University of Chinese Academy of Sciences, Beijing, China
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GT-11. Cryogenic magnetization dynamics in tensile-strained YIG thin film with tunable magnetic anisotropy
D. Kim
NISE, Max Planck Institute for Microstructure Physics, Halle (Saale), Germany
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WOMEN IN MAGNETISM WORKSHOP
Friday, April 17, 2026
12:15 PM-01:15 PM
Exchange 9

MAGNETIC IMMUNITY IN MRAM: FROM PERCEIVED RISK TO PRACTICAL SOLUTIONS
Chair(s): Jean-Pierre Nozières, *CNRS* and Daniel Worledge, *IBM*
Friday, April 17, 2026
01:30 PM-04:30 PM
Exchange 6&7

01:30 PM-02:00 PM
MRAM Magnetic Allergies
Ben Schmidt, *NxP*

02:00 PM-02:30 PM
Standby Magnetic Immunity: Evaluation and Mitigation Strategies
Abhishek Talapatra, *Global Foundries*

02:30 PM-03:00 PM
Enhanced Magnetic Immunity in STT-MRAM via Wafer-Level Magnetic Shielding
Jaehoon Kim, *Samsung*

03:00 PM-03:30 PM
MRAM Magnetic Immunity Under Control
Siamak Salimy, *Hprobe*

03:30 PM-04:00 PM
Inoculating Innovation: How Standards Resolve the MRAM Magnetic Immunity Challenge
Dan Gopman, *NIST*

04:00 PM-04:30 PM
Current-Induced Switching of All-Antiferromagnetic Tunnel Junctions
Pedram Khalili, *Northwestern University*

SESSION HA: MAGNETIZATION DYNAMICS FROM SPIN-PHONON COUPLING TO ULTRAFAST
Chair(s): M. Strungaru, *Computer Science, University of Manchester, Manchester, United Kingdom*
Friday, April 17, 2026
02:00 PM-05:30 PM
Exchange Auditorium

02:00 PM-02:30 PM
HA-01. Hybrid magnon-phonon platforms for GHz information processing
A. Hamadeh
Centre de Nanosciences et de Nanotechnologies (C2N),Université Paris-Saclay, CNRS, Palaiseau, 91120, France
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02:30 PM-02:45 PM
HA-02. Nonlinear magnon excitations by magnetoelastic coupling in a surface acoustic wave resonator
Y. Hwang[1], L. Liao[2], J. Puebla[1, 3], M. Brühlmann[4], C. Gonzalez[4], K. Kondou[1], N. Ogawa[1, 5], S. Maekawa[1, 6], Y. Otani[2, 1]
[1]CEMS, RIKEN, Wako, Saitama, Japan, [2]ISSP, The University of Tokyo, Kashiwa, Japan, [3]Department of Electronic Science and Engineering, Kyoto University, Kyoto, Japan, [4]Institute of Theoretical Physics and Vienna Center for Quantum Science and Technology, TU Vienna, Vienna, New South Wales, Australia, [5]Tokyo College, The University of Tokyo, Tokyo, Japan, [6]Advanced Science Research Center, Japan Atomic Energy Agency, Tokai, Japan
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02:45 PM-03:00 PM
HA-03. Role of Geometric Confinement in Stress-Mediated Spin Wave Dynamics of Magnetoelectric Heterostructures
A. Pandey[1, 2], S. Roy[1, 2]
[1]Micropower Devices/Systems and Nanomagnetics Group, Tyndall National Institute, Cork, Ireland, [2]School of Physics, University College Cork, Cork, Ireland
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03:00 PM-03:30 PM
HA-04. Exciting magnetization dynamics with surface acoustic waves: from spin-wave modes in synthetic antiferromagnets to vortex gyration
R. Lopes Seeger[1], F. Millo[1], G. Soares[2], L. Thevenard[3], C. Gourdon[3], J. Kim[1], C. Chappert[1], A. Solignac[2], G. de Loubens[2], T. Devolder[1]
[1]Centre de Nanosciences et de Nanotechnologies (C2N), Palaiseau, France, [2]CEA-SPEC, Gif-sur-Yvette, France, [3]INSP, Paris, France
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03:30 PM-04:00 PM
Break

04:00 PM-04:30 PM
HA-05. Photon-helicity-induced torques in metallic ferromagnets
S. Iihama
Department of Materials Physics, Nagoya University, Nagoya, Japan
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04:30 PM-04:45 PM
HA-06. Optically stimulated spin dynamics in a multi-domain CoO/Pt bilayer
C. R. Sait[1], M. Dabrowski[1], T. Wu[2], J. Xu[2], P. S. Keatley[1], O. Gomonay[3], Y. Wu[2], R. Hicken[1]
[1]Physics and Astronomy, University of Exeter, Exeter, United Kingdom, [2]Department of Physics and State Key Laboratory of Surface Physics, Fudan University, Shanghai, China, [3]Institute of Physics, Johannes Gutenberg-University Mainz, Mainz, Germany
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04:45 PM-05:00 PM
HA-07. Intrinsic non-Markovianity in magnetization dynamics - Quantification via entropy production
F. Hartmann[1], V. Unikandanunni[2], F. Tietjen[3], R. Geilhufe[3], M. Bargheer[1], E. Fullerton[4], S. Bonetti[5], J. Anders[1]
[1]University of Potsdam, Potsdam, Germany, [2]Institute of Applied Physics, University of Bern, Bern, Switzerland, [3]Department of Physics, Chalmers University of Technology, Göteborg, Sweden, [4]Center for Memory and Recording Research, University of California, San Diego, San Diego, California, United States, [5]Department of Molecular Sciences and Nanosystems, Ca' Foscari University of Venice, Venice, Italy
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05:00 PM-05:15 PM
HA-08. Ultrafast Laser Driven Ground State in Artificial Spin Ices
S. Sahoo[1, 2], D. Pecchio[1, 2], V. Scagnoli[1, 2], L. Heyderman[1, 2]
[1]PSI Center for Neutron and Muon Sciences, Paul Scherrer Institut, Villigen PSI, Switzerland, [2]Department of Materials, ETH Zurich, Zurich, Switzerland
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05:15 PM-05:30 PM
HA-09. Light-driven modulation of proximity-enhanced spin precession frequency in the Co/C_{60} interface
M. Benini[1], U. Parlak[2], J. Strohsack[5], S. Bork[1], R. Leven[1], F. Mertens[1], E. Zhukov[1], R. K. Rakshit[3], I. Bergenti[3], A. Droghetti[4], A. Shumilin[6], T. Mertelj[5], V. A. Dediu[3], M. Cinchetti[1]
[1]Physics, TU Dortmund, Dortmund, NRW, Germany, [2]Physics, University of Konstanz, Konstanz, Germany, [3]ISMN-CNR, Bologna, Italy, [4]Department of Molecular Sciences and Nanosystems, Ca' Foscari University, Venezia Mestre, Italy, [5]Jozef Stefan Institute, Ljubljana, Slovenia, [6]Instituto de Ciencia Molecular, Universitat de Valencia, Valencia, Spain
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SESSION HB: MAGNETISM FOR BIOMEDICAL APPLICATIONS
Co-Chair(s): R. L. Hadimani, *Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, Virginia, United States* and K. Wu, *Texas Tech University, Lubbock, Texas, United States*
Friday, April 17, 2026
02:00 PM-05:30 PM
Charter 1

02:00 PM-02:30 PM
HB-01. Microstructured Magnetoelastic Membrane used as Magnetic Bioactuators to trigger insuline release from pancreatic cells
H. Joisten[1, 2], S. Ponomareva[1], Y. Hou[3], M. Carrière[3], B. Dieny[1]
[1]Univ. Grenoble Alpes, CEA, CNRS, SPINTEC, Grenoble, France, [2]Univ. Grenoble Alpes, CEA, LETI, Grenoble, France, [3]Univ. Grenoble Alpes, CEA, CNRS, IRIG-SyMMES, Grenoble, France
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02:30 PM-02:45 PM
HB-03. Giant Magnetoresistive Sensing Platform for Type-1 Diabetes Antibody Screening
F. Franceschini[1, 2], C. Choi[2], I. Taurino[1, 3], S. X. Wang[2, 4]
[1]Physics and Astronomy, KU Leuven, Leuven, Belgium, [2]Department of Materials Science and Engineering, Stanford University, Stanford, California, United States, [3]Department of Electrical Engineering, KU Leuven, Leuven, Belgium, [4]Department of Electrical Engineering, Stanford University, Stanford, California, United States
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02:45 PM-03:00 PM
HB-04. Simple and Highly Sensitive Detection of GDF15 in Human Urine Using Magnetic Nanoparticle Aggregation
S. Yabukami, T. Murayama, L. Tonthat, T. Sato, T. Abe
Tohoku University, Sendai, Miyagi, Japan
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03:00 PM-03:15 PM
HB-05. Area-Efficient Vertical Flux Concentrators for Perpendicular MTJs
Z. Ali[1], H. Naganuma[2, 3], P. Wallace[4], S. X. Wang[1], A. Poon[1]
[1]Electrical Engineering, Stanford University, Campbell, California, United States, [2]Nagoya University, Furo-cho, Japan, [3]Tohoku University, Sendai, Japan, [4]nano@stanford, Stanford University, Stanford, California, United States
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03:15 PM-03:30 PM
HB-06. Magneto-Optical Multifunctional Microscopy for Biomedical Applications
X. Wang, T. Nahar, P. Manganas, X. Feng, J. Everett, M. Gates, N. Telling
Keele University, Stoke-on-Trent, United Kingdom
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03:30 PM-04:00 PM
Break

04:00 PM-04:15 PM
HB-07. Development of Trans-spinal Magnetic Stimulator Coil Using Inverse Problem Approach for Effective Stimulation
S. Honda[1], A. Iino[2], J. Tabata[3], H. M. Kim[2], M. Sekino[2]
[1]Electrical and Electronic Engineering, The University of Tokyo, Tokyo, Japan, [2]Bioengineering, The University of Tokyo, Tokyo, Japan, [3]Electrical Engineering and Information Systems, The University of Tokyo, Tokyo, Japan
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04:15 PM-04:30 PM
HB-08. Orientation-Dependent Effects of Weak Static Magnetic Fields on Proliferation of HT22 cells
M. Pirbhai[1], A. Estevez[2]
[1]Physics, St. Lawrence University, Canton, New York, United States, [2]Biology, St. Lawrence University, Canton, New York, United States
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04:30 PM-04:45 PM
HB-09. Liquid Magnets in Aqueous and Low-polar Media
J. Tručl[1, 2], P. Hribar Boštjančič[3], Z. Gregorin[3], P. Medle Rupnik[3, 4], A. Mertelj[3], D. Lisjak[1]
[1]Department for Materials Synthesis, Jozef Stefan Institute, Ljubljana, Slovenia, [2]Jozef Stefan International Postgraduate School, Ljubljana, Slovenia, [3]Department of Complex Matter, Jozef Stefan Institute, Ljubljana, Slovenia, [4]Faculty of Mathematics and Physics, University of Ljubljana, Ljubljana, Slovenia
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04:45 PM-05:00 PM
HB-10. High-throughput isolation of rare cells in liquid biopsies using immunomagnetic sorting
E. Dupont[1, 2], E. Laffont[1, 2], L. Artinyan[1, 2], E. Laurenceau[1], C. Brunin[3], M. Piecyk[3], L. Payen[3], A. Deman[1], D. Le Roy[2]
[1]Institut des Nanotechnologies de Lyon, Villeurbanne, France, Lyon, France, [2]Institut Lumière Matière, Villeurbanne, France, Lyon, France, [3]Laboratoire de Biochimie et Biologie Moléculaire, CICLY UR3738, Groupe Hospitalier Sud, HCL, Pierre Bénite, France, Lyon, France
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05:00 PM-05:15 PM
HB-11. Ferrimagnetic Tb/Co Based Substrates for Magnetophoresis
M. Urbaniak, D. Kiphart, M. Matczak, G. Chaves O'Flynn, F. Stobiecki, P. Kuswik
Thin film and nanostructures, Institute of Molecular Physics of the Polish Academy of Sciences, Poznan, Poland
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SESSION HC: FIELD-FREE MAGNETIZATION SWITCHING

Co-Chair(s): Y. Zhou, *School of Physics, Huazhong University of Science and Technology, Wuhan, China* and V. Nguyen, *Interuniversitair Micro-Elektronica Centrum, Leuven, Belgium*
Friday, April 17, 2026
02:00 PM-05:30 PM
Charter 2

02:00 PM-02:30 PM
HC-01. Recent progress in spin-orbit torque magnetic random-access memory on 300 mm wafer integration platform
V. Nguyen, V. Kateel, M. Gama Monteiro, G. Talmelli, B. Coester, J. Chatterjee, A. Palomino Lopez, J. Larranaga, S. Van Beek, R. Carpenter, S. Rao, G. Kar
Interuniversitair Micro-Elektronica Centrum, Leuven, Belgium
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02:30 PM-02:45 PM
HC-02. Large spin-orbit torque in ferromagnetic films with broken symmetry
S. Wang, S. Jiang
School of Microelectronics, South China University of Technology, Guangzhou, Guangdong Province, China
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02:45 PM-03:00 PM
HC-03. Synergetic orbital and self-torque induced field-free switching of van der Waals magnet
H. Bangar, R. Ngaloy, L. Pandey, K. Ali, B. Zhao, S. P. Dash
Department of Microelectronic and Nanotechnology, Chalmers University of Technology, Göteborg, Sweden
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HC-04. Energy-efficient Field-free Switching by Orbital Torque and Spin-Reorientation
B. Jamshed[2], S. Das[2], M. Kläui[1], S. Piramanayagam[2]
[1]Institute of Physics, Johannes Gutenberg University Mainz, Mainz, Germany, [2]School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore
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03:15 PM-03:30 PM
HC-05. The interfacial effect on spin-orbital torque in CoPt single layers
J. Li[2], H. Bai[2], T. Zhu[1]
[1]Institute of Physics, Chinese Academy of Sciences, Beijing, None Selected, China, [2]Institute of High Energy Physics, Beijing, China
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Break

04:00 PM-04:15 PM
HC-06. Current-Driven Switching in FeMn/CoFeB Perpendicular Systems
R. I. Salinas, C. Lai
Materials Science and Engineering, National Tsing Hua University, Hsinchu, East District, Taiwan
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04:15 PM-04:30 PM
HC-07. Uniaxial Magnetic Anisotropy and Type-X/Y Spin−Orbit Torque Switching in Obliquely Deposited (Ta,W)/CoFeB/Pt Trilayers
A. Khan, M. Meinert
Department of Electrical Engineering and Information Technology, Institute for Microwave Technology and Photonics, Darmstadt, Hessen, Germany
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HC-08. Dimensionality Enhanced Out-of-Plane Spin Currents in $NbIrTe_4$ for Efficient Field-Free Switching of Perpendicular Magnetization
W. Yang, X. Wang, J. Liu
Beihang University, Beijing, China
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HC-11. Modulation of Dzyaloshinskii-Moriya interaction by Cu interlayer
G. Orero[1, 2, 3], F. van Riel[4], S. Velez[1, 2, 3]
[1]Universidad Autónoma de Madrid, Madrid, Comunidad de Madrid, Spain, [2]Física de la Materia Condensada, Universidad Autónoma de Madrid, Madrid, Madrid, Spain, [3]Condensed Matter Physics Center (IFIMAC), Madrid, Madrid, Spain, [4]Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands
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SESSION HD: ISING, PROBABILISTIC, AND UNCONVENTIONAL COMPUTING
Chair(s): V. H. González, *Applied Mathematics and Theoretical Physics, University of Cambridge, Cambridge , United Kingdom*
Friday, April 17, 2026
02:00 PM-05:30 PM
Charter 3

02:00 PM-02:30 PM
HD-02. True random bitstream generation and Ising machines based on phase-locked spin-torque nano-oscillators
A. Hakam[1], C. Chopin[1], L. Martins[1], E. Aubouin[1, 3], S. de Wergifosse[2], C. De Barbarin[1], N. Mollard[1], E. Yildiz[1], L. Hutin[3], F. Badets[3], L. C. Benetti[4], A. Jenkins[4], R. Ferreira[4], L. D. Buda-Prejbeanu[1], F. Abreu Araujo[2], P. Talatchian[1], U. Ebels[1]
[1]Univ. Grenoble Alpes, CEA, CNRS, SPINTEC, Grenoble, France, [2]Université Catholique de Louvain, Institute of Condensed Matter and Nanosciences, Louvain-la-Neuve, Belgium, [3]Univ. Grenoble Alpes, CEA, LETI, Grenoble, France, [4]International Iberian Nanotechnology Laboratory, Braga, Portugal
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HD-03. Spintronic devices for AI Hardware
J. Atulasimha
Virginia Commonwealth University, Richmond, Virginia, United States
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HD-04. Adaptive Ising Machine Based on Bi-Harmonic Driven Oscillators
R. Tomasello[1], E. Raimondo[2], A. Grimaldi[1], V. Tyberkevych[3], A. Giordano[4], M. Carpentieri[1], A. N. Slavin[3], M. Chiappini[2], G. Finocchio[4]
[1]Politecnico di Bari, Bari, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Rome, Rome, Italy, [3]Oakland University, Rochester, Michigan, United States, [4]University of Messina, Messina, Italy
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HD-05. Skyrmionic Abacus for Neuromorphic Edge Computations
W. Griggs, R. Chen, C. Li, Y. Li, D. Burrow, O. J. Barker, S. Furber, V. Pavlidis, C. Moutafis
University of Manchester, Manchester, United Kingdom
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HD-06. Reconfigurable Spintronic Diodes for Neuromorphic Computing
A. Begué[1], H. Singh[1, 2], Y. Wei[1], L. Herrera Diez[3], A. Durnez[3], B. Dlubak[1], J. Grollier[1], D. Sanz Hernandez[1]
[1]Laboratoire Albert Fert, CNRS-Thales, Palaiseau, France, [2]VTT Technical Research Center of Finland, Helsinki, Finland, [3]Centre de Nanosciences et de Nanotechnologies, Palaiseau, France
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HD-07. Trainable structural plasticity with radio-frequency spintronic neural networks
T. Rageau, J. Grollier, D. Sanz Hernandez, F. Mizrahi
Laboratoire Albert Fert, Palaiseau, France
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04:30 PM-04:45 PM
HD-08. Magnetic Tunnel Junctions for Reservoir Computing Applications
A. Grimaldi[1], D. Rodrigues[1], A. Meo[1], F. Garescì[2], G. Finocchio[3]
[1]Department of Electrical and Information Engineering, Politecnico di Bari, Bari, BA, Italy, [2]Department of Engineering, University of Messina, Messina, ME, Italy, [3]Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, University of Messina, Messina, ME, Italy
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04:45 PM-05:00 PM
HD-09. Physical Implementation of Spintronic Neural Networks utilising Superparamagnetic Tunnel Junctions
J. Peters, P. Talatchian
SPINTEC, Grenoble, Isère, France
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SESSION HE: MANIPULATION OF MAGNETOTRANSPORT IN HYBRID STRUCTURES

Chair(s): M. Haidar, *Physics, American University of Beirut, Beirut, Lebanon*
Friday, April 17, 2026
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Charter 4

02:00 PM-02:30 PM
HE-01. Geometric Effects on Strain-Mediated Magnetoelectric Coupling in Scaled Devices
F. Meng, E. Van Meirvenne, F. Luciano, X. Wu, F. Ciubotaru, C. Adelmann
Computing and Memory Devices, Imec, Heverlee, Belgium
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02:30 PM-02:45 PM
HE-02. Thickness-Dependent Oscillation of High-Order Anisotropic Magnetoresistance in Epitaxial Fe(001) Films
H. Chen[1], Y. Chen[2, 3], Z. Yuan[3], Y. Wu[1]
[1]Physics Department, Fudan University, Shanghai, China, [2]The Center for Advanced Quantum Studies and School of Physics and Astronomy, Beijing Normal University, Beijing, China, [3]Interdisciplinary Center for Theoretical Physics and Information Science, Fudan University, Shanghai, China
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02:45 PM-03:00 PM
HE-03. Towards Switchable Magnetic Tunnel Junction based on Polyoxometalates Monolayer
E. Aoustin[1], J. Lion[1], F. Godel[1], S. Colin[1], E. Carré[1], A. Vecchiola[1], A. Hammani[2], F. Volatron[2], A. Proust[2], M. Martin[1], F. Petroff[1], P. Seneor[1], R. Mattana[1]
[1]Laboratoire Albert Fert, Palaiseau, France, [2]IPCM, Sorbonne Universités, Paris, France
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HE-04. Magnetic Proximity Effect and Giant Odd-Parity Magnetoresistance in an α-Sn/(In,Fe)Sb Heterostructure
L. Anh[1, 2], S. Fukuoka[1], T. Hotta[1], M. Ishida[1], T. Chiba[3, 4], Y. Kota[5], M. Tanaka[1, 2]
[1]Department of Electrical Engineering and Information Systems, The University of Tokyo, Tokyo, Japan, [2]Center for Spintronics Research Network, The University of Tokyo, Tokyo, Japan, [3]Department of Information Science and Technology, Yamagata University, Yamagata, Japan, [4]Department of Applied Physics, Tohoku University, Sendai, Miyagi, Japan, [5]National Institute of Technology, Fukushima College, Fukushima, Japan
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HE-05. Voltage Effect of CoFeB/MgO/CoFeB Tunnel Junction Using a Decelerated Scanning Electron Beam
H. Koizumi[1, 2, 3], K. B. Fathoni[2], Y. Yamamoto[4], Z. Wen[2], H. Sukegawa[2], S. Mitani[2], A. Hirohata[1, 5]
[1]CSIS, Tohoku University, Sendai, Miyagi, Japan, [2]CMSM, National Institute for Materials Science (NIMS), Tsukuba, Ibaraki, Japan, [3]Department of Applied Physics, University of Tsukuba, Tsukuba, Ibaraki, Japan, [4]EP Business Unit, JEOL Ltd., Akishama, Tokyo, Japan, [5]Chemical Physics of Solids, Max-Planck-Institute, Dresden, Germany
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HE-06. Tunnel-Magnetoresistance Sensors Using Amorphous Co–Zr–Ta with High Annealing Tolerance
T. Nagareda[1], M. Oogane[1, 2], T. Nakano[1, 3]
[1]Applied Physics, Tohoku University, Sendai, Miyagi, Japan, [2]Applied Physics, CSIS, Tohoku Univ, Sendai, Miyagi, Japan, [3]Applied Physics, Tohoku Univ Green X-Tech, Sendai, Miyagi, Japan
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HE-07. Magnetic-Proximity-Modulated Spin–Charge Conversion in Ferromagnetic Metal Fe / Topological Dirac Semimetal α-Sn Heterostructures
M. Ishida[1], S. Fukuoka[1], T. Chiba[2, 6], Y. Kota[3], L. Anh[1, 4], M. Tanaka[1, 4, 5]
[1]Department of Electrical Engineering and Information Systems, The University of Tokyo, Tokyo, Japan, [2]Department of Information Science and Technology, Yamagata University, Yamagata, Japan, [3]National Institute of Technology, Fukushima College, Fukushima, Japan, [4]Center for Spintronics Research Network (CSRN), The University of Tokyo, Tokyo, Japan, [5]Institute for Nano Quantum Information Electronics (NanoQuine), Tokyo, Japan, [6]Department of Applied Physics, Tohoku University, Miyagi, Japan
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HE-08. Spin-Pumping-Induced Spin Accumulation in Microfabricated Pt/CoFe/n-GaAs Heterostructure
V. K. Kushwaha[1], M. Ogawa[3], T. Uemura[3], T. Seki[1, 2]
[1]Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan, [2]Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Miyagi, Japan, [3]Graduate School of Information Science and Technology, Hokkaido University, Sapporo, Hokkaido, Japan
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HE-09. Bias-Induced Electrical Spin Injection and Detection in a Modulation-Doped AlGaAs/GaAs Two-Dimensional Electron Gas
M. Ogawa, M. Yamanouchi, T. Uemura
Grad. School of Information Science and Technology, Hokkaido University, Sapporo, Hokkaido, Japan
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HE-10. Negative orbital-to-charge current conversion by the inverse Rashba-Edelstein effect in the ferroelectric topological crystalline insulator SnTe
M. Gamino[1], E. Souza[2], J. L. Costa[2], F. Bohn[1], M. A. Correa[1], S. M. Rezende[2]
[1]Departament of Physics , Federal University of Rio Grande do Norte, Natal, RN, Brazil, [2]Departament of Physics, Federal University of Pernambuco, Recife, PE, Brazil
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HE-11. Spin-charge conversion in large-area monolayer TMD/NiFe heterostructures
H. De Libero, E. Chalmers, N. Natera Cordero, A. Strudwick, I. Vera Marun, T. Thomson
University of Manchester, Manchester, United Kingdom
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SESSION HF: MAGNETORESISTANCE IN 2D MATERIALS AND TEXTURES
Chair(s): K. Yamada, *Chemistry and Biomolecular, Gifu University, Gifu, Japan*
Friday, April 17, 2026
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Exchange 9

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HF-01. Controlling Spin Dynamics in Two-Dimensional Material–Magentic Thin Film Heterostructures
M. Kamalakar
Physics and Astronomy, Uppsala University, Uppsala, Sweden
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HF-02. Highly Tunable Interfacial Magnetotransport in a 2D Antiferromagnetic Tunnel Junction
X. Ren[3], R. Liu[2], Y. Zhang[3], Y. LIU[2], X. Wu[2], K. Qian[2], K. Watanabe[1], T. Taniguchi[4], Q. Shao[2, 3]
[1]Research Center for Electronic and Optical Material, National Institute for Materials Science (NIMS), Tsukuba, Ibaraki Prefecture, Japan, [2]Department of Electronic and Computer Engineering, The Hong Kong University of Science and Technology, Hong Kong SAR, Hong Kong, [3]Department of Physics, The Hong Kong University of Science and Technology, Hong Kong SAR, Hong Kong, [4]Research Center for Materials Nanoarchitectonics, National Institute for Materials Science, Namiki, Tsukuba, Japan
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HF-03. Surface-States-Driven Tunnel Magnetoresistance in hcp-Co/h-BN/hcp-Co Magnetic Tunnel Junctions
I. Kurniawan[1], K. Masuda[1], Y. Miura[1, 2]
[1]Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS), Tsukuba, Ibaraki, Japan, [2]Kyoto Institute of Technology, Kyoto, Japan
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HF-04. 2D Ferromagnet Engineering by Pulse Laser Deposition for 2D-Magnetic Tunnel Junctions
J. Daniel
Laboratory Albert Fert, CNRS, University of Paris-Sud, Orsay, France
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HF-05. Threefold Angular Hall Response from Direction-Selected Charge Compensation in WTe_2.
A. Manna, S. Mukhopadhyay
Physics, Indian Institute of Technology Kanpur, Khirpai, West Bengal, India
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HF-07. Enhancement of spin Hall angle by an order of magnitude via Cu intercalation in MoS_2/CoFeB heterostructures
S. Bedanta
School of Physical Sciences, NISER, Bhubaneswar, Jatani, Odissa, India
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HF-08. Spin Filtering and Momentum-Resolved Tunneling Modulation in van der Waals Multiferroic Tunnel Junctions
Y. Xu[2, 1], W. Yang[2, 1], S. Li[2, 1], J. Han[1], X. L. Lin[2, 1], W. Zhao[2, 1]
[1]Fert Beijing Institute, School of Integrated Circuit Science and Engineering, Beihang University, Beijing, China, [2]National Key Laboratory of Spintronics, Hangzhou International Innovation Institute, Beihang University, Hangzhou, China
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HF-09. Temperature Gradient-Driven Motion of Magnetic Domains in a Magnetic Metal Multilayer by Entropic Forces
L. Huang[1, 2], J. Barker[1], L. Kailas[1], S. Hait[1], S. Connell[1], G. Burnell[1], C. Marrows[1]
[1]School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom, [2]School of Material Science, University of Sheffield, Sheffield, United Kingdom
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HF-10. Thermoelectric fingerprinting of Bloch- and Néel-type skyrmions
C. Barker[1], E. Saugar[2], K. Zeisser[1, 3, 7], R. Puttock[1], P. Klapetek[4, 5], O. Kazakova[1, 6], C. Marrows[3], O. Chubykalo-Fesenko[2], C. Barton[1]
[1]National Physical Laboratory, Teddington, United Kingdom, [2]Institute of Materials Science of Madrid (ICMM-CSIC), Madrid, Spain, [3]School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom, [4]Czech Metrology Institute, Brno, Czechia, [5]Brno University of Technology, Brn, Czechia, [6]University of Manchester, Manchester, United Kingdom, [7]Bragg Centre for Materials Research, University of Leeds, Leeds, United Kingdom
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HF-11. Measuring magnon spin current properties with resonant inelastic X-ray scattering
Y. Gu[2, 11], J. Barker[1, 10], J. Li[2], T. Kikkawa[4], F. Camino[3], K. Kisslinger[3], J. Sinsheimer[2], L. Lienhard[2], J. J. Bauer[5], C. A. Ross[5], D. N. Basov[6], E. Saitoh[7, 8, 9], J. Pelliciari[2], G. E. Bauer[10, 8], V. Bisogni[2]
[1]School of Physics and Astronomy, University of Leeds, Leeds, United Kingdom, [2]National Synchrotron Light Source II, Brookhaven National Laboratory, Upton, New York, United States, [3]Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, New York, United States, [4]Advanced Science Research Cente, Japan Atomic Energy Agency, Tokai, Japan, [5]Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts, United States, [6]Department of Physics, Columbia University, New York, New York, United States, [7]Department of Applied Physics, The University of Tokyo, Tokyo, Japan, [8]WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan, [9]Center for Emergent Matter Science (CEMS), RIKEN, Wako, Japan, [10]Institute for Materials Research, Tohoku University, Sendai, Japan, [11]Beijing Tsinghua Institute for Frontier Interdisciplinary Innovation, Beijing, China
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SESSION HG: MAGNETOELECTRIC MATERIALS AND COMPLEX OXIDES

Chair(s): R. Ranchal, *Fisica de Materiales, Universidad Complutense de Madrid, Madrid, Spain*

Friday, April 17, 2026

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Exchange 10

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HG-01. Real-space observation of spin-orbit entangled 4f electrons in crystalline materials

S. Kitou

Department of Advanced Materials Science, The University of Tokyo, Kashiwa, Chiba, Japan

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HG-02. Impact of electron doping on magnetotransport in half-metallic $Ca_{2-x}La_xMnRuO_6$ double perovskites

L. Ishibe Veiga[1], A. Garcia Silva[2], R. Borges Pontes[2], E. Bittar[3], L. Bufaiçal[2]

[1]Diamond Light Source Ltd, Didcot, United Kingdom, [2]Instituto de Fisica, Universidade Federal de Goias, Goiania, Goias, Brazil, [3]Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil

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HG-03. Anisotropic Magnetism and Magnetoelectric Coupling in Polar Cluster Magnets $Ba_6Ln_2Fe_4O_{15}$ (Ln = La, Pr, Nd)

T. Shirasaki, T. Ishikawa, H. Kuwahara

Science and Technology, Sophia University, Chiyoda, Tokyo, Japan

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HG-04. Effect of Pb Substitution at the Mo site on the Magnetic Properties of the Polar Magnet $Fe_2Mo_3O_8$

T. Ishikawa[1], S. Nakayama[1], T. Shirasaki[1], H. Kuwahara[2]

[1]Sophia University, Tokyo, Japan, [2]Sophia University, Tokyo, Japan

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HG-05. Magnetoelectric $BaTiO_3/CoFe_2O_4$ Freestanding Membranes for Wireless Neurostimulation

M. Mirjolet[1], M. Kim[1], H. Ye[1], E. Zhang[1], A. Lahlahi-Attalhaoui[1, 2], J. B. Carda[2], V. Pustovalov[1], B. Gebauer[1], D. Kim[1], X. Chen[1], B. Nelson[1], S. Pané[1]

[1]Multi Scale Robotics Lab, Zurich, Switzerland, [2]Department of Inorganic and Organic Chemistry, Universitat Jaume I, Castellón de la Plana, Valencia, Spain

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HG-06. Nonlinear optical functionalities in magnetoelectric materials

Y. Okamura

The University of Tokyo, Tokyo, Japan

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HG-07. Reprogrammable Magnonic Logic in a Magnetoelectric Heterostructure

P. Che[1], A. Abdelsamie[1], Á. Papp[2, 3], S. Salama[5], A. Thiaville[4], R. Lebrun[1], S. Fusil[1], V. Garcia[1], A. Vecchiola[1], K. Bouzehouane[1], M. Bibes[1], A. Barthelemy[1], J. Adam[5], V. E. Demidov[6], P. Bortolotti[1], A. Anane[1], I. Boventer[1]
[1]Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, Palaiseau, France, [2]Faculty of Information Technology and Bionics, Pazmany Peter Catholic University, Budapest, Hungary, [3]Jedlik Innovation Kft, Budapest, Hungary, [4]Laboratoire de Physique des Solides, CNRS, Universite Paris-Saclay, Orsay, France, [5]Centre de Nanosciences et de Nanotechnologies, CNRS, Universite Paris-Saclay, Palaiseau, France, [6]Institute of Applied Physics, University of Munster, Munster, Germany
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HG-08. Magnetoelectric Control of GHz Phase Shifting in Multiferroic Composite Thin-Film Heterostructures

M. Du[1], Y. Jin[1], J. Li[1], X. Xu[1], T. Wu[1, 2, 3]
[1]Shanghaitech University, Shanghai, China, [2]Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, Shanghai, China, [3]University of Chinese Academy of Sciences, Beijing, China
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HG-09. Near and Far-Field Behaviour of a DC-Biased Magnetoelectric Antenna

T. Saha[2, 1]
[1]university college Cork, Cork, Cork, Ireland, [2]Micropower Devices and Nanomagnetics Group, Tyndall National Institute, Cork, Cork, Ireland
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HG-10. S-Band FeGa/ZnO Magnetoelectric Resonating Antennas for Ultra-Compact Microwave Devices

M. Shojaei Baghini, M. McKinlay, D. Mukherjee, C. Garcia Nunez, H. Heidari
James Watt School of Engineering, University of Glasgow, Glasgow, Scotland, United Kingdom
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SESSION HH: FERROMAGNETIC RESONANCE AND SPIN WAVES IV

Chair(s): R. Serha, *Physics, University of Vienna, Vienna, Vienna, Austria*
Friday, April 17, 2026
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Exchange 11

02:00 PM-02:30 PM

HH-01. Optical Control of Spin-Waves in Hybrid Magnonic-Plasmonic Structures

N. Kuznetsov[1], H. Qin[2], L. Flajsman[1], S. van Dijken[1]
[1]Department of Applied Physics, Aalto University, Espoo, Finland, [2]Wuhan University, Wuhan, China
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HH-02. Coherent Spin Waves in Curved Ferromagnetic Nanocaps of a 3D-printed Magnonic Crystal

K. Lenz[1], H. Guo[2], M. Golebiewski[3], R. Narkowicz[1], J. Lindner[1], M. Krawczyk[3], D. Grundler[2]
[1]Magnetism Department, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany, [2]School of Engineering, Institute of Materials, Laboratory of Nanoscale Magnetic Materials and Magnonics, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, [3]Institute of Spintronics and Quantum Information, Faculty of Physics and Astronomy, Adam Mickiewicz University,, Poznan, Poland
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HH-03. Switchable Nonreciprocity of Spin Wave Interference Patterns in In-plane/perpendicular-magnetic-anisotropy Waveguide System
K. Omari[3, 4], X. Chen[1], P. Meeson[1], W. Liu[3, 2], M. Bryan[3]
[1]Department of Physics, Royal Holloway University of London, Egham, United Kingdom, [2]Department of Engineering, University of Cambridge, Cambridge, United Kingdom, [3]Department of Electronic Engineering, Royal Holloway University of London, Egham, United Kingdom, [4]Open University, Milton Keynes, United Kingdom
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HH-04. Perpendicular standing spin waves in AuPt/GdFeCo induced by spin-orbit torques
D. Yun[1], B. Ju[2], H. Koo[1], O. Lee[1]
[1]Center for Semiconductor and Technology, Korea Institute of Science and Technology, Seoul, Korea (the Republic of), [2]Department of Electrical Engineering, Korea University, Seoul, Korea (the Republic of)
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HH-05. Self-induced Floquet states via three-wave processes in synthetic antiferromagnets
T. Devolder, J. Kim
C2N, CNRS / Université Paris-Saclay, Palaiseau, France
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Break

04:00 PM-04:15 PM
HH-06. Self-induced Floquet magnons in magnetic vortices
C. Heins[1, 2], L. Körber[3, 1, 2], Z. Xiong[1, 2], J. Kim[4], T. Devolder[4], J. Mentink[3], A. Titova[5], J. Mueller[5], R. Hübner[1], A. Worbs[1], A. Kákay[1], R. Narkowicz[1], G. Hlawacek[1], J. Fassbender[1, 2], K. Schultheiss[1], H. Schultheiss[1]
[1]Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany, [2]Fakultät Physik, TU Dresden, Dresden, Germany, [3]Institute of Molecules and Materials, Radboud University, Nijmegen, Netherlands, [4]Centre de Nanosciences et de Nanotechnologies, Université Paris-Saclay, Paris, France, [5]Globalfoundries, Dresden, Germany
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04:15 PM-04:30 PM
HH-07. Exploring the effects of low sheet resistance materials on ferromagnetic resonance
N. Kuninski, J. N. Scott, W. R. Hendren, T. E. McCormack, R. M. Bowman
Centre for Quantum Materials and Technologies, Queen's University Belfast, Coleraine, Londonderry, United Kingdom
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04:30 PM-04:45 PM
HH-08. On-Chip Integration of Voltage-Controlled Monolithic Magnetic MEMS for Tunable Magnonic Devices
S. Mantion[1], R. Lebrun[1], I. Boventer[1], P. Che[1], J. Ben Youssef[2], P. Bortolotti[1], P. Martins[3], A. Anane[1]
[1]Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, Palaiseau, France, [2]LabSTICC, UMR 6285 CNRS, Université de Bretagne Occidentale, Brest, France, [3]Thales Research and Technology, Palaiseau, France
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04:45 PM-05:00 PM
HH-09. Ultrastrong Magnon-Magnon Coupling in MRAM Layer Stacks
D. Backes
Diamond Light Source, Didcot, United Kingdom
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05:00 PM-05:15 PM
HH-10. Graphene-like Topological Magnonic Crystals
B. Kaman, J. Lim, Y. Liu, A. Hoffmann
University of Illinois Urbana-Champaign, Urbana, Illinois, United States
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05:15 PM-05:30 PM
HH-11. Spin Wave - Domain Wall Interaction in a BiYIG Racetrack
P. S. Keatley[1], M. J. Gross[2], A. Del Giacco[3, 4], N. Sandu[3], C. B. Rodriguez[5], L. Menna[4], R. Bertacco[4], L. Liu[2], R. Hicken[1], C. A. Ross[3]
[1]Department of Physics and Astronomy, University of Exeter, Exeter, United Kingdom, [2]Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, Massachusetts, United States, [3]Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts, United States, [4]Dipartimento di Fisica, Politecnico di Milano, Milano, Italy, [5]Department of Materials, Imperial College London, London, United Kingdom
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SESSION HP: SIMULATION AND DESIGN OPTIMIZATION OF ELECTROMAGNETIC SYSTEMS III (POSTER SESSION)
Chair(s): F. Zhao, *Harbin Institute of Technology (Shenzhen), Shenzhen, China*
Friday, April 17, 2026
02:30 PM-05:30 PM
Exchange Hall

HP-01. Optimal Design Methodology of Dual-Rotor Dual Three-Phase PMSMs for Mitigating Circulating Harmonic Current
D. Park, T. Nam, I. Song, J. Jung, N. Kim, S. Jung
Sungkyunkwan University, Suwon, Korea (the Republic of)
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HP-02. Influence of Rotor Magnetic Field Sinusoidalization Design on Electromagnetic Vibration Characteristics of Surface-Mounted Permanent Magnet Synchronous Machines
R. Zhao, Z. Xu, Y. Xu, J. Zou
Department of Electrical Engineering, Harbin Institute of Technology, Harbin, China
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HP-03. Topology Optimization of Outer Rotor BLDC Motor for Electric Scooter Application
S. Hussain, A. Kallaste, M. Naseer, Z. Ahmad, T. Vaimann
Electrical Power Engineering and Mechatronics, Tallinn University of Technology, Tallinn, Tallinn, Estonia
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HP-04. Comparative Study of Double-Sided Superconducting and Permanent Magnets in Linear Motor: Electromagnetic Characteristics of Magnets and Thermal Performance of Superconductor
K. Matsuda, X. Ma, X. Peng, J. Luo
College of Electrical and Information Engineering, Hunan University, Changsha, Hunan Province, China
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HP-05. Influence of Electrical Steel Variability on Predicted Induction Motor Performance
A. Knight
Electrical and Software Engineering, University of Calgary, Calgary, Alberta, Canada
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HP-07. Modeling and Experimental Study on Demagnetization Prediction of Magnetic Shielding Systems
S. Shang[1, 2], J. Sun[1, 2], Z. Kan[1, 2], X. Li[1, 2], J. Ma[3], J. Qian[3]
[1]Hangzhou Innovat Inst, Zhejiang Prov Key Lab Ultraweak Magnet Field Space, Beihang University, Beijing, China, [2]Sch Instrumentat & Optoelect Engn, Key Lab Ultraweak Magnet Field Measurement Technol, Minist Educ, Beihang University, Beijing, China, [3]Hangzhou Institute of National Extremely-weak Magnetic Field Infrastructure, Hangzhou, China
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HP-08. Closed-Loop Dynamic BH Curve and Iron Loss Modeling for Manufacturing-Induced Degradation in Electrical Steels Using Ring Specimens
A. T. Huynh[1], G. Sengupta[1], M. Ilkhani[1], G. Vakil[1], C. Gerada[1], N. Sundaram[1], D. Chantzis[2], R. Koch[3]
[1]Power Electronics and Machines Centre, Faculty of Engineering, University of Nottingham, Nottingham, United Kingdom, [2]Ford Motor Company Ltd, Essex, United Kingdom, [3]Ford-Werke GmbH, Cologne, Germany
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HP-09. Thermal Design and Comparison of Inner and Outer Rotor High Power Density PM Motors For Industrial Drone Applications
D. Bulut[2], H. Karabay[3], M. Aydin[1]
[1]Mechatronics Engr., Kocaeli University, Umuttepe, Izmit, Kocaeli, Turkey, [2]MDS Motor Ltd., Kocaeli, Turkey, [3]Mechanical Engr., Kocaeli University, Kocaeli, Kocaeli, Turkey
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HP-12. Eddy current losses in pickup coils for high-frequency applications
M. Trbušić, V. Goričan, M. Jesenik
Faculty of Electrical Engineering and Computer Science, University of Maribor, Maribor, Slovenia
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HP-13. A Quasi-3D and Transfer Learning-Based DNN Approach for Accurate and Efficient Analysis of AFPMM
J. Park[1], J. Chin[1], D. Lim[2], D. Kim[1], H. Jung[1]
[1]Korea Automotive Technology Institute, Cheonan-si, Korea (the Republic of), [2]Department of Electrical Engineering, University of Ulsan, Ulsan, Korea (the Republic of)
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HP-14. Warm-Start Level Set Optimization of Synchronous Reluctance Motors via Objective-Based Latent Space Shaping
M. Kishi[1], S. Wakao[1], H. Makino[2], K. Takeuchi[2], M. Matsushita[2]
[1]School of Advanced Science and Engineering,, Waseda university, Tokyo, Tokyo, Japan, [2]Toshiba Corporation, Tokyo, Japan
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SESSION HQ: BIOMEDICAL APPLICATION AND MAGNETOFLUIDS (POSTER SESSION)

Co-Chair(s): P. Tiberto, *INRIM, Torino, Italy* and Y. Ichiyanagi, *Physics, Yokohama National University, Yokohama, Japan*
Friday, April 17, 2026
02:30 PM-05:30 PM
Exchange Hall

HQ-01. Magnetic Hyperthermia at Different Physiological Thresholds: Beyond the Spherical Particles with Uniaxial Anisotropy Approach
N. Cam[1, 2], D. Serantes[1, 2], O. Iglesias[3]
[1]Faculty of Physics-Applied Physics Department, University of Santiago de Compostela, Santiago de Compostela, La Coruña, Spain, [2]Instituto de Materiais iMATUS, Santiago De Compostela, Coruna, Spain, [3]Dept. de Física de la Matèria Condensada, Universitat de Barcelona and IN2UB, Barcelona, Spain
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HQ-02. Application of Analytic Learned Iterative Shrinkage Thresholding Algorithm in Magnetic Particle Imaging with Sensor Array
T. Matsushita, T. Yoshida, T. Sasayama
Kyushu University, Fukuoka, Japan
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HQ-03. Analyzing the vortex flow in aneurysm phantoms by magnetic particle spectroscopy
B. Kluwe[1], L. Truttenbach[1, 2], M. Loeffler[3], U. Heinen[2], S. Dutz[3, 4], F. Wiekhorst[1]
[1]Metrology for Magnetic Nanoparticles, Physikalisch-Technische Bundesanstalt, Berlin, Germany, [2]Faculty of Technology, University of Pforzheim, Pforzheim, Germany, [3]Faculty of Physical Engineering/Computer Sciences, University of Applied Science Zwickau, Zwickau, Germany, [4]Institute of Biomedical Engineering and Informatics, TU Ilmenau, Ilmenau, Germany
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HQ-04. The role of inter-particle interactions in magnetic hyperthermia
S. Gleadhall[1], S. Ruta[1], Y. Fernandez-Afonso[2], A. Paez-Rodriguez[3], T. S. van Zanten[3], R. M. Fratila[3], M. Moros[3], M. d. Morales[2], A. Satoh[4], R. W. Chantrell[5], D. Serantes[6], L. Gutiérrez[3], D. Cleaver[1]
[1]Sheffield Hallam University, Rotherham, United Kingdom, [2]Instituto de Ciencia de Materiales de Madrid, Madrid, Spain, [3]Instituto de Nanociencia y Materiales de Aragón (INMA, CSIC/UNIZAR) and CIBER-BBN, Zaragoza, Spain, [4]Akita Prefectural University, Akita, Japan, [5]University of York, York, United Kingdom, [6]Universidade de Santiago de Compostela, Santiago de Compostela, Spain
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HQ-05. Collaborative Robot Automated Transcranial Magnetic Stimulation Coil Characterization and E-Field Mapping
L. Schorr[1], W. Lohr[2], R. L. Hadimani[1]
[1]Mechanical and Nuclear Engineering, Virginia Commonwealth University, Henrico, Virginia, United States, [2]Biomedical Engineering, Virginia Commonwealth University, Richmond, Virginia, United States
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HQ-06. TMS Phantoms for Investigating the Application of a Wearable Magnetic Shield for Multimodal Neuromodulation Procedures
W. Lohr[1], T. Atalugama[2], B. Embree[2], S. Smith[3], J. Chen[4], H. P. Shah[4], K. Holloway[4], R. L. Hadimani[2, 1]
[1]Biomedical Engineering, Virginia Commonwealth University, Richmond, Virginia, United States, [2]Mechanical Engineering, Virginia Commonwealth University, Richmond, Virginia, United States, [3]Chamical and Life Sciences, Virginia Commonwealth University, Richmond, Virginia, United States, [4]Neurosurgery, Virginia Commonwealth University, Richmond, Virginia, United States
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HQ-07. Development of static and dynamic flow phantoms for harmonization of magnetic particle imaging
M. Löffler[1], B. Kluwe[3], C. Fiedler[1], F. Wiekhorst[3], S. Dutz[1, 2]
[1]Faculty of Physical Engineering/Computer Sciences, University of Applied Science Zwickau, Zwickau, Saxony, Germany, [2]Institute of Biomedical Engineering and Informatics, Technische Universität Ilmenau, Ilmenau, Thuringia, Germany, [3]Metrologie für magnetische Nanopartikel, Physikalisch-Technische Bundesanstalt, Berlin, Brandenburg, Germany
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HQ-08. Ferrofluid droplets for visualizing astrophysical and mechanical phenomena in educational settings
Z. Boekelheide
Physics, Lafayette College, Easton, Pennsylvania, United States
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HQ-10. Development of thin type Dental Magnetic Attachement with High Retention Force
C. Mishima, T. Mitunaga, E. Kikuchi, Y. Honkura
Magnedesign, Aichi-ken, Mihama-cho, Japan
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HQ-11. Development of a Low-Cost Vacuum-Based Ischemic Stroke Model for Studying Neuronal Cell Response
A. Fuller, M. Pirbhai
Physics, St. Lawrence University, Canton, New York, United States
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HQ-12. Energy-Based Physics-Informed Neural Networks for Magneto-Structural Modeling of Self-Assembled Magnetic Soft Millirobots
Y. Lee, J. Lee, S. Cho, D. Lee, S. Jeon
Mechanical and Automotive Engineering, Kongju National University, Cheonan, Chungnam, Korea (the Republic of)
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HQ-13. Magnetic Hyperthermia Based on Hysteresis Heating Alone
K. O'Grady[1, 2], V. Patel[2], I. Jones[2], G. Vallejo Fernandez[1]
[1]University of York, York, United Kingdom, [2]Liquids Research Limited, Bangor, United Kingdom
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HQ-14. Fabrication of Luminescent Self-Regulating Hyperthermia Core-Shell Nanoparticles of Gadolinium Oxide Shell over Gadolinium Silicide Core
S. Smith[2], S. B. Naranjo[2], J. R. Marin[1], A. Kumar[3], R. Kuchi[3], I. Z. Hlova[3], Y. Mudryk[3], R. L. Hadimani[2]
[1]Kansas State University, Manhattan, Kansas, United States, [2]Virginia Commonwealth University, Richmond, Virginia, United States, [3]Iowa State University, Ames, Iowa, United States
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HQ-15. Physics-Residual-Informed Synergy of Deep Learning and Finite Element Method for Electrical Impedance Tomography Field Computation
H. Yu, C. Wang, H. Fang, Z. Liu
The university of Edinburgh, Edinburgh, Midlothian, United Kingdom
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SESSION HR: MAGNETO-CALORIC AND NANOCOMPOSITE MATERIALS (POSTER SESSION)

Chair(s): B. Stadler, *University of Minnesota, Minneapolis, Minnesota, United States*

Friday, April 17, 2026

02:30 PM-05:30 PM

Exchange Hall

HR-02. Magnetocaloric Performance of $DyFe_2Al_{10}$ for Clean Refrigeration Technologies

K. Pal[2], S. Ghosh[1]

[1]Physics, Aditya University, Surampalem, Andhra Pradesh, India, [2]CMP, Saha Institute of Nuclear Physics, A CI of Homi Bhabha National Institute, Kolkata, West Bengal, India

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HR-03. Magnetocaloric and Critical Behavior Studies in $(Nd_{0.6}Y_{0.4})_2CoMnO_6$ Double Perovskite

N. Nayak, S. Ravi

Department of Physics, Indian Institute of Technology Guwahati, Guwahati, Assam, India

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HR-04. Multiscale Modelling of Magnetocaloric Effects in $Fe_2(P,Si)$ Alloys

B. Narangerel[1], M. Adiya[1], K. Jong-Woo[2], D. Odkhuu[1]

[1]Physics, Incheon National University, Yeonsu-gu, Incheon, Korea (the Republic of), [2]Korea Institute of Materials Science, Changwon, Korea (the Republic of)

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HR-06. Reactive spark plasma-assisted processing of powdered RNi_2 magnetocaloric compounds (R= Dy, Tb)

K. Padron Aleman[1, 2], R. U. Pérez Batalla[3], J. L. Sanchez Llamazares[3]

[1]Diffraction, Institut Laue Langevin, Grenoble, France, [2]Physics, University of Oviedo, Oviedo, Spain, [3]Materiales Avanzados, Instituto Potosino de Investigacion Cientifica y Tecnologica A.C. (IPICyT), San Luis Potosi, Mexico

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HR-07. Characterization of the magnetic dynamic behavior in magnetic polymer composite toroids fabricated with 3D Printing

L. E. Guerra[1, 2], M. H. Montiel[2], E. F. Pinzón[2]

[1]Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, Mexico City, Mexico City, Mexico, [2]Instituto de Ciencias Aplicadas y Tecnología, Universidad Nacional Autónoma de México, Mexico City, Mexico

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HR-08. Conformal Nanoscale Al_2O_3 Layer on Fe-Si Soft magnetic Powders Using Rotary Reactor-Based Powder Sputtering for High-Frequency Applications

Y. Kim[1, 2], Y. Choi[1], S. Jang[1], M. Lee[1, 3], S. Oh[1], Y. Park[1]

[1]Korea Institute of Industrial Technology, Incheon, Korea (the Republic of), [2]Department of Materials Science and Chemical Engineering, Hanyang University, Ansan, Korea (the Republic of), [3]Qurochem Co., Ltd., Incheon, Korea (the Republic of)

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SESSION HS: FERROMAGNETIC RESONANCE AND SPIN WAVES V (POSTER SESSION)
Chair(s): S. Saha, *Department of Physics, Ashoka University, Baden, Switzerland*
Friday, April 17, 2026
02:30 PM-05:30 PM
Exchange Hall

HS-02. Modelling spin-wave wave packets excited by an RF pulse for signal demultiplexing
G. Y. Thiancourt[2, 1], T. Devolder[2, 1]
[1]*Université Paris-Sud, Massy , France,* [2]*Unversité Paris-Saclay, Palaiseau, France*
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HS-04. Interfacial Hybrid States and Spinterface Effects in CoFeB/Alq_3 Magnetic Thin Films
S. P. Mahanta[1], A. Sahoo[1], A. Mukhopadhyaya[2], S. Nayak[1], T. Hase[3], M. Ali[2], D. Atkinson[4], S. Bedanta[1, 5]
[1]*NISER Bhubaneswar, Khurda, Odisha, India,* [2]*Institute of Nano Science and Nano Technology, Mohali, Punjab, India,* [3]*University of Warwick, Coventry, United Kingdom,* [4]*Durham University, Durham, United Kingdom,* [5]*CIS NISER, Khurda, India*
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HS-05. Probing Spin-wave Nonreciprocity in Ferromagnet/Superconductor Hybrids
J. Klima[1], E. Pribytova[1, 2], J. Holobrádek[1], O. Wojewoda[1, 3], K. Szulc[1, 4], V. Danchuk[1], J. Kharlan[4, 5], J. W. Klos[4], M. Urbánek[1, 2]
[1]*CEITEC, Brno University of Technology, Brno, Czechia,* [2]*Institute of Physical Engineering, Brno University of Technology, Brno, Czechia,* [3]*DMSE, Massachusetts Institute of Technology, Cambridge, Massachusetts, United States,* [4]*ISQI, Faculty of Physics and Astronomy, Adam Mickiewicz University, Poznan, Poland,* [5]*Institute of Magnetism, NASU and MESU, Kyiv, Ukraine*
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HS-07. Role of optical and magnetic contributions in microfocused Brillouin light scattering spectra.
N. Benaziz[1], T. Devolder[1], S. Andrieu[2], J. Adam[1]
[1]*CNRS, University of Paris-Sud, Gif-sur-Yvette, France,* [2]*Institut Jean Lamour, Nancy, France*
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HS-08. Electrical measurement of spin-wave propagation in Bi:YIG across saturation and stripe domain phases
V. Leroy[1], J. Kim[1], J. Ben Youssef[2], T. Devolder[1], T. Srivastava[1]
[1]*C2N, CNRS, University of Paris-Sud, Palaiseau, France,* [2]*Lab-STICC, CNRS, Université Bretagne Occidentale, Brest, France*
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HS-09. Floquet magnons in C-state dynamics
L. Kokkinos[1, 2], J. Kim[1, 2]
[1]*Université Paris-Saclay, Gif-sur-Yvette, France,* [2]*Centre de Nanosciences et de Nanotechnologies, Palaiseau, France*
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HS-10. 3-port spin wave spectroscopy on a micron-sized rectilinear circulator
K. S. Weber[1, 6, 2], L. Temdie[1, 6, 5], V. M. Castel[1, 6], C. Dubs[4], Y. Henry[3], M. Bailleul[3], V. Vlaminck[1, 6]
[1]*Microwave, IMT Atlantique, Birmenstorf AG, Aargau, Switzerland,* [2]*QZabre Ltd., Zürich, Switzerland,* [3]*IPCMS, Strasbourg, France,* [4]*Innovent e.V., Jena, Germany,* [5]*CEA IRAMIS, Paris / Gif-sur-Yvette, France,* [6]*Lab-STICC, Brest, France*
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HS-11. Band structure engineering to optimize spin-wave propagation in Weyl ferromagnet $Co_2MnGa_{1-x}Ge_x$
H. Song[1, 2], J. Wang[1, 2], J. Chen[2], S. Granville[3], H. Yu[1, 2]
[1]*Beihang University, Beijing, China,* [2]*International Quantum Academy, Shenzhen, China,* [3]*Robinson Research Institute, Wellington, Netherlands*
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HS-12. XRMS study of stripe domains in NdCo5/Cu/ $Fe_{20}Ni_{80}$ trilayers for reconfigurable magnonic devices
J. Díaz[1], L. M. Álvarez-Prado[1], D. S. Schmool[2], D. Markó[3], D. Pérez[4], M. Valvidares[4]
[1]Physics, Universidad de Oviedo, Oviedo, Asturias, Spain, [2]Physics, Groupe d'Etude de la Matière Condensèe, Universitè Paris-Saclay, Versailles, Paris, France, [3]Silicon Austria Labs GmbH, Graz, Austria, [4]ALBA Synchrotron, Barcelona, Cataluña, Spain
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HS-13. Dynamics of a Spin-Wave Active Ring Resonator Driven by Unipolar 8-bit Walsh Code
A. Mukhopadhyay, K. Narayan, A. Prabhakar
Electrical Engineering, Indian Institute of Technology Madras, India, Chennai, Tamil Nadu, India
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HS-14. Frequency multiplication of edge spin-waves in the antidot lattices
N. C S[2], Y. Kharlan[1, 3], M. Golebiewski[1], J. W. Klos[1], P. Gruszecki[1], R. V. Verba[3], M. Krawczyk[1]
[1]Faculty of Physics and Astronomy, Adam Mickiewicz University, Poznan, Poland, [2]Electronics and Communication Engineering Department, National Institute of Technology, Calicut, Kozhikode, India, [3]V. G. Baryakhtar Institute of Magnetism of the NAS of Ukraine, Kyiv, Ukraine
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HS-15. Spin-wave implementation within the VAMPIRE software package
S. Ruta[1], J. Hirst[1], R. Ababei[1, 2], R. F. Evans[3], T. Ostler[1]
[1]Sheffield Hallam University, Sheffield, United Kingdom, [2]Alexandru Ioan Cuza University of Iasi, Iasi, Romania, [3]University of York, York, United Kingdom
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GET CURIOUS OUTREACH EVENT
Chair(s): I. Vera Marun, *University of Manchester, Manchester, United Kingdom*
Saturday, April 18, 2026
10:00 AM-03:00 PM
Offsite - Manchester Museum of Science & Technology

SESSION VP1: EMERGING TECHNOLOGIES IN LINEAR ACTUATORS, MAGNETIC BEARINGS, AND WIRELESS CHARGING

Chair(s): P. Huang, *Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan*

Wednesday, May 6, 2026

08:30 AM-08:30 PM

Conference Resource Center (On-Demand)

VP1-01. Comparison and Analysis of CPM and SPM Bearingless Machines Based on 90-Degree Sector d-q Axis Current Control

Q. Zhang, Y. Zhang, J. Wang, W. Xu

Southeast University, Nanjing, Jiangsu, China

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VP1-02. Analytical Design of High Frequency Magnetic Coupling Inductive Transformer for Wireless In-wheel Motor

P. Jin, Y. Guo, J. Wang

College of Electrical and Power Engineering, Hohai University, Nanjing, Jiangsu, China

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VP1-03. Design and Analysis of a Permanent Magnet Arc Motor with Axially Staggered Rotor Pole Structure

Z. Pan[1], J. Jiang[1], J. Zhao[1], J. Cai[1], H. Chen[1], A. Fang[1], G. Qiang[2], K. Shen[3]

[1]School of Electrical Engineering and Automation, Hefei University of Technology, Hefei, Anhui, China, [2]Yangtze River Delta HIT Robot Technology Research Institute, Wuhu, Anhui, China, [3]Hefei Haiyuan Machinery Co., Ltd., Hefei, Anhui, China

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VP1-04. Gaussian Process Regression of AC Core Loss in Magnetic Powder Cores Based on Process Conditions and Static Magnetic Properties

S. Muroga[1], Y. Kodama[1], S. Matsumoto[1], S. Ajia[1], Y. Endo[1, 2]

[1]Graduate School of Engineering, Tohoku University, Sendai, Sendai, Japan, [2]Center for Science and Innovation in Spintronics, Tohoku University, Sendai, Miyagi, Japan

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VP1-05. Parity-Time-Symmetric-Oriented Modulation for Drone Wireless In-Flight Charging System with High Misalignment Tolerance

Y. Gu[1, 2], Y. Zhu[1, 2], J. Si[1, 2], H. Wang[1, 2], Z. Zhang[1, 2]

[1]State Key Laboratory of Smart Power Distribution Equipment and System, Tianjin University, Tianjin, China, [2]School of Electrical and Information Engineering, Tianjin University, Tianjin, China

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VP1-07. A Miniaturized Multi-Drum Magnetorheological Actuator with Shared Magnetic Flux for Enhanced Torque Output

Y. Mo[2, 1], A. Song[2], H. Qin[3]

[1]Duke-NUS Medical School, National University of Singapore, Singapore, Singapore, [2]School of Instrument Science and Engineering, Southeast University, Nanjing, China, [3]College of Artificial Intelligence, Nanjing Agricultural University, Nanjing, China

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VP1-08. Rapid Prediction of Cold-Start Transient Temperature Fields in Mechanical-Electrical-Hydraulic Systems via Non-Overlapping Domain Decomposition

Z. He, J. Gao, Y. Zhao, Q. Su, Z. Cheng

College of Electrical and Information Engineering, Hunan University, Hunan Province, China

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VP1-09. Performance Analysis of a Dual-Field-Modulated Quasi-Tubular Linear Generator with Halbach array for Direct-Drive Wave Energy Conversion

N. Shrivastava, S. Sampathirao, B. Subudhi
school of electrical sciences, Indian Institute of Technology Goa, Ponda, Goa, India

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VP1-10. Neural-Network-Based Model Optimization of Linear Permanent Magnet Synchronous Machine for Wave Energy Harvesting Applications

M. Nguyen[1], D. Hoang[1], K. Shin[2], J. Choi[1]
[1]Electrical Engineering, Chung Nam National University, Daejeon, Korea (the Republic of), [2]Electrical Engineeering, Changwon National University, Changwon, Korea (the Republic of)

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VP1-11. Modal Analysis of High-Speed Tubular Linear Synchronous Motor for Electromagnetic Launch Application

D. N. Gawas, G. Kamepalli, N. Navab, S. Sampathirao
School of Electrical Sciences, Indian Institute of Technology Goa, Ponda, Goa, India

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VP1-12. A Halbach-Array-Inspired Coil for Magnetothermal Equilibrium Optimization in 11.1-kW Wireless Power Transfer Systems

X. Zhang[1, 2], Y. Li[1, 2], Y. Wei[1, 2], F. Xu[1, 2], H. Wang[1, 2], Z. Chen[1, 2]
[1]State Key Laboratory of Smart Power Distribution Equipment and System, Tianjin, China, [2]Hebei Key Laboratory of Equipment and Technology Demonstration of Flexible DC Transmission, Tianjin, China

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VP1-13. Improved Parallel Plate Capacitor Model Considering Edge Effect Using Correction Factor Derived Based on Regression Analysis

A. K. Das[1], B. G. Fedrnandes[2]
[1]Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore, [2]Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India

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VP1-14. Performance Analysis of a Flux-Reversal Transverse Flux Permanent Magnet Linear Generator Using Electromagnetic-Thermal Coupling Method

M. Chen[1], Z. Zhou[1], L. Huang[2, 3], H. Yang[2, 4], R. Guo[3], Y. Sun[1], Z. Zhu[1], Y. Li[2, 3], Y. Sheng[1]
[1]School of Electric Power Engineering, Nanjing Institute of Technology, Nanjing, Jiangsu, China, [2]Marine Renewable Energy Engineering Center, Advanced Ocean Institute of Southeast University, Nantong, Jiangsu, China, [3]School of Electrical Engineering, Southeast University, Nanjing, Jiangsu, China, [4]College of Automation Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, Jiangsu, China

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VP1-15. A Die-on-PCB Package Enabling High-Power-Density Wireless Power Transfer

Y. Wang[2], W. Liu[2], Z. Li[2], S. Niu[2], L. Wang[1], K. Chau[2]
[1]The State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xian, China, [2]Research Centre for Electric Vehicles and Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong

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VP1-16. Variable Leakage Inductance High-frequency Transformer Having Current-dependent Characteristics Inherent to the Magnetics Design
A. K. Das[1], B. G. Fedrnandes[2]
[1]*Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore,* [2]*Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India*
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VP1-17. Measurement and Analysis of Magnetic Properties in the Laminated Silicon Steel with External Mechanical Stress Perpendicular to Steel Plane under Overlapped DC and AC Magnetization
C. Feng, Y. Zhang, F. Li, Z. Wang, D. Zhang
School of Electrical Engineering, Shenyang University of Technology, Shenyang, Liaoning, China
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VP1-18. Investigation on Vibration Characteristics of Amorphous Alloy Wound Core Transformer Under Different Mounting Conditions
Z. Dong[1, 2], S. Yue[1, 2], H. Sun[1, 2], T. Chen[1, 2], Y. Li[1, 3], Y. Li[1, 2]
[1]*State Key Lab of Intelligent Power Distribution Equipment and System, Hebei University of Technology, Tianjin, Tianjin, China,* [2]*Hebei Key Laboratory of Equipment and Technology Demonstration of Flexible DC Transmission, Hebei University of Technology, Tianjin, Tianjin, China,* [3]*School of Engineering, Cardiff University, Cardiff, Wales, United Kingdom*
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VP1-19. PCB-Embedded SiC MOSFET Packaging Using Shield to Suppress Near-Field Magnetic Radiation
Z. Li[1], W. Liu[1], Y. Wang[1], L. Wang[2], K. Chau[1]
[1]*Research Centre for Electric Vehicles and Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China,* [2]*State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an, China*
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VP1-20. Magnetic Coupling Path Reconfiguration in Multi-Node Domino Wireless Power Transfer Systems for Insulator Monitoring
W. Wang, P. Li
Nanjing Normal University, Nanjing, Jiangsu, China
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SESSION VP2: ENERGY, MICROWAVE AND SENSOR APPLICATIONS II

Chair(s): S. Greaves, *Tohoku University, Sendai, Japan*
Wednesday, May 6, 2026
08:30 AM-08:30 PM
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VP2-01. Non-Contact Measurement for Backside Defect in Ferromagnetic Steel Plate Using Electromagnetic Force Vibration
S. Niwa[1], Y. Gotoh[2]
[1]*Graduate School of Science and Technology, Gunma University, Kiryu city, Gunma pref., Japan,* [2]*Faculty of Science and Technology, Oita University, Oita city, Oita pref., Japan*
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VP2-02. Electromagnetic Model Analysis and Design of Magnetostrictive Detector for Deep-Earth Stress Monitoring
Q. Wang[1], C. Song[1], P. Guo[2], T. He[3], P. Wang[3]
[1]*North China University of Science and Technology, Tangshan, China,* [2]*Shanxi University, Taiyuan, ShanXi, China,* [3]*Chinese Institute of Coal Sciences, Beijing, China*
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VP2-03. Evaluation of Defect Height Using Deep Learning Based on Rectangular Wave Eddy Current Testing
Z. Guo, T. Sasayama
Department of Electrical and Electronic Engineering, Kyushu University, Fukuoka, Japan
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VP2-04. Robust Power Region Expansion and Quantification for Drone Wireless In-flight Charging System using High-Order Topology
Z. Zhang[1, 2], J. Bao[1, 2], X. Shen[1, 2], Y. Gu[1, 2]
[1]State Key Laboratory of Smart Power Distribution Equipment and System, Tianjin University, Tianjin, China, [2]School of Electrical and Information Engineering, Tianjin University, Tianjin, China
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VP2-06. First-Principles Analysis of Gas sensing on Magnetic Fe_3O_4 Surfaces
S. Talebniya[2, 1], C. González[2, 1], P. de la Presa[2, 1], P. Marin[2, 1]
[1]Universidad Complutense de Madrid, Madrid, Madrid, Spain, [2]Institute of Applied Magnetism (UCM–ADIF), Madrid, Spain
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VP2-07. Voltage-Controlled Tunneling Magnetoresistance Using Ferroelectric Tunnel Barriers
T. F. Alhuwaymel[1], U. T. Alhuwaymel[2], A. AlMutairi[3]
[1]Microelectronic and Semiconductor Institute, King Abdulaziz City for Science and Technology (KACST), Riyadh, Saudi Arabia, [2]National Company of Telecommunications and Information Security (NTIS), Riyadh, Saudi Arabia, [3]King Fahd University of Petroleum & Minerals (KFUPM), Dhahran, Saudi Arabia
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VP2-08. Dependence of Internal Bias Field Non-Uniformity on Aspect Ratio in Magnetic Tunnel Junctions
R. Chen[1], R. Bi[1], Y. Li[2], Y. Li[2], J. Hu[1], J. He[1]
[1]Tsinghua University, Beijing, China, [2]Hebei University of Technology, Tianjin, China
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VP2-09. Optimisation of Macro-Fiber Composite, FeCoSiB-based, Mechanically Resonant Antennas
A. Charles
Platforms Division, Defence Science and Technology Group, Port Melbourne, Victoria, Australia
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VP2-10. Development of a GSR Sensor (nT Meter) for Particle Detection
Y. Honkura, S. Honkura, M. Hikishima
MagneDesign, Mihama, Aichi, Japan
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SESSION VP3: HIGH-SPEED MACHINES
Chair(s): J. Bird, *Electrical and Computer Engineering, Portland State University, Portland, Oregon, United States*
Wednesday, May 6, 2026
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VP3-01. Investigation of Loss and Thermal Characteristics of Rotor With Solid Yoke for Surface-Mounted High-Speed Permanent Magnet Machine
Y. Pan, J. Yang, S. Huang
Hunan University, Changsha city, Hunan province, China
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VP3-02. Design and Analysis of Flux-Switching Single-Stator Dual-Internal-Rotor PM Machines with Integrated Winding
Z. Zhang, M. Jiang, Z. Dong, Z. Zhang, S. Niu, K. Chau
Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China
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VP3-03. Impact of Thermo-Mechanical Rotor Deformation on Performance of High-Speed Interior Hairpin Motors
J. Li[1], S. Zhang[1], P. Li[1], Y. An[1], R. Pei[1, 2], L. Zeng[2]
[1]Shenyang University of Technology, Shenyang , Liaoning, China, [2]Suzhou INN-MAG New Energy Technology Co.,Ltd, Suzhou, Jiangsu, China
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VP3-04. Analytical Calculation of AC Copper Loss of Multi-Strand Flat Conductor for High-Power Density Traction Applications
Y. Du[1], Y. Huang[2], B. Guo[3], Y. Li[1], R. Wang[1], Y. Wu[1], S. Ding[1], H. Igarashi[4]
[1]Anhui University, Hefei, Anhui, China, [2]School of Electrical Engineering, Southeast University, Nanjing, China, [3]School of Electrical and Automation Engineering, Nanjing Normal University, Nanjing, China, [4]Data-Driven Interdisciplinary Re-search Emergence Department (D-RED), Hokkaido University, Sapporo, Japan
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VP3-05. Research and Analysis on the Performance of High Speed Motor at Overspeed Considering the Characteristic of High Strength Silicon Steel
Y. Li[1], Y. Li[1], L. Zeng[2], R. Pei[1, 2]
[1]Shenyang University of Technology, Shenyang, Liaoning, China, [2]Suzhou Inn-Mag New Energy Co. Ltd., Suzhou, China
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VP3-06. AC Copper Loss Reduction in Hairpin Windings Using Additively Manufactured Varying Electrical Conductivity for HSPMM
G. Zhang, J. Yang, S. Huang, S. Huang
Hunan University, Changsha, Hunan, China
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VP3-07. A Novel High-Speed Homopolar Inductor Machine With Multifunctional Stator for Gas Turbine Power Generation Systems
L. Zhong, J. Yang, S. Huang, S. Huang
Hunan University, Changsha, China
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VP3-08. Research of a Novel Hairpin–Litz Wire Hybrid Winding High-Speed Machine with Five-Segment Halbach PM Array
P. Li, J. Li, S. Zhang, L. Zeng, R. Pei
Shenyang University of Technology, Shenyang, China
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VP3-09. Ferroresonance Frequency Response of Micro-Unmanned Aerial Vehicle Motor Flight Attitude
C. Hsu
Department of Mechanical Engineering, National Yunlin University of Science and Technology, Douliu City, Yunlin County, Taiwan
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VP3-10. A Novel Bidirectional Field-Modulation Permanent Magnet Motor With High Overload Capability
J. Cao, S. Fang, X. Lin
Southeast University, Nanjing, Jiangsu, China
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VP3-11. Power-Dense Design and Optimization for 1MW-Class PM Aircraft Propulsion Motors with Unequal Hybrid Halbach Segmentation
A. T. Huynh, M. Degano, T. Zou, D. Gerada, T. Yang, C. Gerada
Power Electronics, Machines and Control Research Institute, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom
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SESSION VP4: PERMANENT MAGNET MACHINES AND MAGNETICALLY GEARED MACHINES V
Chair(s): V. Chaudhary, *Department of Mechanical Engineering, Chalmers University of Technology, Gothenburg , Sweden*
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VP4-01. Synergistic Design of Dual Excitation Sources of Pole-changing PM Motors for Operation Range Extension and Harmonic Decoupling
Z. He, F. Xiao, Y. Du, X. Zhu
Jiangsu University, Zhenjiang, Jiangsu, China
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VP4-02. Novel Double-Vernier PM Motor for High-Torque Low-Speed Light All-Terrain Vehicle
N. Shrivastava, D. N. Gawas, S. Sampathirao
School of Electrical Sciences, Indian Institute of Technology Goa, Ponda, Goa, India
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VP4-03. Novel Magnetically-Geared Line-Start Permanent Magnet Synchronous Motor for Grinder Application
D. N. Gawas, N. Shrivastava, S. Sampathirao
School of Electrical Sciences, Indian Institute of Technology Goa, Ponda, Goa, India
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VP4-04. A Dual-Stator Synchronous-Vernier Permanent Magnet Machine: Comprehensive Design-Space Study for Power Factor Enhancement
L. Dai, S. Niu, X. Huang, Z. Lyu, Z. Sun, K. Chau
Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong
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VP4-05. Study on Axial-Flux Dual-Permanent Magnet Machines Considering Multiple Leakage-Flux Effects
M. Jia[1, 2], Y. Feng[1, 2], B. Ma[1, 2], C. Huang[1, 2], S. Huang[1, 2]
[1]Hunan University, Changsha, China, [2]State Key Laboratory of Offshore Wind Power Equipment and Wind Energy High-Efficient Utilization, Changsha, China
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VP4-06. A Novel Dual Spoke Permanent Magnet Rotor Axial-Flux Vernier Machine with Toroidal Winding and Auxiliary Radial Stator Core
L. Wu, F. Yang, Z. Wang
School of Automation and Electrical Engineering, Linyi University, Linyi, Shandong, China
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VP4-07. Efficient Subspace-based Multi-objective Optimization of V-SPMV Motors Using Dimensionality Reduction Methods
D. Fan, K. Liu, H. Tian
Jiangsu University, Zhenjiang, China
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VP4-08. Flux-Controllable Design and Analysis of a Permanent Magnet Vernier Motor for Torque–Speed Performance Enhancement
D. Fan, L. Qiu
Jiangsu University, Zhenjiang, China
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VP4-09. An N-S-Iron Encoded Topology Design Method with Flux Barriers for Eliminating End Unipolar Leakage Flux in CPM Machines
Q. Zhang, J. Wang, W. Xu
School of Electrical Engineering, Southeast University, Nanjing, Jiangsu province, China
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VP4-10. Research of a Novel 2-D Halbach Array for Axial Flux Permanent Magnet Machine with High Torque Density
T. Liu, K. Yang, F. Xiong, C. Luo, J. Li
Huazhong University of Science and Technology, Wuhan, Hubei, China
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VP4-11. Effects of Eddy Currents and Hysteresis Phenomenon in Laminated Cores on Speed-Torque Characteristics of Interior Permanent Magnet Synchronous Motors for Variable Speed Applications
K. Yamazaki, S. Nakajima
Electrical and Electric Engineering, Chiba Institute of Technology, Tsudanuma, Japan
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VP4-12. Performance Prediction of IPMSMs Based on Nonlinear Magnetic Reluctance Networks with Newton-Raphson Approach
L. Wang[1], C. Di[1, 2], J. Zhu[1], X. Bao[1]
[1]School of Electrical Engineering and Automation, Hefei University Of Technology, Hefei, China, [2]Anhui Wannan Xinwei Motor Co., Ltd., Xuancheng, Anhui, China
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VP4-13. Impact of Rotor Saliency on Air-gap Flux Density Distribution and Subsequent Electromagnetic Stress of Permanent Magnet Motors
S. Sengupta, B. G. Fedrnandes
Electrical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India
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VP4-14. Cogging Torque Suppression in PMSMs via Closed-Slot Bridge Optimization Using Nonlinear Magnetic Circuit Method
G. Fan[1], L. Wang[1], T. Zhu[1, 2], X. Bao[1]
[1]School of Electrical Engineering and Automation, Hefei University of Technology, Hefei, China, [2]Anhui Province's Key Laboratory of Large-scale Submersible Pump and Accoutrements, Anhui, Hefei, China
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VP4-15. Topology Design and Torque Analysis of PMSM with Coordinated Reluctance and Permanent Magnet Axis Shifting
S. Zhang, F. Cao, F. Liu, D. Zhai, J. Jiao
College of Marine Electrical Engineering, Dalian Maritime University, Dalian, China
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VP4-16. Vibration Suppression of Permanent Magnet Synchronous Motors Using Segmented Staggered Pole Shifting and Skewing

K. Liu[1], J. Gao[1], L. Dai[2], S. Gao[1], S. Huang[1]
[1]*College of Electrical and Information Engineering, Hunan University, Changsha, China,* [2]*Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China*
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VP4-17. Surrogate-Assisted Genetic Algorithm Optimization of Single Stator Double Rotor Axial Flux Permanent Magnet Synchronous Machines under No-Load Condition

A. Othman[1], M. Ahmad[1], A. Azmi[1], D. Ishak[2], C. Tan[3, 4], Q. Ang[1], C. Liew[5], T. Tiang[1]
[1]*Universiti Malaysia Perlis, Arau, Perlis, Malaysia,* [2]*Prince Mohammad Bin Fahd University, Dhahran, Saudi Arabia,* [3]*Tunku Abdul Rahman University of Management and Technology, Tanjung Bungah, Malaysia,* [4]*Kuala Lumpur University of Science and Technology, Kajang, Malaysia,* [5]*Low Carbon Lab, Georgetown, Malaysia*
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VP4-18. Transformation calculation between the inner- and outer rotor permanent magnet motor

Y. Du[1], Y. Huang[2], B. Guo[3], Y. Wu[2], Y. Li[1], R. Wang[1], Y. Wu[1], S. Ding[1]
[1]*School of Electrical Engineering and Automation, Anhui University, Hefei, China,* [2]*School of Electrical Engineering, Southeast University, Nanjing, China,* [3]*School of Electrical and Automation Engineering, Nanjing Normal University, Nanjing, China*
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VP4-19. Comparative Study of Dual-Flux-Reversal Permanent Magnet Machines With and Without Tooth-Tips

L. Zhang[1], X. Liu[1], X. Feng[2]
[1]*Ningbo Institute of Technology, Beihang University, Ningbo, Zhejiang, China,* [2]*Frunning-ker (Ningbo) Intelligent Technology Co., Ltd., Ningbo, Zhejiang, China*
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VP4-20. Magnetic Field Prediction of SPM Using a Hybrid Model Based on Scalar Potential-based Subdomain and Magnetic Network

A. Niu, J. Yang, Z. Wu
Zhejiang University, HangZhou, China
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VP4-21. Comparative Study on Material Cost and Motor Characteristics Considering Magnet Segmentation Direction in AFPM Motors

W. Yim[1, 2], S. Hahn[1]
[1]*Department of Electrical and Computer Engineering, Seoul National University, Seoul, Seoul, Korea (the Republic of),* [2]*LG Electronics Inc., Seoul, Korea (the Republic of)*
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VP4-22. Influence of Parasitic Air Gaps on Vibration and Noise of Tooth-Yoke Splicing Electric Machines

T. Chen[1], Z. Li[1], L. Zeng[2], R. Pei[1, 2]
[1]*Department of Electric Engineering, Shenyang University of Technology, Shenyang, China,* [2]*Suzhou Inn-Mag New Energy Ltd, Suzhou, China*
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VP4-23. Smooth Sensorless Startup in PMSM Drives Through Cogging Torque Mitigation

W. Zhang[1], S. Gao[2], M. Lyu[2], J. Gao[2]
[1]*Changsha University, Changsha, Hunan Province, China,* [2]*Hunan University, Changsha, Hunan Province, China*
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VP4-24. Loss-Minimizing Torque Ripple Suppression in PMSMs Based on Harmonic Torque Compensation and Variable Weighting Coefficient

S. Gao[1], J. Gao[1], Q. Liu[1], K. Liu[1], L. Dai[2], S. Huang[1]
[1]Hunan University, Changsha, Hunan Province, China, [2]The Hong Kong Polytechnic University, Hong Kong, China

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VP4-25. Equivalent Magnetic Network Modeling and Performance Analysis of Electric motors Considering Multi-physics Magnetic Characteristics of Silicon Steel

T. Qiu, Z. Li, L. Zeng, R. Pei
Department of Electric Engineering, Shenyang University of Technology, Shenyang, Liaoning, China

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VP4-26. Pulse Injection Position Sensorless Drive for Hybrid Vernier Reluctance Machine with Zero-sequence Current

J. Jiang[1], X. Li[1], K. Zhou[1], S. Niu[2], W. Wang[3]
[1]School of Automation, Wuhan University of Technology, Wuhan, Hubei, China, [2]Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong, Hong Kong, [3]Advanced Engineering College, Greater Bay University, Dongguan, Guangdong, China

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VP4-27. Magnetic Properties Measurement and Analysis of Ultra-thin Grain-oriented Silicon Steel Considering Biaxial Stress Loads

Y. Dou[4], X. Zhu[1, 2], Y. Li[1], J. Zhu[3]
[1]Hebei University of Technology, Tianjin, China, [2]State Grid Zhangjiakou Power Supply Company, Zhangjiakou, China, [3]University of Sydney, Sydney, New South Wales, Australia, [4]Zhejiang University, Hangzhou, China

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VP4-28. Predefined-Time Estimation and Fixed-Time Control for Permanent Magnet Flux Linkage Variation Compensation in Permanent Magnet Synchronous Motor

X. Wang[1], Y. Gao[1], B. S. Wang[2]
[1]Wuhan University, Wuhan, China, [2]Kunming University of Science and Technology, Kunming, Yunnan, China

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VP4-29. A Novel Vertical-Axis Synchronous Pulse Injection Sensorless Control Based on Three-Phase Four-Leg Drive for Hybrid-Excited Variable Reluctance Machine

J. Jiang[1], X. Li[1], K. Zhou[1], S. Niu[2], W. Wang[3]
[1]School of Automation, Wuhan University of Technology, Wuhan, Hubei, China, [2]Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, JiuLong, Hong Kong, China, [3]Advanced Engineering College, Greater Bay University, Dongguan, Guangdong, China

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VP4-30. Investigation of Post-Demagnetization Back-EMF in Modular Multi-Three-Phase Permanent Magnet Synchronous Machines

H. Zhan, W. Liu, Z. Lyu, J. Song, S. Niu, K. Chau
EEE, The Hong Kong Polytechnic University, Hong Kong, Hong Kong

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SESSION VP5: SIMULATION AND DESIGN OPTIMIZATION OF ELECTROMAGNETIC SYSTEMS IV

Chair(s): Z. Ren, *Sorbonne University, Paris, France*

Wednesday, May 6, 2026

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VP5-01. Electro Thermal Co Simulation and Experimental Validation of a High Power Density Three Phase Inverter

J. Zhang

Nanjing University of Aeronautics and Astronautics, Nanjing, China

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VP5-02. Optimized Efficiency Design of Permanent Magnet Brushless Motors for Drones using Particle Swarm Optimization Algorithm

C. Hsu

Department of Mechanical Engineering, National Yunlin University of Science and Technology, Douliu City, Yunlin County, Taiwan

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VP5-04. Hierarchical-Reinforcement-Learning-Accelerated Long Horizon Model Predictive Control for DTP-PMSMs

J. Chen[2, 1], S. Chang[2, 1], Y. Wu[2, 1], Z. Zhang[2, 1]

[1]School of Electrical and Information Engineering, Tianjin University, Tianjin, China, [2]State Key laboratory of Smart Power Distribution Equipment and System, Tianjin University, Tianjin, China

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VP5-05. Multi-Physics Coupling Optimization of Variable-Speed Wind Turbine Transformers

H. Yang, J. Gao, L. Zhou, Z. Cheng, Y. Zhao, S. Huang

Hunan University, Changsha, China

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VP5-06. Multi-Objective Structural Optimization of PMSM Based on TD3 Algorithm with Adaptive Reward Weighting

H. Wang, S. Liu, S. Jiang

Nanjing Normal University, Nanjing, China

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VP5-07. Early Stage Short-Circuit Identification Technology for Transformers Based on Leakage Magnetic Field Distribution Characteristics

Z. Yu[1], Y. Geng[1], S. Zhou[1], J. Tian[2], Y. Li[1], Y. Jing[1]

[1]School of Electrical Engineering, Shenyang University of Technology, Shenyang, China, [2]Liaoning-efacec Electrical Equipment Co., Ltd, Liaoyang, China

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VP5-08. Rate-Compatible Protograph LDPC Codes with Transfer Learning-Based Decoding for STT-MRAM

J. Dong[1], K. Cai[1], Z. Mei[2], B. Dai[1]

[1]Singapore University of Technology and Design, Singapore, Singapore, [2]Nanjing University of Science and Technology, Nanjing, Jiangsu, China

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VP5-09. Winding Thermal Path Analysis Model Based on Additional Thermal Resistance

Y. Liu[1], Y. Dong[1], B. Ma[1], X. Huang[2], J. Zhang[1]

[1]Hunan University, Changsha, Hunan, China, [2]The Hong Kong Polytechnic University, Hong Kong, Hong Kong

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VP5-10. Analysis of No-Load Magnetic Field Characteristics in Wound-Rotor Brushless Doubly-Fed Machines Based on a Subdomain Analytical Model
Z. Yu, Q. He, J. Wang, H. Chen, J. Ding, Y. Li
School of Electrical Engineering, Shenyang University of Technology, Shenyang, China
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VP5-11. Gradient-based Topology Optimization of Interior Permanent Magnet Machines
S. Yin[1], Y. Hu[1], Y. Du[2], Y. Huangfu[1]
[1]School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China, [2]School of Electrical Engineering and Automation, Anhui University, Hefei, China
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VP5-12. Design of Halbach Cylinders with Dense-Packed Cylindrical Magnets
Z. Jin[1], X. Hu[1], J. Jeong[2], J. Park[3], B. Zhang[3], X. Zheng[3], Y. Song[3], P. Si[1, 3], C. Choi[3]
[1]College of Materials Science and Chemistry, China Jiliang University, Hangzhou, China, [2]Energy & Environment Materials Research Division, Korea Institute of Materials Science, Changwon, Korea (the Republic of), [3]Nano Materials Research Division, Korea Institute of Materials and Science, Changwon, Korea (the Republic of)
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VP5-13. A Novel Method for Separating Winding and Core Losses in Power Inductors
M. Wolf
Soreq/ TAU, Petah-Tikva, Israel
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VP5-14. Modeling of Multiscale Cross-stacked Grain-Oriented Electrical Steel Sheets Based on Homogenization Technique
H. Zhu[1], Z. Li[2], Y. Hu[1], S. Yin[1]
[1]School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China, [2]China Electric Power Research Institute, Beijing, China
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VP5-16. An Adaptive Immersion Cooling and Recovery Architecture for Thermal Management of Lithium-Ion Battery Packs
V. Krishnan, D. U
Electrical Engineering, SIMATS Engineering, Chennai, Tamil Nadu, India
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VP5-18. A Design Method for High Power Density Electrical Machinery Cooling Structure
S. Zhang[1], J. Li[1], P. Li[1], L. Zeng[1, 2], R. Pei[1, 2]
[1]Shenyang University of Technology, Shenyang, China, [2]Suzhou Inn-Mag New Energy Ltd, SuZhou, China
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VP5-19. Electromagnetic Characteristics Analysis of Parallel Magnetic Circuit Tubular Permanent Magnet Linear Oscillation Actuator
H. Zhang[1], Z. Shen[2], Z. Xu[2], S. Fang[2]
[1]Institute College of Marine and Electrical Engineering, Jiangsu Maritime Institute, Nanjing, Jiangsu, China, [2]School of the Electrical Engineering, Southeast University, Nanjing, China
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VP5-20. Multiphysics Design Optimization of an Motor-Planetary Gear Integrated Transmission System
B. Ma[1], J. Liang[1], S. Huang[1], J. Zhang[1], S. Wang[2], G. Lei[3], J. Zhu[4]
[1]Hunan University, ChangSha, China, [2]Beijing Institute of Technology, Beijing, China, [3]University of Technology Sydney, Sydney, New South Wales, Australia, [4]The University of Sydney, Sydney, New South Wales, Australia
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VP5-21. Research on Reducing Torque Ripple in Wound-Rotator Brushless Double-Fed Motor
Z. Yu, H. Chen, J. Yang, J. Wang, Q. He
School of Electrical Engineering, Shenyang University of Technology, Shenyang, China
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VP5-22. Multi-Operating-Condition Efficiency Optimization of Permanent Magnet Motors Based on Surrogate Models
W. Zhang[2], Y. Liu[1], J. Gao[1]
[1]Information Engineering (CEIE), Hunan University, Changsha, Hunan, China, [2]Changsha University, Changsha, Hunan, China
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VP5-23. A Multi-domain Fourier Neural Operator Learning Method for Electromagnetic Analysis
B. Wan, G. Lei, J. Zhu, Y. Guo
School of Electrical and Data Engineering, University of Technology Sydney, Ultimo, New South Wales, Australia
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VP5-24. A Novel Permanent Magnet Machine with Hollow Conductors for Aerospace Propulsion
K. Du, J. Yang, S. Huang, S. Huang
Hunan University, Changsha, Hunan, China
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VP5-25. Adaptive Harmonic Suppression for Dual Three-Phase PMSMs via Error-Mapping Radial Basis Function Neural Network
Z. Wang[2, 1], S. Chang[2, 1], Y. Wu[2, 1], Z. Zhang[2, 1]
[1]School of Electrical and Information Engineering, Tianjin University, Tianjin, China, [2]State Key laboratory of Smart Power Distribution Equipment and System, Tianjin University, Tianjin, China
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VP5-26. Application of Grain-Oriented Silicon Steel Hybrid Stator Cores in High-Power-Density Fractional-Slot Permanent Magnet Motors
Z. Yu, Y. Cheng, J. Wang, Z. Zhang, Q. He, J. Ding, Y. Li
School of Electrical Engineering, Shenyang University of Technology, Shenyang, China
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VP5-27. A Local Hybrid Method with Middle-Layer Airgap Fourier Model and FEM for Electromagnetic Performance Computation of PM Machines
W. Gao, Z. He, F. Xiao, Y. Du, X. Zhu
Jiangsu University, Zhenjiang, China
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VP5-28. Analysis and Suppression of Winding Magnetic Field Harmonics in Dual-Three-Phase PMSM under Missing-Set Operation
Y. Zhao, J. Gao, Z. Cheng, Z. He, K. Liu, S. Huang
College of Electrical and Information Engineering, Hunan University, Changsha, Hunan, China
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VP5-29. Multiphysics Topology Optimization for PMSM Rotors Considering Partial Magnetic Saturation
Z. Cheng, J. Gao, Y. Zhao, Z. He, K. Liu, S. Huang
Hunan University, Changsha, Hunan, China
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VP5-30. Universal Magnetic Loss Model of Different Magnetostrictive Material Considering High Frequency and Variable Temperature

P. Guo[1], C. Bai[2], Q. Wang[3]
[1]*Shanxi University, Taiyuan, ShanXi, China,* [2]*Nano-Opto-Electronics Research Institute Limited Company, Taiyuan, ShanXi, China,* [3]*North China University of Science and Technology, Tangshan, Hebei, China*

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VP5-31. Complex Frequency-Domain Finite Element Analysis for Magneto-Mechanical Coupling in Amorphous Wound Cores

S. Gao[1], R. Li[1], X. Zhao[1], L. Liu[2]
[1]*Department of Electrical Engineering, North China Electric Power University, Baoding, China,* [2]*Hebei Provincial Key Laboratory of Electromagnetic and Structural Performance of Power Transmission and Transformation Equipment, Baoding, China*

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VP5-32. Analysis and Design of High-Order Self-Oscillating Wireless Power Transfer Systems for Extended Transfer Distance

Y. Gu[1, 2], X. Shen[1, 2], J. Bao[1, 2], Z. Zhang[1, 2]
[1]*State Key Laboratory of Smart Power Distribution Equipment and System, Tianjin University, Tianjin, China,* [2]*School of Electrical and Information Engineering, Tianjin University, Tianjin, China*

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VP5-33. Analytical Modeling of High-Temperature Superconducting Single-Sided Linear Induction Motors for Rail Transportation Applications

W. Qin
Electrical Engineering , Beijing Jiaotong University, Beijing, China

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VP5-34. Multiphysics Simulation-Based Active Noise Reduction for Transformer Core Vibration via Reverse Frequency Coupling

N. Zhang[1], Y. Wang[1], B. Li[1], Y. Liu[1], S. Yang[1], S. Wang[1], S. Ning[2]
[1]*School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, Shaanxi, China,* [2]*School of Electronic Information and Artificial Intelligence, Shaanxi University of Science and Technology, Xi'an, Shaanxi, China*

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SESSION VP6: SOFT MAGNETIC MATERIALS AND DEVICES

Co-Chair(s): K. Richter, *Faculty of electronics and informatics, Technical University of Kosice, Kosice, Slovakia* and S. Kobayashi, *Materials Science and Engineering, Iwate University, Morioka, Japan*

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VP6-01. Analysis of Magnetic Domain Transition for Magnetostrictive Co-Nb-Zr thin film strips with inclined uniaxial easy-axis

T. Nakai
Finemechanics, Tohoku University, Sendai, Miyagi, Japan

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VP6-02. A PCB-based Magnetic Sensor with Adjustable Window Area for Alternating Magnetic Property Measurement

G. Zhou[1], Y. Li[1], J. Yin[1], M. Yang[2], S. Yue[1], Z. Dong[1]
[1]*State Key Laboratory of Intelligent Power Distribution Equipment and System, Hebei University of Technology, Tianjin, China,* [2]*State Key Laboratory of Intelligent Green Vehicle and Mobility, Tsinghua University, Beijing, China*

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VP6-03. Multiphysics Optimization of High-Speed Amorphous Motors Considering Temperature-Stress Coupling Effects Based on Analytical Modeling
X. Lu[1], L. Zeng[2], R. Pei[1, 2]
[1]Electrical Engineering Department, Shenyang University of Technology, Shenyang, Liaoning, China, [2]Suzhou Inn-Mag New Energy Ltd, Suzhou, Jiangsu, China
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VP6-04. Research on Performance Analysis of Hybrid Laminated Cores Composed of Amorphous Alloy and Ultra-thin Silicon Steel Sheets
J. Feng[1], X. Lu[1], Z. Li[1], R. Pei[1, 2], L. Zeng[2]
[1]Shenyang University of Technology, Chao yang, Liao Ning , China, [2]Suzhou Inn-Mag New Energy Ltd, Suzhou, China
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VP6-05. Research on Magnetic Property Measurement of Soft Magnetic Materials Considering Uneven Magnetic Field Distribution
Z. Yu, Z. Zhang, J. Wang, Y. Cheng, Q. He, Y. Li, J. Ding
School of Electrical Engineering, Shenyang University of Technology, Shenyang, China
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VP6-08. Principal Component Analysis of First-Order Reversal Curve Diagrams for Thermally Aged Fe-Cu Alloys
S. Kobayashi
Materials Science and Engineering, Iwate University, Morioka, Japan
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VP6-09. Analysis and Calculation of Magnetic Properties of Soft Magnetic Composites Considering Temperature Effect
Y. Li[1], B. Yang[1], R. Pei[1, 2], L. Zeng[1, 2]
[1]Shenyang University of Technology, Shenyang, Liaoning, China, [2]Suzhou Inn-Mag New Energy Ltd, Suzhou, Jiangsu, China
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VP6-10. Analysis and Calculation of Magnetostrictive Properties in Thin Electrical Steel Sheets Considering Stress and Frequency Effects
J. Wang, D. Ma, P. Meng, L. Zeng, R. Pei
Shenyang University of Technology, DeZhou, China
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VP6-11. Research on Stress-Magnetic Coupling of Iron-Nickel Alloy in Permanent Magnet Assisted Synchronous Reluctance Motor
X. Liu[1], J. Li[1], Z. Li[1], Y. Li[1], L. Zeng[2], R. Pei[1, 2]
[1]College of Electrical Engineering, Shenyang University of Technology, Shenyang, China, [2]Suzhou Inn-Mag New Energy Ltd, Suzhou, China
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VP6-12. Application of Laser-Scribed Grain-Oriented Silicon Steel in Tooth–Yoke Spliced Interior Permanent Magnet Synchronous Motor
J. Dai[1], Z. Li[1], J. Li[1], Y. Li[1], L. Zeng[1, 2], R. Pei[1, 2]
[1]School of Electrical Engineering, Shenyang University of Technology, Shenyang, China, [2]Suzhou Inn-Mag New Energy Ltd, Suzhou, China
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VP6-13. Investigation of Magnetic Properties for RE-Doped Non-Grain-Oriented Silicon Steel in Permanent Magnet Synchronous Motors

W. Li[1, 2], Y. Xue[1], Z. Liu[1], J. Hao[4], L. Zeng[3], R. Pei[1]
[1]Shenyang University of Technology, Shenyang, China, [2]XuChang University, Xuchang, China, [3]Suzhou Inn-Mag New Energy Ltd., Suzhou, China, [4]Inner Mongolia BaoTou Steel Union Co., Ltd., Baotou, China

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VP6-14. Influence of device structure on magnetoelectric coupling in laminate composites of textured Fe-Ga thin sheet and PZT

J. Liu[1, 2], Z. He[1, 2], S. Hu[1, 2], Y. Sha[3], L. Chen[1, 2], L. Zuo[3]
[1]School of Materials Science and Engineering, Shenyang University of Technology, Shenyang, Liaoning, China, [2]Shenyang Key Laboratory of Advanced Structural Materials and Applications, Shenyang University of Technology, Shenyang, China, [3]Key Laboratory for Anisotropy and Texture of Materials (Ministry of Education), Northeastern University, Shenyang, China

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VP6-15. Average Torque Improvement of Open-End Winding PMSM Drive via Zero-Sequence Component Utilization

Z. Lyu, S. Niu, H. Zhan, L. Dai, H. Yin, W. Liu, K. Chau
The Hong Kong Polytechnic University, Hung Hom, Hong Kong, China

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SESSION VP7: SPECIAL MACHINES II

Co-Chair(s): N. Niguchi, *Osaka University, Suita, Japan* and J. Asama, *Shizuoka University, Shizuoka, Japan*
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VP7-02. A Dual-Stator Synchronous-Vernier Permanent Magnet Machine: Working Principle, Design Methodology, and Performance Evaluation

L. Dai, S. Niu, X. Huang, Z. Lyu, Z. Li, K. Chau
Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong

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VP7-03. Non-Contact Measurement of Non-Metallic Scale Thickness on the Back Side of Ferromagnetic Materials Using Electromagnetic Force–Induced Vibration

M. Tohara[2], K. Okuma[1], Y. Gotoh[3]
[1]Graduate School of Science and Engineering, Oita University, Oita, Oita, Japan, [2]Mechanics and Electronics Research Institute Fukuoka Industrial Technology Center, Kitakyushu, Fukuoka, Japan, [3]Faculty of Science and Technology, Oita University, Oita, Oita, Japan

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VP7-04. A Multi-Segment Minimum Copper Loss Fault-Tolerance Strategy for Full Torque Range Operation of Dual Star-Delta Windings PMSM Under Open-Phase Fault

S. Zhou, J. Yang, J. Yu, S. Huang, S. Huang
Hunan University, Changsha, China

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VP7-05. Torque Performance Enhancement of a Flux-Switching PM Arc Motor Using a Hybrid Stator Core

X. Lin, S. Fang, Q. Xu, N. Chen
School of Electrical Engineering, Southeast University, Nanjing, Jiangsu, China

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VP7-06. Design and Analysis of a New Heteropolar Series-Parallel Variable Flux Machine with LCF Magnets Playing Different Roles
W. Liu[1], R. Li[1], X. Shu[1], J. Chen[1], Y. Fu[1, 2], C. Zhang[1]
[1]Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, Zhejiang, China, [2]University of Chinese Academy of Sciences, Beijing, China
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VP7-07. Electromagnetic Performance Analysis of a New PM Flux-modulation Arc Motor With Hybrid PM-array in Outer Stator
N. Chen, S. Fang, X. Lin
School of Electrical Engineering, Southeast University, Nanjing, Jiangsu, China
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VP7-08. Design of an Outer-Rotor PMSM Integrated with Magnetorheological Fluid Brake Using Memory Permanent Magnet Flux Adjustment
L. Qin[1], Y. Zheng[2], Y. Hu[3], Y. Shan[2], W. Xu[3]
[1]Tongji University, Shanghai, Shanghai, China, [2]Wolong Electric Drive Group Co., Ltd, Shaoxing, Zhejiang, China, [3]Southeast University, Nanjing, Jiangsu, China
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VP7-09. Investigation of Variable Impedance PM Vernier Machine with H-Type Split-Tooth for High Reliability
R. Wang[1], K. Ding[1], D. Li[2], Y. Li[1], Y. Du[1], S. Ding[1], J. Hang[1]
[1]Anhui University, Anhui Province, China, [2]Huazhong University of Science and Technology, Wuhan, China
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VP7-10. Rotor Temperature Prediction Method for PM Machines Based on SVR Model Parameter Updating under Limited Data Availability
R. Wang, Z. Zou, J. Hang, Y. Du, Y. Li, S. Ding
Anhui University, Hefei, Anhui, China
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VP7-11. Analysis and Comparison of Modular Switched Reluctance Motors with Slot-Opening PMs
Y. Du, S. Liu, Z. He, F. Xiao
Jiangsu University, Zhenjiang, China
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VP7-12. Axial-Field Switched-Reluctance Machine: Hybrid Analytical Modeling and Inductance Measurements
I. Belmahi, S. Asfirane, G. Barakat, F. Chabour, Y. Amara
GREAH, Université Le Havre Normandie, Le Havre, Seine-Maritime, France
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VP7-13. Design and Analysis of a Novel Consequent-Pole Variable Flux Machine
Y. Li, X. Wang, R. Wang, Y. Du, S. Ding
School of Electrical Engineering and Automation, Anhui University, Hefei, Anhui, China
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VP7-14. A Flux-guiding Type Variable Flux Machine with Multi-layer Arc-shaped Magnetic Barriers
Y. Li, Z. Yang, Y. Du, R. Wang, S. Ding
School of Electrical Engineering and Automation, Anhui University, Hefei, Anhui, China
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VP7-15. Electromagnetic Vibration Analysis and Suppression for a Double Rotor Permanent Magnet Machine based on Introduction of Electromagnetic Force Aliasing Effect
X. Liu, Z. Xiang, C. Chen
School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China
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VP7-16. Prediction-Error-Adaptive Deadbeat Predictive Current Control for Variable Flux Memory Machines under Uncertain Magnetization States
J. Zhang, W. Liu, C. Zhang, J. Chen
Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China
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VP7-17. Hybrid Vector Magnetic Network Model of Flux-Switching Permanent Magnet Motor Based on Magductance Principle
J. Wang, X. Chen, X. Zhao, S. Cao, K. Xia, Q. Yuan
University of Shanghai for Science and Technology, Shanghai, China
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VP7-18. Analysis of Cogging Torque in Permanent Magnet Vernier Motors with Eccentric Fault Based on Magnetic Field Modulation Theory
L. Liu, D. Jin, J. Hang, S. Ding, Y. Li, R. Wang
Anhui University, Hefei, China
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VP7-19. Design and Experimental Comparison of IPMSM Rotors for Personal Mobility Traction Applications
J. Seo[1, 2], K. Lee[1], J. Choi[2], S. Lee[1]
[1]Purpose Built Mobility Group, Korea Institute of Industrial Technology, Gwangju, Korea (the Republic of), [2]Department of Electrical Engineering, Chungnam National University, Daejeon, Korea (the Republic of)
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SESSION VP8: STRUCTURE, DYNAMICS, AND FUNCTIONALITY IN MAGNETIC MATERIALS

Co-Chair(s): N. Liedienov, *State Key Laboratory of High Pressure and Superhard Materials, Jilin University, Changchun, China* and K. Cai, *School of Physics, Huazhong University of Science and Technology, Wuhan, China*
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VP8-01. Topological properties of FeMnCrSb: A nodal line semimetal
M. Halder, R. Chatanathodi
Department of Physics, National Institute of Technology Calicut, Kozhikode, Kerala, India
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VP8-03. Verification Test on Magnetic Local Force Formulations for Nonlinear Magnetic Materials
H. Li[1], X. Zhao[1], W. Guan[2], Y. Gao[3], S. Wang[1]
[1]Department of Electrical Engineering, North China Electric Power University, Baoding, China, [2]institute of next generation power systems and international standards, Wuhan University, Wu Han, China, [3]Oita University, Faculty of Science and Technology, Oita, Japan
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VP8-04. A Vector Magnetic Property Measurement Sensor Considering Air Flux Elimination
G. Zhou[1], Y. Li[1], J. Yin[1], S. Yue[1], M. Yang[2], J. Zhou[1]
[1]*Key Laboratory of Reliability and Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin, China,* [2]*State Key Laboratory of Intelligent Green Vehicle and Mobility, Tsinghua University, Beijing, China*
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VP8-05. A Novel Transcranial Magnetic Stimulation Coil with Bistable Compliant Mechanism Windings for Field Focality Reconfiguration
N. Seliger, V. Pichler, S. Hibler
Faculty of Engineering, Technical University of Applied Sciences Rosenheim, Rosenheim, Germany
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VP8-06. Facile Synthesis of Cubic Iron Nanoparticles for High-Performance Magnetorheological Fluid: Improving Rheology and Stability
R. Gao[1, 2], W. Han[1, 2]
[1]*School of Energy and Power Engineering, Nanjing University of Science and Technology, Nanjing, Jiangsu, China,* [2]*National Key Laboratory of Complex Multibody System Dynamic, Nanjing University of Science and Technology, Nanjing, Jiangsu, China*
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VP8-08. Room-temperature Ferromagnetism and Magnetocaloric effect in Intermetallic compound $TbNi_{1.5}Fe_{0.5}$: Bulk magnetization and Neutron diffraction study
M. M. Prusty[1], K. Tejaswi[1], A. Chelvane[2], S. Rayaprol[3], A. Morozkin[4], R. Nirmala[1]
[1]*Physics, Indian Institute of Technology Madras, Chennai, Tamilnadu, India,* [2]*Defence Metallurgical Research Laboratory, Hyderabad, India,* [3]*UGC-DAE Consortium for Scientific Research, Mumbai, India,* [4]*Chemistry, Moscow Lomonosov State University, Moscow, Russian Federation*
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VP8-09. Magnetic Properties of MnBi and MnBi/NdFeB Powders/Magnets Prepared by Gas-atomization, Jet-milling, and Thermal Compaction
P. Si[2, 1], Y. Song[1], J. Park[1], X. Zheng[1], B. Zhang[1], C. Choi[1], Z. Jin[2], X. Hu[2], Q. Wu[2]
[1]*Nano Materials Research Division, Korea Institute of Materials Science, Changwon, Gyeongsangnam-do, Korea (the Republic of),* [2]*College of Materials Science and Chemistry, China Jiliang University, Hangzhou, China*
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VP8-10. Strategic Substitutions in Fe_2P-Based Alloys: Tuning Structural and Magnetic Properties for High-Performance Rare-Earth-Free Permanent Magnets
D. I. Anyfantis, A. Sigalos, E. Dimeli, D. Niarchos
AMEN New Technologies, Athens, Greece
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VP8-11. Preparation of Fe_3O_4 Covering by PNIPAM and Its Application in Magnetorheological Fluids
M. Ji[1, 2], F. Yang[1, 2], W. Han[1, 2]
[1]*Institute of Launch Dynamics, Nanjing university of science and technology, Nanjing, China,* [2]*National Key Laboratory of Complex Multibody System Dynamics, Nanjing University of Science and Technology, Nanjing, China*
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VP8-12. Coarse-Grained Micromagnetic Simulation of Spin-Orbit Torque Switching Dynamics at Finite Temperature
X. Zhang, S. Peng
Beihang University, Beijing, China
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VP8-15. Magnetorheological Response of Bi-disperse Suspension Incorporating Fe–Co Alloy Nanoparticles and Carbonyl Iron Microspheres
Y. Dai[1, 2], W. Han[1, 2]
[1]*Nanjing University of Science and Technology, Nanjing, China,* [2]*National Key Laboratory of Complex Multibody Systems Dynamics, Nanjing University of Science and Technology, Nanjing, Jiangsu, China*
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VP8-16. Magnetic Vortex Nanodisk Arrays as Physical Unclonable Functions
R. Gandhe[2], I. Roybal[2], S. Kulkarni[1]
[1]*Independent researcher, Maharastra, India,* [2]*University of Texas at Austin, Austin, Texas, United States*
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VP8-17. Unveiling the structure induced magnetocaloric effect in $Sm_{0.55}Ca_xSr_{0.45-x}MnO_3$: a cryogenic magnetic refrigerant
M. A. Bally[1], M. Billah[2], K. Hossain[3], F. Khan[2]
[1]*Physics, Government Shaheed Suhrawardy College, Dhaka, Dhaka, Bangladesh,* [2]*Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh,* [3]*Physics, University of Dhaka, Dhaka, Bangladesh*
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VP8-18. Evaluating the Performance of a Fully Connected Quantized Neural Network Built on Magnetic Domain Wall-Based Devices
D. Das[1], S. K. Bandekar[1], A. Ganguly[2], D. Polley[3]
[1]*Department of Electrical & Electronics Engineering, Birla Institute of Technology and Science, Goa Campus, Vasco da Gama, Goa, India,* [2]*Department of Physics and Nanotechnology, SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu, India,* [3]*Department of Physics and Nanotechnology, Birla Institute of Technology and Science, Hyderabad Campus, Jawahar Nagar, Telengana, India*
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VP8-19. Angular Symmetry-Resolved Analysis of Third Harmonic Magnetoresistance in Py/Pt Bilayers
Y. Ma[1, 2], H. Xie[1], Y. Si[1], B. Rong[3], J. Wang[1], H. Zheng[3], Y. Liu[3], Y. Wu[1, 2], Y. Yang[3]
[1]*Electrical and Computer Engineering, National University of Singapore, Singapore, Singapore,* [2]*National University of Singapore (Chong Qing) Research Institute, Chongqing, China,* [3]*School of Information Science and Technology, ShanghaiTech University, Shanghai, China*
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VP8-20. Component-dependent anisotropic damping in ultra-thin CoxFe100-x films
H. He, S. Wang, Y. Fu, H. Li, Z. Huang, S. Jiang
South China University of Technology, Guangzhou, China
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VP8-22. 3D Heterogeneous Bonding Strategy for Next-Generation High-Density TMR Sensor Arrays with Low Magnetic Noise
J. Chen, Z. Jin, C. Zhang, Z. Han
Chinese Academy of Sciences, Beijing, China
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VP8-23. Laminated Magnetic Film Engineering for High-Sensitivity MTJ-MEMS Magnetic Sensors
J. Chen[1, 2, 3], Z. Jin[1, 2], Q. Jiao[1, 2], C. Zhang[1, 2]
[1]*State Key Laboratory of Transducer Technology, Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China,* [2]*School of Electronic, Electrical and Communication Engineering, University of Chinese Academy of Sciences, Beijing, China,* [3]*College of Materials Sciences and Opto-Electronic Technology, University of Chinese Academy of Sciences, Beijing, China*
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VP8-24. Ferroelectric-Modulated Spin–Charge Conversion and THz Emission in Bilayer WTe2 Heterostructures
C. Kishandev[1], J. Joy[1], J. Korah[1], E. Markose[1], N. C S[2]
[1]*Department of Electrical Engineering, National Institute of Technology Calicut, Calicut, India,* [2]*Department of Electronics and Communication Engineering, National Institute of Technology Calicut, Calicut, India*
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VP8-25. Anisotropy and the magnetocaloric effect in DyB_2
N. A. de Oliveira
Instituto de Física, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Rio de Janeiro, Brazil
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VP8-26. The Effect of Heat Treatment on the Properties of Hot Deformed NdFeB
W. Xie
School of Marine Engineering Equipment, Zhejiang Ocean University, Zhoushan, China
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VP8-27. Vortex Core Dynamic Susceptibility in Elliptical Nanocylinders
T. G. Jales[2], S. M. Martins Jr[3], A. L. Dantas[1, 2], A. S. Carriço[4]
[1]*Department of Science and Technology, State University of Rio Grande do Norte, Natal, RN, Brazil,* [2]*Department of Physics, State University of Rio Grande do Norte, Natal, Brazil,* [3]*Department of Physics, State University of Maranhão, São Luiz, Brazil,* [4]*Department of Physics, Federal University of Rio Grande do Norte, Natal, Brazil*
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VP8-28. Comparative Analysis of Core Loss between Nanocrystalline and Ferrite Cores Under Non-sinusoidal and DC-Bias Excitations
Y. Dou[1], Z. Li[2], J. Li[2], Y. Li[2], J. Zhu[3]
[1]*Zhejiang University, Haining, Zhejiang, China,* [2]*Hebei University of Technology, Tianjin, Tianjin, China,* [3]*The University of Sydney, Sydney, New South Wales, Australia*
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VP8-29. All-Electrical Magnetization Switching in Weyl Semimetal Ferromagnet
L. Ren[1], L. Liu[2], K. Teo[1]
[1]*Department of Electrical & Computer Engineering, National University of Singapore, Singapore, Singapore,* [2]*School of Physics and Astronomy, Shanghai Jiao Tong University, Shanghai, China*
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VP8-30. Single-Crystal Growth and Physical Properties of the Candidate Topological Materials RGaSi (R = Ce, Pr)
R. Swami[1], D. Ram[1, 2], A. C V[3], V. Kanchana[3], Z. Hossain[1]
[1]*Physics, Indian Institute of Technology Kanpur, Kanpur, Uttar Pradesh, India,* [2]*Physics, Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur, Bangalore, India,* [3]*Physics, Indian Institute of Technology Hyderabad, Hyderabad, Telangana, India*
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VP8-31. Patterning of stable remanent multidomain magnetic states without lithography
A. Talantsev, M. Bakhmetiev, S. Kashin, R. Morgunov
Spintronics, Federal Research Center of Chemical Physics and Medicinal Chemistry of Russian Academy of Science, Chernogolovka, Moscow, Russian Federation
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VP8-32. Axially Compressed Rare-Earth–Reduced Nd–Fe–B Bonded Magnets Based on High-Entropy Alloy Design
E. Dimeli[1], D. I. Anyfantis[1], A. Sigalos[1], D. Niarchos[1, 2]
[1]*AMEN New Technologies, Agia Paraskevi, Greece,* [2]*Institute of Nanoscience and Nanotechnology, National Centre for Scientific Research "Demokritos", Athens, Greece*
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VP8-33. Antiferromagnetic Neel Vector Readout in Co/MgO/FeMn/Co Tunnel Junction For Artificial Synapse Application: An Ab-Initio DFT−NEGF Study
P. Dutta[1], G. P. Carman[2], T. Pramanik[3], S. Bhanja[1]
[1]*Electrical Engineering, University of South Florida, Tampa, Florida, United States,* [2]*Mechanical and Aerospace Engineering, University of California, Los Angeles, Los Angeles, California, United States,* [3]*Electronics and Communication, IIT Roorkee, Haridwar, Uttarakhand, India*
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VP8-34. Impact of Cr Insertion Layer on Spin Transport in Engineered Co_2FeAl Based Spin Orbit Torque System.
R. Mondal[1], A. Haldar[2], C. Murapaka[1]
[1]*Materials Science and Metallurgical Engineering, Indian Institute of Technology Hyderabad, Sangareddy, Telangana, India,* [2]*Department of Physics, Indian Institute of Technology Hyderabad, Sangareddy, Telangana, India*
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VP8-35. Extremely Long Spin Wave Propagation in Yttrium Iron Garnet with Double-Sided Periodic Metallic Patterns
D. Shabaev[1, 2], T. Watanabe[3], T. Koguchi[1, 2], H. Miyashita[1, 2], E. Negishi[3], K. Ishiyama[1], T. Goto[1]
[1]*Research Institute of Electrical Communication, Tohoku University, Sendai, Japan,* [2]*Graduate School of Engineering, Tohoku University, Sendai, Miyagi, Japan,* [3]*Shin-Etsu Chemical, Annaka, Gunma, Japan*
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VP8-37. Energy-Efficient Generative AI with Probabilistic Bits
K. Selcuk, K. Camsari
University of California, Santa Barbara, Santa Barbara, California, United States
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VP8-38. Proximity-Induced Spin-Orbit Torque in Graphene on CrSBr Monolayer
M. Rassekh[1], M. Gmitra[1, 2]
[1]*Institute of Physics, Pavol Jozef Šafárik University in Košice, Košice, Slovakia,* [2]*Institute of Experimental Physics, Slovak Academy of Sciences, Košice, Košice, Slovakia*
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VP8-39. Generation, characterization, and directed self-assembly of binary and medium-entropy magnetic nanoparticles with tunable composition
H. Jalili[2, 4], M. Sedrpooshan[2, 1, 3], S. Emile Herz[4], P. Ternero[2, 1], P. Maltoni[5, 6], C. Bulbucan[7], A. Vishina[8], D. Peddis[5, 6], M. E Messing[2, 1, 3], R. Westerström[2, 4]
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VP8-40. Modulation of Curie Temperature and Anomalous Hall Angle via Te-composition in Cr_xTe_y
A. K. Pandey, S. Pati, N. Kumar, S. Chaudhary
Department of Physics, Indian Institute of Technology Delhi, New Delhi, Delhi, India
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VP8-41. Coexistence of Large Anomalous and Topological Hall Effect in an Epitaxial Ferromagnetic Weyl Nodal-Line Fe_5Si_3
S. Pati[1], S. S. Pradhan[2], A. K. Pandey[1], V. Kanchana[2], S. Chaudhary[1]
[1]*Physics, IIT Delhi, New Delhi, Delhi, India,* [2]*physics, IIT Hyderabad, Hyderabad, Telangana, India*
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VP8-42. Spin wave dynamics of reconfigurable magnonic crystal
A. K. Dhiman[1, 2], N. Lesniewski[3], R. Gieniusz[2], J. Kisielewski[2], P. Mazalski[2], Z. Kurant[2], P. Graczyk[1], M. Matczak[1], M. Krawczyk[3], A. Lynnyk[4], A. Maziewski[2], P. Gruszecki[3]
[1]Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland, Poznan, Greater Poland, Poland, [2]Department of Physics of Magnetism, University of Bialystok, Bialystok, Podlaskie, Poland, [3]Faculty of Physics and Astronomy, Adam Mickiewicz University, Poznan, Wielkopolski, Poland, [4]Institute of Physics, Polish Academy of Sciences, Warsaw, Poland
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VP8-43. Spin Pumping in YIG/$W_{90}Ti_{10}$ Bilayers
M. Hachem, Z. Harajli, s. Isber, M. Haidar
Physics, American University of Beirut, Beirut, Lebanon
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VP8-44. Synchronization of propagating spin waves in spin Hall oscillators
M. Haidar
Physics, American University of Beirut, Beirut, Lebanon
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VP8-45. Magnetic Alignment and Thermal Treatment Strategies for High-Q CoZrTa Laminated Core in AI Power Delivery Systems
G. Wei[1], Y. Zheng[2], J. Soh[2], C. O'Mathuna[1, 3], R. Sai[1]
[1]Tyndall National Institute, Cork, Ireland, [2]Applied Materials Inc., Santa Clara, California, United States, [3]School of Engineering, University College Cork, Cork, Ireland
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SESSION VP9: SURFACE AND INTERIOR PERMANENT MAGNET MACHINES
Chair(s): M. Ibrahim, *Department of ElectroMechanical, Systems and Metal Engineering , University of Ghent, Gent, Belgium*
Wednesday, May 6, 2026
08:30 AM-08:30 PM
Conference Resource Center (On-Demand)

VP9-01. High Torque-Density Axial-Flux Machine Using Inclined Permanent Magnet Design
L. Dai, S. Niu, X. Huang, Z. Lyu, H. Yin, K. Chau
Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, Hong Kong
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VP9-03. 3D Effects of Rotor Step Skew on Torque Characteristics of Interior Permanent Magnet Synchronous Motors
K. Yamazaki, M. Yashiro
Electrical and Electric Engineering, Chiba Institute of Technology, Tsudanuma, Select State, Japan
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VP9-04. Investigation of Stator Yoke Oil Channel Effects on Electromagnetic, Vibration, and Thermal Behavior of High-Power-Density FSCW Machines
J. Yu[1], J. Yang[1], P. Zhang[2], S. Huang[1]
[1]Hunan University, Changsha, China, [2]China Aviation Power Machinery Research Institute, Zhuzhou, China
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VP9-05. Design and Analysis of a Novel Distributed Unequal-Pitch Modular Winding for Fault-Tolerant PMSM
S. Zheng[1], M. Jiang[2], J. Shen[2]
[1]Changzhou Institute of Technology, Changzhou, Jiangsu, China, [2]Jiangsu Ocean University, Lianyungang, Jiangsu, China
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VP9-06. Design of N-S-Iron Interleaved Asymmetric Pole Arc Coefficient 24-slot/20-pole CPPM Machine with Rotor Inner Slots

Q. Zhang, J. Wang, Y. Hu, W. Xu
Southeast University, Nanjin, Jiangsu, China

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VP9-08. Effect of Winding Phase-Shifting on Low-Space-Harmonic Design in Six-Phase Permanent-Magnet Synchronous Machine

Z. Yuan[1], Y. Sui[1], P. Zheng[1], L. Cheng[2], W. Liu[1], Y. Gao[1]
[1]Harbin Institute of Technology, Harbin, China, [2]CRRC Zhuzhou Electric Co., Ltd., Zhuzhou, China

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VP9-09. Research on Permeance Harmonic Design for a PM Flux-Modulated Motor Utilizing Air-Gap Region Function

J. Ren, X. Zhu, L. Quan, Z. Xiang
School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China

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VP9-10. Design and Analysis of a Direct-Drive Magnetic Coupling Underwater Thruster Capable of Large Thrust and High Efficiency

W. Wang[1], Z. Xiang[1], E. Ma[2], X. Wang[1]
[1]School of Electrical and Information Engineering, Jiangsu University, Zhenjiang, China, [2]No. 705 Research Institute, China State Shipbuilding Corporation Limited, Xi An, China

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VP9-11. Investigation of a New Dual-Layer Asymmetric Series-Magnetic-Circuit Variable Flux Memory Machine

Y. Fu[1, 2], W. Liu[1], J. Chen[1], R. Li[1], X. Shu[1], C. Zhang[1]
[1]Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo Institute of Materials Technology and Engineering Chinese Academy of Sciences, Ningbo, Zhejiang, China, [2]University of Chinese Academy of Sciences, Beijing, China

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VP9-12. Loss model establishment and multi-dimensional correction of low-speed high-torque PMSM for efficiency optimal control

Z. Wang[1], G. Liu[1], S. Yu[1], Y. Zheng[2], Q. Xiong[3], Z. Zhang[4]
[1]Shenyang University of Technology, Shenyang, China, [2]Wolong Electric Group Co., Ltd,, Shaoxing, China, [3]Chongqing Dema High-Speed Equipment Engineering Research Institute Co., Ltd, Chongqing, China, [4]Dalian Zhiding Technology Co., Ltd, Dalian, China

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VP9-14. Flexible Power Sharing in Multi-Three-Phase PMSM via Virtual Current Regulation With Vector Space Decomposition

Z. Lyu[1], A. Chau[2], H. Zhan[1], L. Dai[1], S. Niu[1]
[1]The Hong Kong Polytechnic University, Hung Hom, Hong Kong, China, [2]City University of Hong Kong, Hong Kong, Hong Kong

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VP9-15. A Study on an Outer-Rotor Hybrid Motor Considering for High Power Density

Y. Lee[1], H. Kim[1], S. Ko[1], S. Choi[2], W. Kim[2]
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