

Organized by Sevilla University



23rd

SOFT
MAGNETIC
MATERIALS

Conference



Programme

23rd Soft Magnetic Materials Conference

Sevilla, 10-13 September 2017

Programme at a glance

	Sunday	Monday	Tuesday	Wednesday
9:00		Opening ceremony	Ito	Shull
9:15				
9:30		Moses	O-16	O-33
9:45			O-17	O-34
10:00		Arrott	O-18	O-35
10:15			O-19	O-36
10:30		O-01	Farle	Chiriac
10:45		O-02		
11:00		Coffee	Coffee	Coffee
11:30		Landgraf	Suzuki	Hahn
11:45				
12:00		O-03	O-20	O-37
12:15		O-04	O-21	O-38
12:30		O-05	O-22	O-39
12:45		O-06	O-23	O-40
13:00		O-07	O-24	Carman
13:15		O-08	O-25	
13:30		Lunch	Lunch	Lunch
15:30		de la Barière	Ohta	O-41
15:45				O-42
16:00		O-09	O-26	O-43
16:15		O-10	O-27	O-44
16:30		O-11	O-28	O-45
16:45		O-12	O-29	O-46
17:00		O-13	O-30	Poster Session P3
17:15		O-14	O-31	
17:30		O-15	O-32	
17:45		Poster Session P1	Poster Session P2	
18:00				
18:15				
18:30				Closing ceremony and awards
18:45				
19:00	Registration			
19:15				
19:30				
20:00	Welcome reception (20:00-22:00)			
20:30		Visit to Alcazar	Conference dinner	

About the conference

The Soft Magnetic Materials Conference, commonly referred to as SMM, is the largest international conference dedicated to soft magnetic materials. Celebrated every two years in the month of September, it consists of invited, oral and poster presentations that span over a period of three days.

This conference brings together researchers from industry and academia working on all aspects of soft magnetic materials, with topics including, among others, materials properties, applications, device design, fundamental studies in magnetism and simulations. For the 2017 edition, which takes place on 10th - 13th September 2017, a total of 171 abstracts had been accepted, divided into 12 invited, 46 oral and 113 posters presentations. The countries of origin of the authors comprised 5 continents.

Selected manuscripts presented at the conference, upon regular refereeing procedure to ensure originality and scientific quality, will be published in AIP Advances.

Invited speakers

- Prof. Anthony **Arrott**, Simon Fraser University, Canada
- Prof. Greg **Carman**, University of California at Los Angeles, United States
- Prof. Horia **Chiriac**, National Institute of Research and Development for Technical Physics, Romania
- Dr. Olivier **de la Barrière**, SATIE, ENS Cachan, CNRS, Université Paris-Saclay, France
- Prof. Michael **Farle**, University of Duisburg-Essen, Germany
- Prof. Horst **Hahn**, Institute of Nanotechnology, Karlsruhe Institute of Technology, Germany
- Dr. Shinichiro **Ito**, TDK Corporation, Japan
- Prof. Fernando **Landgraf**, Universidade de Sao Paulo, Brazil
- Prof. Anthony **Moses**, Cardiff University, UK
- Dr. Motoki **Ohta**, Hitachi Metals. Ltd., Japan
- Dr. Robert D. **Shull**, National Institute of Standards and Technology, USA
- Prof. Kiyonori **Suzuki**, Monash University, Australia

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- Dr. Régis Lemaître, ThyseenKrupp Electrical Steel GmbH
- Prof. Carlo Ragusa, Politecnico di Torino
- Prof. Pavel Ripka, Czech Technical University
- Dr. Ivan Skorvanek, Slovak Academy of Sciences
- Dr. Lajos K. Varga, Hungarian Academy Sciences
- Dr. Roger West, Cogent Surahammars Bruk AB
- Prof. Shunji Yanase, Gifu University

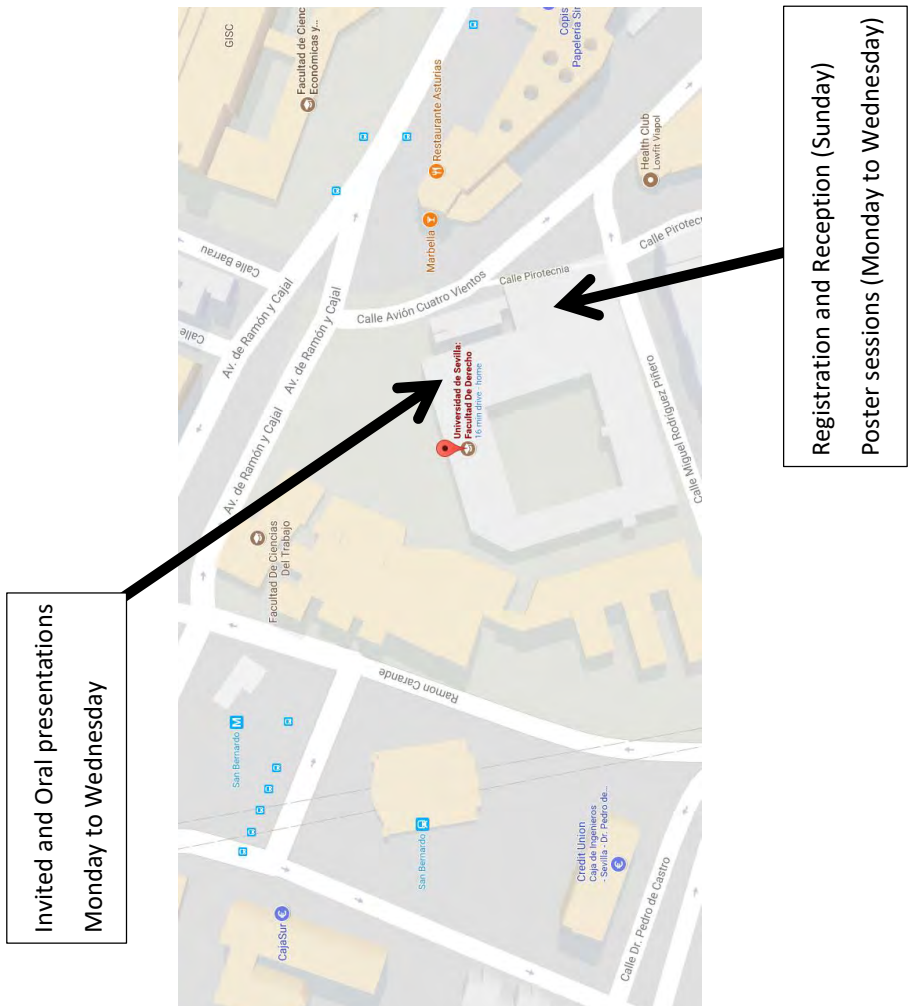
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- Dr. Bogdan Idzikowski, Polish Academy of Sciences
- Prof. Carlo Ragusa, Politecnico di Torino
- Dr. Lajos K. Varga, Hungarian Academy Sciences

Venue

All invited and oral sessions of 23rd SMM will take place at the Auditorium in the Faculty of Law of Sevilla University. It is located at: Facultad de Derecho, Av. Enramadilla 18-20, 41018 Sevilla.

The poster sessions, coffee breaks, meals, and the registration and reception on Sunday evening will take place at the university canteen adjacent to the Faculty of Law. The entrance to the campus on Sunday evening will be via the gates closest to the canteen.



Sponsors

We would like to acknowledge the companies and institutions who had sponsored the 23rd SMM. Some of them will also have an exhibition in front of the auditorium during the conference dates.

The list of sponsors, in alphabetical order is:

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Technical Sponsor:

- IEEE Magnetics Society

The conference is endorsed by The American Physical Society Topical Group on Magnetism and its Applications (APS GMAG)

Programme

Invited talks

I-01 Monday 9:30 AM

Transformer core Building Factors: Better approaches to an old problem

A.J. Moses

School of Engineering, Cardiff University, Newport Rd, Cardiff, UK

I-02 Monday 10:00 AM

Using magnetic charges to understand soft magnetic materials

Anthony S. Arrott

Physics Department, Simon Fraser University, Burnaby, Canada

I-03 Monday 11:30 AM

The effect of plastic deformation and recovery annealing on magnetic properties of electrical steel at high frequencies

Daniel L. Rodrigues Jr, Fernando JG Landgraf, Adriano Alex de Almeida and Thomas Nishikawa

University of São Paulo, Brazil

I-04 Monday 3:30 PM

1D and 2D loss characterization systems: optimal design, measurement methods and results

O. de la Barrière (1), C. Appino (2), C. Ragusa (3), F. Fiorillo (2), M. LoBue (1), F. Mazaleyrat (1)

(1) Laboratoire SATIE, CNRS - ENS Cachan, F-94230 Cachan, France; (2) Nanoscience and Materials Division, INRiM, Turin, Italy; (3) Energy Department, Politecnico di Torino, Torino 10129, Italy

I-05 Tuesday 9:00 AM

Recent Topics of Power Ferrites

Shinichiro Ito, Kentaro Mori, Isao Nakahata

Materials Development Center, TDK Corporation, Japan

I-06 Tuesday 10:30 AM

Functionalized Hybrid Nanomagnets: New Materials for Innovations in Energy Storage and Medical Theranostics

M. Farle

Faculty of Physics, University of Duisburg-Essen, Germany, and Immanuel Kant Baltic Federal University, Russia

I-07 Tuesday 11:30 AM

Fe based nanocrystalline soft magnetic materials: Alloy development for higher saturation magnetization

K. Suzuki (1), A. Kato (2)

(1) Department of Materials Science and Engineering, Monash University, Clayton, VIC 3800, Australia;
(2) Advanced Materials Engineering Division, Toyota Motor Corporation, Mishuku, Susono, Shizuoka 410-1193, Japan

I-08 Tuesday 3:30 PM

Possibility of Application of High Bs Soft Magnetic Nanocrystalline Alloy Ribbon in Power Magnetics Field

M. Ohta

Hitachi Metals. Ltd., Japan

I-09 Wednesday 9:00 AM

Domain images showing the reversal behavior of thin patterned permalloy strips

R.D. Shull(1), Yu.P. Kabanov(2), V.S. Gornakov(2), P.J. Chen(1), V.I. Nikitenko(2)

(1) Materials Science and Engineering Division, National Institute of Standards and Technology, Gaithersburg, Maryland, USA (2) Institute of Solid State Physics, Russian Academy Of Science, Chernogolovka, Russia

I-10 Wednesday 10:30 AM

Biomedical applications of soft magnetic materials: challenges, opportunities, limitations

H. Chiriac

National Institute of Research and Development for Technical Physics, Iasi, Romania

I-11 Wednesday 11:30 AM

Reversible electrochemical control of magnetic phase transitions: towards on-and-off voltage-driven ferromagnetism at room temperature

H. Hahn (1,2), R. Kruk (1), A. Molinari (1), S. Dasgupta (1,3)

(1) Institute of Nanotechnology, Karlsruhe Institute of Technology, Karlsruhe, Germany; (2) Herbert Gleiter Institute of Nanoscience, Nanjing University of Science and Technology, Nanjing, China; (3) Indian Institute of Science, Bangalore, India

I-12 Wednesday 1:00 PM

Strain Induced Exchange-Spring Magnetic Behavior in Amorphous TbDyFe Films

G.P. Carman, K.P. Mohanchandra, T. Lee

Mechanical and Aerospace Engineering, University of California at Los Angeles, United States

Oral presentations

O-01 Monday 10:30 AM

Skyrmion dynamics in patterned ultrathin magnetic films

K.Y. Guslienko (1,2), Z.V. Gareeva (3)

(1) Departamento de Fisica de Materiales, Universidad del Pais Vasco, UPV/EHU, 20018 San Sebastian, Spain; (2) IKERBASQUE, the Basque Foundation for Science, 48013 Bilbao, Spain; (3) Institute of Molecule and Crystal Physics, Russian Academy of Sciences, 450075 Ufa, Russia

O-02 Monday 10:45 AM

Computational tools for probing transient magnetic energy landscapes and manufacturing approaches to device level optimization

Orlando Rios (1,2), Ayyoub Mehdizadeh Momen (1,2), Khorgolkhuu Odbadrakh (1), Markus Eisenbach (1), Valentino R. Cooper (1), Amy Elliott (1), Omar Abdelaziz(1)

(1) Oak Ridge National Laboratory, USA; (2) University of Tennessee, USA

O-03 Monday 12:00 PM

Comparison between measured and computed magnetic flux density distribution of simulated transformer core joints assembled from grain-oriented and non-oriented electrical steel

H. Shahrtoouzi(1), A. J. Moses(1), P. I. Anderson(1), G. Li (2), Z. Hu (2)

(1) Wolfson Centre for Magnetics, Institute of Energy, Cardiff University, Cardiff, UK; (2) Institute of Silicon Steel, R&D Center of Baosteel Group Corporation, Shanghai, China

O-04 Monday 12:15 PM

Core Loss Reduction of Grain-oriented Electrical Steel Sheet by Hyperfine Processing Magnetic Domain

(1)Masato Enokizono, (2)Daisuke Wakabayashi, (1)Yukio Mamiduka

(1) Vector Magnetic Characteristic Technical Laboratory, Usa, Japan; (2) Department of Mechanical Electrical Engineering, Nihon Bunri University, Oita, Japan

O-05 Monday 12:30 PM

Influence of initial heating during final high temperature annealing on the offset of primary and secondary recrystallisation in Cu-bearing grain oriented electrical steels

P. Rodríguez-Calvillo (1), E. Leunis (1), T. Van De Putte (2), S. Jacobs (3), O. Zacek (4), W. Saikaly (1)

(1) ArcelorMittal Global R&D Gent, J.F. Kennedylaan 3, 9060 Zelzate, Belgium; (2) ArcelorMittal Europe - Flat Products, J.F Kennedylaan 51, 9042 Gent, Belgium; (3) ArcelorMittal Global R&D, Technologiepark 935, 9052 Zwijnaarde, Belgium; (4) ArcelorMittal Ostrava, Plant 17, Frýdek Místek, Czech Republic

O-06 Monday 12:45 PM

Effects by the Microstructure after Hot and Cold Rolling on the Texture and Grain Size after Final Annealing of Ferritic Non-oriented FeSi Electrical Steels

J. Schneider (1), A. Stöcker (1), R. Kawalla (1), A. Franke (2)

(1) Institute of Metal Forming, Technische Universität Bergakademie Freiberg, Bernhard-von-Cotta-Str.4, D-09596

O-07 Monday 1:00 PM

Thin Grain Oriented Electrical Steel for PWM voltages fed magnetic cores

T. Belgrand(1), R. Lemaître(1), A. Benabou(2), J. Blaszkowski(1), C. Wang(1)

(1) Research & Technology, thyssenkrupp Electrical Steel GmbH, Gelsenkirchen, Germany; (2) Laboratoire d'Electrotechnique et d'Electronique de Puissance de Lille - Université des Sciences et Technologies de Lille 1 - Polytech'Lille, Villeneuve-d'Ascq, France

O-08 Monday 1:15 PM

Vector Magnetic Characteristics of Ultra-thin Electrical Steel Sheet for High Speed Motor Core

S. Ueno (1), M. Enokizono (2), Y. Mori (3), K. Yamazaki (4)

(1) Department of Electrical Engineering , Oita University, Oita, Japan; (2) Vector Magnetic Characteristic Technical Laboratory, Usa, Japan; (3) Yoshikawa Kogyo CO., LTD., Kitakyushu-shi, Japan; (4) Nippon Kinzoku CO., LTD., Tokyo, Japan

O-09 Monday 4:00 PM

Representation of microstructural features and magnetic anisotropy in an energy-based vector hysteresis model of electrical steel

S. Steentjes (1), F. Henrotte (2), K. Jacques (2), K. Hameyer (1)

(1) Institute of Electrical Machines, RWTH Aachen University, Aachen, Germany; (2) ACE, Montefiore Institute, University of Liège, Liège, Belgium

O-10 Monday 4:15 PM

Impact of the Interaction of Material Production and Mechanical Processing on the Magnetic Properties of Non-oriented Electrical Steel

Kay Hameyer (1), Nora Leuning (1), Simon Steentjes (1), Anett Stöcker (2), Rudolf Kawalla (2), Xuefei Wei (3), Jens Dierdorf (3), Gerhard Hirt (3), Stefan Roggenbuck (4), Sandra Korte-Kerzel (4), Hannes, A. Weiss (5), Wolfram Volk (5)

(1) Institute of Electrical Machines (IEM), RWTH Aachen University, D-52062 Aachen, Germany; (2) Institute of Metal Forming (IMF), Technische Universität Bergakademie Freiberg, D 09596 Freiberg, Germany; (3) Institute of Metal Forming (IBF), RWTH Aachen University, D-52062 Aachen, Germany; (4) Institute of Physical Metallurgy and Metal Physics (IMM), RWTH Aachen University, D-52062 Aachen, Germany; (5) Institute of Metal Forming and Casting (utg), Technische Universität München, D 85748 Garching, Germany

O-11 Monday 4:30 PM

MOKE analysis of non-oriented steel sheets under alternating and rotational fields

A.Magni (1), C.Appino (1), F.Fiorillo (1), L.Martino (1), C.Ragusa (2), O. de la Barrière (3)

(1) Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy; (2) Dipartimento di Ingegneria Elettrica, Politecnico di Torino, Torino, Italy; (3) SATIE, ENS Cachan, CNRS, UniverSud, Cachan, France

O-12 Monday 4:45 PM

Combination of 3MA electromagnetic NDT measurement and FEM simulation for mechanical parameter characterization

Y.Gabi, O.Martins,B.Wolter,B.Strass

Fraunhofer Institut IZFP, Saarbrücken, Germany

O-13 Monday 5:00 PM

Loss separation under two-dimensional induction

C. Ragusa (1), C. Appino (2), O. de la Barrière (3), F. Fiorillo (2)

(1) Energy Department "Galileo Ferraris", Politecnico di Torino, Torino, Italy; (2) Nanoscience and Materials Division, INRIM, Torino, Italy; (3) Laboratoire SATIE, CNRS - ENS Cachan, F-94230 Cachan, France.

O-14 Monday 5:15 PM

True magnetic energy losses from optimized single sheet testing

H. Pfützner, G. Shilyashki

Institute EMCE - Vienna Magnetics Group, TU Wien, Vienna, Austria

O-15 Monday 5:30 PM

Magnetostrictive and magnetic effects in Fe-27%Co laminations

T.Waeckerlé (1), M.Savary (2,3), R. Batonnet (1), O. Hubert (2), A.L. Helbert (3), T. Baudin (3)

(1) Centre de Recherche Aperam Imphy, 58160 Imphy, France; (2) LMT, ENS Paris-Saclay, UMR CNRS 8535, Université Paris-Saclay, Cachan, France ; (3) ICMMO, SP2M, Univ. Paris-Sud, Université Paris-Saclay, UMR CNRS 8182, Orsay, France

O-16 Tuesday 9:30 AM

LTCC magnetic components for high density power converter

Richard LEBOURGEOIS

THALES R&T, Palaiseau, France

O-17 Tuesday 9:45 AM

The magnetic losses of CoO-doped Mn-Zn ferrites

C. Beatrice(1), S. Dobák (2), V. Tsakaloudi (3), C. Ragusa (4), F. Fiorillo (1), L. Martino (1), V. Zaspalis(3)

(1) Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy; (2) Institute of Physics, P.J. Šafárik University, Košice, Slovakia; (3) Laboratory of Inorganic Materials, CERTH, Thessaloniki, Greece; (4) Energy Department, Politecnico di Torino, Torino, Italy.

O-18 Tuesday 10:00 AM

Study of magnetic properties of NiZnCu ferrite synthesised by Pechini method and solid-state reactions

G. Frajer (1,2,3), M. Salaün (1,3), G. Delette (1,2), H. Chazal (1,4), O. Isnard (1,3)

(1) Univ. Grenoble Alpes, F-38000 Grenoble, France ; (2) CEA, LITEN - CEA Grenoble, Grenoble, France ; (3) CNRS, Institut Néel, Grenoble, France ; (4) Laboratoire de Génie Electrique de Grenoble G2Elab, Grenoble, France

O-19 Tuesday 10:15 AM

Surface effects and interactions in nano-cobalt ferrites

M. Saidani, W. Belkacem and N. Thabet Mliki

Université de Tunis El Manar, Faculté des Sciences de Tunis, LMOP (LR99ES17)

O-20 Tuesday 12:00 PM

Magnetization linearity of the stress annealed nanocrystalline ribbon

L. K. Varga

Wigner Research Center for Physics of Hung. Acad. Sciences, Budapest, Hungary

O-21 Tuesday 12:15 PM

Magnetization process of magnetostrictive glass-coated FeSiB microwire under applied torsion

M. Vazquez (1), A. Jimenez (1), P. Klein (2), E. Calle (1), R. Perez (1), R. Varga(2)

(1) Institute of Materials Science of Madrid, CSIC. 28049 Madrid. Spain; (2) Institute of Physics, Faculty of Science, UPJS. 04154 Košice, Slovakia

O-22 Tuesday 12:30 PM

Influence of C addition on the magnetic properties of Fe-Si-B-P-Cu alloys

M.Kuhnt(1), A. Saksena(2), M. Amalraj(2), K.G. Pradeep(2), T. Strache(3), M. Marsilius(3), C. Polak(3), G. Herzer(3)

(1) Department of Materials Science, TU Darmstadt, D-64287 Darmstadt, Germany; (2) Materials Chemistry, RWTH Aachen University, Kopernikusstr. 10, D-52074 Aachen, Germany; (3) Vacuumschmelze GmbH Co KG, D-63450 Hanau, Germany.

O-23 Tuesday 12:45 PM

GMI effect in rapidly quenched FeNi-based bilayer and trilayer ribbons

Ivan Škorvánek (1), František Andrejka (1), Branislav Kunca (1), Jozef Marcin (1), Peter Švec (2), Peter Švec Sr. (2)

(1) Institute of Experimental Physics, Slovak Academy of Sciences, Watsonova 47, 04001 Košice, Slovakia; (2) Institute of Physics, Slovak Academy of Sciences, Dúbravská cesta 9, 84511 Bratislava, Slovakia

O-24 Tuesday 1:00 PM

Corrosion resistant metallic glasses for biosensing applications

Ariane Sagasti (1), Ana Catarina Lopes (1), Andoni Lasheras (2), Verónica Palomares (2), Fco. Javier Carrizo (3), Jon Gutierrez (1,2) and J. Manuel Barandiaran (1,2)

(1) BCMaterials, Derio 48160, Spain; (2) Universidad del País Vasco UPV/EHU, Leioa 48080, Spain; (3) Universidad de Oviedo, Gijón 33204, Spain.

O-25 Tuesday 1:15 PM

Magneto-structural properties of Ni-Co alloy and multisegmented Ni/Co nanowire arrays modulated in composition

M. Méndez (1), A.S. González (1), V. Vega (1, 2), B. Hernando (1), C. Luna (3), V.M. Prida (1)

(1) Departamento de Física, Universidad de Oviedo, Oviedo, Spain; (2) Laboratorio de Membranas Nanoporosas, Unidad de Nanotecnología, Servicios Científico-Técnicos de la Universidad de Oviedo, Oviedo, Spain; (3) Centro de Investigación en Ciencias Físico Matemáticas, Universidad Autónoma de Nuevo León (UANL), Nuevo León, Mexico

O-26 Tuesday 4:00 PM

Innovative soft magnetic multilayers with enhanced in-plane anisotropy and ferromagnetic resonance frequency for RF integrated passive devices

Claudiu V. Falub (1), Martin Bless (1), Rachid Hida (2), Mojmír Meduňa (3,4), Daniel Schneider (1), Hartmut Rohrmann (1)

(1) Evatec AG, Hauptstrasse 1a, CH-9477 Trübbach, Switzerland; (2) CEA-LETI/Minattec, 17 rue des Martyrs, 38054 Grenoble Cedex 9, France; (3) Department of Condensed Matter Physics, Masaryk University, Kotlářská 2, CZ-61137 Brno, Czech Republic; (4) CEITEC, Masaryk University, Kamenice 5, CZ-60177 Brno, Czech Republic

O-27 Tuesday 4:15 PM

Analysis of the dynamic behavior of magnetic materials under high B and dB/dt excitations

O. Messal (1), H. Dhahbi (1,2), A. Kedous-Lebouc (1), P. Mas (2), O. Geoffroy (1), C. Chillet (1), S. Buffat (2), S.-A. Randi (3)

(1) Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab, F-38000 Grenoble, France; (2) Schneider Electric, F-38320 Eybens, France; (3) Renault SAS, Technocentre, F-78280 Guyancourt, France

O-28 Tuesday 4:30 PM

A high-saturation Fe-27%Co material with microalloying additions

F. Fohr, N. Volbers

VACUUMSCHMELZE GmbH & Co. KG, 63450 Hanau, Germany

O-29 Tuesday 4:45 PM

Pure-Iron/Iron-based-alloy hybrid soft magnetic powder cores compacted ultra-high pressure

T. Saito (1), H. Tsuruta (2), A. Watanabe (1), T. Ishimine (1), T. Ueno (1)

(1) Sumitomo Electric Industries, Ltd., 1-1-1, Koya-kita, Itami, Hyogo 664-0016, Japan; (2) Sumitomo Electric Sintered Alloy, Ltd., 1-1-1, Koya-kita, Itami, Hyogo 664-0016, Japan

O-30 Tuesday 5:00 PM

Reversible voltage-control of coercivity in CeMn₂Ge₂ by ion intercalation

Robert Kruk, Mithun Palit, Bijoy Kumar Das, Subho Dasgupta, and Horst Hahn

Institute of Nanotechnology, Karlsruhe Institut of Technology, Karlsruhe, Germany

O-31 Tuesday 5:15 PM

Fe-Al Alloy Single-Crystal Thin Film Preparation for Basic Magnetic Measurements

Tatsuya Abe (1), Tetsuroh Kawai (1), Masaaki Futamoto (1), Mitsuru Ohtake (1, 2), Nobuyuki Inaba (3)

(1) Faculty of Science and Engineering, Chuo University, 1-13-27 Kasuga, Bunkyo-ku, Tokyo 112-8551, Japan; (2) Faculty of Engineering, Kogakuin University, 2865-1, Nakano-machi, Hachioji, 192-0015 Japan; (3) Department of Electrical Engineering, Yamagata University, 4-3-16 Jyonan, Yonezawa 992-8510, Japan

O-32 Tuesday 5:30 PM

Transformer Core Design Depending on Magnetic Properties and Microstructures of Goss Texture Fe-3%Si Steel

T. Gunes(1), N. Derebasi(2)

(1) Department of Energy Systems Engineering, Yalova University, 77100, Yalova, Turkey, (2) Department of Physics, Uludag University, Bursa 16059, Turkey

O-33 Wednesday 9:30 AM

Sensibility of the magneto-impedance effect to the permeability of systems containing magnetic particles

A. García-Arribas (1,2), Maite Goiriena-Goikoetxea (2), and E. Fernández (2,3)

(1) Departamento de Electricidad y Electrónica, Universidad del País Vasco, UPV/EHU, Leioa, Spain; (2) Basque Centre for Materials, Applications and Nanostructures, BCMaterials, Derio, Spain; (3) Department of Material Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA

O-34 Wednesday 9:45 AM

Magnetic microalgae: an innovative application of super-paramagnetic iron oxide nanoparticles

G. Banis (1), M. E. Kouli (1), A. Ferraro (1,2), E. Hristoforou (1)

(1) Laboratory of Electronic Sensors, National Technical University of Athens, Athens, Greece; (2) Laboratory of Functional programmable materials of quantum electronics for biomedicine. Kazan Federal University, Kazan, Russian Federation

O-35 Wednesday 10:00 AM

Tuning the magnetic properties of biological nanoparticles through doping

Lourdes Marcano (1), David Muñoz Rodríguez (2), Rosa Martín Rodríguez (3), Ana García Prieto (4,5), Javier Alonso (5), Alicia Muela (2,5), M. Luisa Fdez-Gubieda (1,5)

(1) Departamento de Electricidad y Electrónica, Universidad del País Vasco (UPV/EHU), Leioa, Spain; (2) Departamento de Inmunología, Microbiología y Parasitología, Universidad del País Vasco (UPV/EHU), Leioa, Spain; (3) Department of Chemistry, Universidad de Cantabria; Santander; Spain; (4) Departamento de Física Aplicada I, Universidad del País Vasco (UPV/EHU), Bilbao, Spain; (5) BCMaterials, Building No.500, Technological Park of Biscay, Derio, Spain

O-36 Wednesday 10:15 AM

Towards in silico clinical trials for magnetic hyperthermia

Irene Rubia-Rodríguez (1), Helena Verdaguer (2), Teresa Macarulla (2), Daniel Ortega (1)

(1) Madrid Institute for Advanced Studies in Nanoscience (IMDEA Nanociencia), Madrid, Spain; (2) Vall d'Hebron University Hospital, Medical Oncology, Barcelona, Spain

O-37 Wednesday 12:00 PM

Revisiting the magnetic and magnetocaloric properties of FeZrB Invar alloys under high-magnetic field

Pablo Alvarez-Alonso (1), Jose L. Sanchez Llamazares (2), Jesus A. Blanco (1), Pedro Gorria (3)

(1) Department of Physics, University of Oviedo, Oviedo, Spain; (2) Div. Materiales Avanzados, IPICT, San Luis Potosi, Mexico; (3) Department of Physics, EPI; University of Oviedo, Gijon, Spain

O-38 Wednesday 12:15 PM

Towards high-temperature magnetostructural transitions and large magnetocaloric effects in hexagonal phase-transition materials

Enke Liu (1,2), Yong Li (1), Wenhong Wang (1), Guangheng Wu (1), Aili Sun (2), Claudia Fesler (2)

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O-39 Wednesday 12:30 PM

Microstructural and magnetic properties of Co₂FeAl Heusler alloys prepared by planar flow casting, arc and induction melting

A. Titov (1,2), O. Zivotsky (1), Y. Jiraskova (2), J. Bursik (2), D. Janickovic (3)

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O-40 Wednesday 12:45 PM

The influence of severe plastic deformation on magnetic and magnetocaloric properties of Gd, Tb and Dy ferromagnetic lanthanides.

Sergey Taskaev, Konstantin Skokov, Vladimir Khovaylo, Dmitriy Karpenkov, Maxim Ulyanov, Dmitriy Bataev

Physics department, Chelyabinsk State University, Chelyabinsk, Russia

O-41 Wednesday 3:30 PM

Off-diagonal component of giant magnetoimpedance effect in Co-based (as-cast and stress-annealed) amorphous ribbons

A. Chizhik (1), Abd El-Moez A. Mohamed (2,3), T. Sánchez (2), B. Hernando (2), M. Ipatov (1), V. Zhukova (1), A.P. Zhukov (1,4), J.M. Blanco (5), L. Domínguez (5) J. González (1)

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O-42 Wednesday 3:45 PM

Developing Carbon Nanotubes coated by iron oxide nanoparticles

K. Gkaliou (1), J. Hall (1), P. Davies (2), M.J Eaton (1)

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O-43 Wednesday 4:00 PM

Microstructure influence on microwave reflectivity of magnetic microwires tuned by Giant Magnetoimpedance

P. Marín, D. Archilla, A. Moya, A. Hernando

Instituto de Magnetismo Aplicado, Departamento de Física de Materiales (Universidad Complutense de Madrid), Nacional VI, Km 22.5 (28230) Las Rozas (Madrid)

O-44 Wednesday 4:15 PM

Inductance position sensor for pneumatic cylinder

P. Ripka, A. Chirtsov, M. Mirzai

Faculty of Electrical Engineering, Czech Technical University, Prague, Czech Republic

O-45 Wednesday 4:30 PM

Determining the Q-Factor in Magnetoelastic Resonant Sensors

A.C. Lopes (1), A. Sagasti (1), J. Gutiérrez (1,2), A. García-Arribas (1,2), V. Muto (2),
A. Lasheras (2), D. Kouzoudis (3), J. M. Barandiarán (1,2)

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University of Patras, Rio 26504, Patras, Greece

O-46 Wednesday 4:45 PM

Review on magnetic devices development for terrestrial and planetary rock characterization during field surveys

J.L. Mesa-Uña (1), M. Díaz-Michelena (1), M. Pérez-Jimenez (2), M. C. Maicas-Ramos (2), P. Cobos-Arribas (2), C. Aroca-Hernandez-Ros (2)

(1) Payloads and Space Sciences Dept., Instituto Nacional de Técnica Aeroespacial, Torrejón de Ardoz, Madrid, Spain; (2) ETSIT-ISOM, Universidad Politécnica de Madrid, Madrid, Spain

Poster presentations

P1-01 Monday 5:45 PM

Analysis of Soft Magnetic Materials by EBSD as a Powerful Tool

D. Schuller, D. Hohs, T. Bernthaler, D. Goll, G. Schneider

Aalen University, Materials Research Institute, Aalen, Germany

P1-02 Monday 5:45 PM

EEC Based Digital Control for Magnetic Measurements

O. Messal (1), O. Ghibaudo (2), O. Lepercq (1), A. Kedous-Lebouc (1), C. Chillet (1),
C. Boudinet (1), F. Blache (1)

(1) Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab, F-38000 Grenoble, France; (2) Safran Tech Paris-Saclay, F-78000 Chateaufort, France

P1-03 Monday 5:45 PM

Exploiting the Matteucci Effect in Amorphous Wires for sensor applications

Sahar Alimohammadi, Turgut Meydan, Paul Williams

Wolfson Centre for Magnetism, Cardiff School of Engineering, Cardiff, Wales, CF24 3AA

P1-04 Monday 5:45 PM

Two experimental ways of measuring the demagnetizing factor for a stack composed of two parallel magnetic disks separated by a non-magnetic layer

A. Aubert, V. Loyau, Martino LoBue, Frédéric Mazaleyrat

SATIE UMR 8029 CNRS, ENS Paris-Saclay, Cachan, France

P1-05 Monday 5:45 PM

Pulsed magnetic flux leakage method for hairline crack detection and characterization.

C. Okolo, T. Meydan

Wolfson Centre for Magnetism, School of Engineering, Cardiff University, Cardiff, CF24 3AA, UK.

P1-06 Monday 5:45 PM

Three steps to interpret First Order Reversal Curves in soft magnetic samples

M. Rivas, J.C. Martínez-García

Departamento de Física & IUTA, Universidad de Oviedo, Campus de Viesques, 33204 Gijón, Spain

P1-07 Monday 5:45 PM

Critical exponents of small doped Germanium in $\text{La}_{0.7}\text{Ca}_{0.3}\text{Mn}_{1-x}\text{Ge}_x\text{O}_3$ ($x = 0.05$ and $x = 0.07$)

Dwi Nanto (1), Bambang Soegijono (2), Budhy Kurniawan (2), Nilopal Ghosh (3), Jong-Soon Hwang (4), Seong-Cho Yu (4)

(1) Dept. of Physics Education, Syarif Hidayatullah State Islamic University, Jakarta, 15412, Indonesia; (2) Dept. of Physics, University of Indonesia, Depok, 16424, Indonesia; (3) School of Advance Sciences, VIT University, Vellore 632014, Tamilnadu, India; (4) Physics Department, Chungbuk National University, Cheongju, 361-763, South Korea

P1-08 Monday 5:45 PM

Decomposing the permeability spectra of nanocrystalline Finemet core

L.K. Varga (1), Kovac J (2)

(1) Wigner Research Center for Physics of Hung. Acad. Sciences; Budapest, Hungary; (2) Institute of Exp. Phys. Slovak Acad. Of Sciences, Kosice. Slovakia

P1-09 Monday 5:45 PM

Dependence of magnetic permeability on residual stresses in alloyed steels

E. Hristoforou (1), A. Ktena (2), P. Vourna (1)

(1) Laboratory of Electronic Sensors, National TU of Athens, Athens, Greece; (2) Department of Electrical Engineering, TEI of Sterea Ellada, Chalkis, Greece

P1-10 Monday 5:45 PM

Characterisation of Soft Magnetic Materials by Measurement: Evaluation of Uncertainties

S. Elfgén, D. Franck, K. Hameyer

Institute of Electrical Machines, RWTH Aachen University, Aachen, Germany

P1-11 Monday 5:45 PM

Effect of Shear Stress on Vector Magnetic Properties under Alternating Magnetic Flux Conditions

Yuichiro Kai(1), Masato Enokizono(2)

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P1-12 Monday 5:45 PM

Core Quality Assessment of Clamped Magnetic Cores Based on the Measured Dynamic Hysteresis Loop

Hamed Hamzehbahmani (1), Philip Anderson (2)

(1) Centre for Engineering and Renewable Energy (CERE), Ulster University, Magee Campus, Londonderry BT48 7JL, UK; (2) Wolfson Centre for Magnetics, Cardiff University, Cardiff CF24 3AA, UK

P1-13 Monday 5:45 PM

Investigation of measurement method of saturation magnetization of iron core material using electromagnet

T. Shibataki, Y. Takahashi, K. Fujiwara

(1) Electrical Engineering, Doshisha University, Kyoto 610-0321, Japan

P1-14 Monday 5:45 PM

Distribution of magnetic field strength inside exciting coil of single sheet tester

R. Matsubara (1), Y. Takahashi (1), K. Fujiwara (1), Y. Ishihara (1), D. Azuma (2)

(1) Electrical Engineering, Doshisha University, Kyoto 610-0321, Japan; (2) Hitachi Metals, Ltd., Tokyo 108-8244, Japan

P1-15 Monday 5:45 PM

Structural, magnetic, and mechanical properties of Fe-Ni-Co-Al -based rapidly quenched superelastic microwires

F. Borza (1), L.-G. Bujoreanu (2), N. Lupu (1), G. Stoian (1), G. Ababei (1), M. Grigoras (1), and H. Chiriac(1)

(1) National Institute of R&D for Technical Physics, Iasi, Romania; (2) Faculty of Materials Science and Engineering, "Gheorghe Asachi" Technical University, Iasi, Romania

P1-16 Monday 5:45 PM

Very low frequency noise reduction in orthogonal fluxgate

M. Butta, M. Janosek

Department of Measurement, Faculty of Electrical Engineering, Czech Technical University in Prague, Prague, Czech Republic

P1-17 Monday 5:45 PM

Rotational core losses: observed phenomena and modeling challenges

N. Alatawneh

Department of Mining and Materials Engineering, McGill University, Montreal, Canada

P1-18 Monday 5:45 PM

Fourier-based construction of FORC diagrams for soft magnetic materials

J.C. Martínez-García, M. Rivas

Departamento de Física & IUTA, Universidad de Oviedo, Campus de Viesques, 33204 Gijón, Spain

P1-19 Monday 5:45 PM

Characterization of Non-Oriented Electrical Steels for High Frequency Applications

Hamed Hamzehbahmani (1), Philip Anderson (2)

(1) Centre for Engineering and Renewable Energy (CERE), Ulster University, Magee Campus, Londonderry BT48 7JL, UK, (2) Wolfson Centre for Magnetics, Cardiff University, Cardiff CF24 3AA, UK

P1-20 Monday 5:45 PM

Non-contact micrometric position sensor based on the giant magnetoimpedance effect

J.J. Beato-López (1,2), A. Mitra (3), C. Gómez-Polo (1,2)

(1) Departamento Física. Edificio de los Acebos. Universidad Pública de Navarra, Campus de Arrosadia, 31006 Pamplona, Spain; (2) Institute for Advanced Materials (INAMAT), Universidad Pública de Navarra, Campus de Arrosadia, 31006 Pamplona, Spain; (3) NDE & Magnetic Materials Group, CSIR-National Metallurgical Laboratory, Jamshedpur 831007, India

P1-21 Monday 5:45 PM

Non-intrusive flowmeter using amorphous wire-based magnetic sensor

S. Corodeanu, C. Hlenschi, H. Chiriac, N. Lupu, T.-A. Óvári

National Institute of Research and Development for Technical Physics, Iasi, Romania

P1-22 Monday 5:45 PM

Stress relaxation and nanocrystallization influence on high frequency Giant Magnetoimpedance effect of magnetic microwires

D. Archilla, A. Hernando, P. Marín

Instituto de Magnetismo Aplicado, Caretera A6 km 22.5; 28230, Las Rozas, Madrid

P1-23 Monday 5:45 PM

High frequency characterization of different soft magnetic materials

J. Calvo-de la Rosa (1), J. Tejada (2)

(1) Department of Materials Science and Physical Chemistry, Universitat de Barcelona, Barcelona, Spain; (2) Department of Condensed Matter Physics, Universitat de Barcelona, Barcelona, Spain

P1-24 Monday 5:45 PM

Ferromagnetic microwire to be used in tunable reflectarrays/transmitarrays antennas by means of magnetic field

A. Moya, A. Hernando, P. Marín

Instituto de Magnetismo Aplicado. Nacional VI, km 22.5 28230 Las Rozas (Madrid)

P1-25 Monday 5:45 PM

Vibration mode and vibration shape under excitation of a three phase model transformer core.

S. Okabe , Y. Ishigaki, T. Omura

Steel Research Laboratory, JFE Steel Corporation, Kurashiki, Japan

P1-26 Monday 5:45 PM

Influence of iron substitution by selected rare-earth ions on the properties of NiZn ferrite fillers and PVC magneto-polymer composites

Elemír Ušák (1), Mariana Ušáková (1), Rastislav Dosoudil (1), Martin Šoka (1), Edmund Dobročka (2)

(1) Institute of Electrical Engineering, Faculty of Electrical Engineering and Information Technology, STU, Bratislava, Slovakia; (2) Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia

P1-27 Monday 5:45 PM

Effect of Lanthanum Substitution on Structural and Magnetic Properties of Nickel Zinc Ferrites

M. Šoka (1), M. Ušáková (1), R. Dosoudil (1), E. Ušák (1), J. Lokaj (2)

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P1-28 Monday 5:45 PM

Phase transitions and magnetic properties of LuFe₂O₄ ferrite under pressure

V. Markovich (1), I. Fita (2), A. Wisniewski (2), R. Puzniak (2) C. Martin (3) G. Jung (1,2) G. Gorodetsky (1)

(1) Department of Physics, Ben-Gurion University of the Negev, 84105 Beer-Sheva, Israel; (2) Institute of Physics, Polish Academy of Sciences, PL-02668 Warsaw, Poland; (3) Laboratoire CRISMAT, UMR 6508, ISMRA, 14050 Caen Cedex, France

P1-29 Monday 5:45 PM

Study of polymer composites with magnetically active Eu-substituted NiZn ferrite filler

Elemír Ušák (1), Mariana Ušáková (1), Rastislav Dosoudil (1), Eva Branická (1), Edmund Dobročka (2)

(1) Institute of Electrical Engineering, Faculty of Electrical Engineering and Information Technology, STU, Bratislava, Slovakia; (2) Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia

P1-30 Monday 5:45 PM

Mg_{1-x}Zn_xFe₂O₄ nanoparticles: Interplay between cation distribution and magnetic properties

S. Raghuvanshi (1), F. Mazaleyrat (2), S. N. Kane (1)

(1) Magnetic Materials Laboratory, School of Physics, D. A. University, Khandwa Road Campus, Indore – 452001, India; (2) SATIE, ENS Paris-Saclay, CNRS 8029, Université Paris-Saclay, 61 Avenue du Président Wilson, 94235 Cachan, France

P1-31 Monday 5:45 PM

Improving soft magnetic properties of Mn-Zn ferrites by rare earth ions doping

X.C. Zhong (1), X.J. Guo (1,2), S.Y. Zou (1), Z.W. Liu (1), Y.F. Zhang (2), K.X. Wang (2)

(1) School of Materials Science and Engineering, South China University of Technology, Guangzhou, 510640, China; (2) Midea Group Co., Ltd., Foshan, 528311, China

P1-32 Monday 5:45 PM

Influence of the winding on losses measurements in toroidal ferrites cores

Amina BOUNAR, Adrien MERCIER, Olivier DE LA BARRIERE, Vincent LOYAU, Frederic MAZALEYRAT

SATIE, ENS Cachan, CNRS, Université Paris-Saclay, 94230 Cachan, France

P1-33 Monday 5:45 PM

Magnetic elastomeric composites filled by lithium ferrite

Mariana Ušáková (1), Elemír Ušák (1), Rastislav Dosoudil (1), Ján Kruželák (2)

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P1-34 Monday 5:45 PM

Magnetism at the atomic scale in SrRuO₃-La_{0.5}Ca_{0.5}MnO₃ superlattices

V. Suresh Kumar (1), Yuanmin Zhu (2), Henry-JuiLiu (3), Ying-Hao Chu (3)

(1) School of Advanced Sciences, VIT University, Vellore, India; (2) School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing, China. (3) Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu, Taiwan

P1-35 Monday 5:45 PM

Influence of cold isostatic pressing on the magnetic properties of Ni-Zn-Cu ferrite

Trong Trung Le (1,2), Frédéric Mazaleyrat (3), Thierry Lebey (1,2), Zarel Valdez-Nava (1,2)

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P1-36 Monday 5:45 PM

Study Surface Degradation of Magnetite Nanoparticles

Paula C. S. Pereira, Judes G. Santos

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P1-37 Monday 5:45 PM

Magnetic core-losses of NiZnCu ferrite for high frequencies and several levels of induction correlated with microstructure

G. Frajer (1,2,3), G. Delette (1,2), H. Chazal (1,4), O. Isnard (1,3)

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P2-01 Tuesday 5:45 PM

Investigation of the Loss Separation Method of Soft Magnetic Materials

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P2-02 Tuesday 5:45 PM

Evaluation of Stator Core Loss of High Speed Motor by using Thermography Camera

T. Sato(1), M. Enokizono(2)

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P2-03 Tuesday 5:45 PM

The effect of aging time on anomalous losses of nonoriented electrical steels.

A. A. Almeida (1), D. L. Rodrigues-Jr (1), F. J. G. Landgraf (1,2)

(1) Metallurgical and Materials Engineering Department, EPUSP, USP - University of São Paulo; (2) CEO - IPT

P2-04 Tuesday 5:45 PM

Energy Losses in Non-Oriented Silicon Steels for E-Mobility

Ermano Cardelli, Antonio Faba, Simone Quondam Antonio

Engineerign Department, University of Perugia, Perugia, Via G. Duranti 93, ITALY

P2-05 Tuesday 5:45 PM

Anisotropic FMR line widths in Fe_{1-x}Cox single crystal thin films

M. Tsuruiki(1), Y. Takahashi(1), F. Kirino(2), M. Ohtake(3,4), M. Futamoto(4), N. Inaba(1)

(1) Yamagata University, Yonezawa, Japan; (2) Tokyo University of the Arts, Tokyo, Japan; (3) Kogakuin University, Hachioji, Japan; (4) Chuo University, Tokyo, Japan

P2-06 Tuesday 5:45 PM

Alternating superlattice textures in driven nanomagnets

Ana M. Cabanas (1), Marcel G. Clerc(2), David Laroze(1), Alejandro O. Leon(3)

(1) Instituto de Alta Investigación, CEDENNA, Universidad de Tarapacá, Casilla 7D, Arica, Chile; (2) Departamento de Física, Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile, Casilla 4873, Santiago, Chile;(3)Institute for Materials Research, Tohoku University, Sendai 980-8577, Japan

P2-07 Tuesday 5:45 PM

Analysis of the influence of domain refinement parameters on grain oriented electrical steel

R. J. Davies, P. I. Anderson, C. W. Harrison

Wolfson Centre for Magnetism, Cardiff University, Cardiff CF24 3AA, U.K

P2-08 Tuesday 5:45 PM

Effects of texture and silicon contents on hysteresis losses in non-oriented electrical steel sheets

S. Kano, T. Wakisaka

Steel Research Laboratory, Nippon Steel & Sumitomo Metal Corporation, Futtsu, Japan

P2-09 Tuesday 5:45 PM

Residual stress evaluation by barkhausen signals with a magnetic field sensor for high efficiency electrical motors

Yuji Tsuchida (1), Masato Enokizono (2)

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P2-10 Tuesday 5:45 PM

Magnetic Characterization of a High-Speed Motor Stator Core Made of Ultrathin Electrical Steel Sheet Using the Building Factor Evaluation System

MOHACHIRO Oka (1), MASATO Enokizono (2),YUJI Mori (3), KAZUMASA Yamazaki (4)

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P2-11 Tuesday 5:45 PM

Magnetic properties of silicon steel sheet core with different processing stress

T. Matsui (1), Y. Kyyoul (2)

(1) Energy Engineering, Gifu University, Gifu, Japan; (2) Energy Engineering, Gifu University, Gifu, Japan

P2-12 Tuesday 5:45 PM

Magnetic losses reduction in grain oriented silicon steel by pulse and continuous fiber laser processing.

I. Petryshynets(1), F. Kováč(1), V. Puchý(1), M. Šebek(1), J. Füzér(2), P. Kollár(2)

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(2)Institute of Physics, Faculty of Science, P.J. Safarik University, Park Angelinum 9, Kosice 041 54, Slovakia

P2-13 Tuesday 5:45 PM

Effect of Sn on the oxide subscale structure formed on a 3% Si steel

M.G.M.M. Cesar (1), C. C. Silveira (2), S. C. Paolinelli (2), S. Cicale (3)

(1)UNILESTE - Centro Universitário do Leste de Minas Gerais, Coronel Fabriciano, Brazil; (2) Research Center Department, Aperam South America, Timóteo, Brazil; (3) CSM - Centro Sviluppo Materiali S.p.A., Rome, Italy

P2-14 Tuesday 5:45 PM

Influence of residual and external stress on the Villari effect and magnetostriction in high-silicon electrical steel sheet

Nora Leuning (1), Simon Steentjes (1), Markus Schulte (2), Wolfgang Bleck (2), Kay Hameyer (1)

(1) Institute of Electrical Machines (IEM), RWTH Aachen University, D-52062 Aachen, Germany; (2) Steel Institute (IEHK), RWTH Aachen University, D-52062 Aachen, Germany

P2-15 Tuesday 5:45 PM

Improvements in efficiency of grain oriented electrical steel through surface improvements

C.W. Harrison, J.A. Manley, P.A. Anderson, J.P. Hall

Wolfson Centre for Magnetics, Cardiff School of Engineering, Cardiff University, UK

P2-16 Tuesday 5:45 PM

Effect of the fayalite/silica ratio on the oxide subscale adherence of a Grain-Oriented 3%Si Steel

C. C. Silveira (1), M. G. M. M. Cesar (2)

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P2-17 Tuesday 5:45 PM

Thin Grain Oriented Electrical Steel for PWM voltages fed magnetic cores

Thierry Belgrand(1), Regis Lemaître(1), Abdelkader Benabou(2), Jonathan Blaszowski(1), Chaoyong Wang(1)

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P2-18 Tuesday 5:45 PM

Continuous annealing process of making grain-oriented electrical steel

Hyun-Seok Ko, Kyu-Seok Han, Hyung-Don Joo, Jong-Tae Park

Steel Products Research Group II, Pohang Research Lab at POSCO, Pohang, Korea

P2-19 Tuesday 5:45 PM

Novel, non-grain oriented electrical steel grade with tailored properties for electrical machines

A.Kahveci, S.Sieron, M.Schrauf, V.Kamen, P.Szary

Application Department, thyssenkrupp Steel Europe, Bochum, Germany

P2-20 Tuesday 5:45 PM

Magnetic properties changed of interlocked and thermal inserted silicon steel sheets with annealing

Kyyoul YUN

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P2-21 Tuesday 5:45 PM

Variation of power loss with distance from the cut edge of grain oriented electrical steel

N. Lewis, J. Almarzooq, P. Anderson, J. Hall

Cardiff University

P2-22 Tuesday 5:45 PM

Abnormal grain growth of non-goss grain in fe-3% si steel using micro indenter

T. Kim (1), H. Shim (2), S. Choi (1), K. Gil (3), S. Kwon (1), N. Hwang (1)

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P2-23 Tuesday 5:45 PM

Influence of minor alloying elements on fayalite formation

Kimberley Price (1), Cameron Pleydell-Pierce (1), Dominic Power (2), Fiona Robinson (2), Mark Cichuta (2)

(1) Swansea University, Materials and Manufacturing Academy; (2) Cogent Power, Orb Works, Newport

P2-24 Tuesday 5:45 PM

Vector Magnetic Characteristics and Two-dimensional Magnetostriction of Ultra-Thin Electrical Steel Sheet for High Speed Motor Core

D. Wakabayashi (1), M. Enokizono (2), Y. Mori (3), K. Yamasaki (4)

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P2-25 Tuesday 5:45 PM

Magnetic Characterizations and Structural, Microstructural of Mechanically Alloyed Fe₆₅Si₂₀Cr₁₅ Powders Mixture

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P2-26 Tuesday 5:45 PM

Magnetostrictive and Noise Properties of Oriented Silicon Steel Sheet with Non-sinusoidal Excitation

Pengning Zhang, Lin Li, Cong Tian, Yawu Song

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P2-27 Tuesday 5:45 PM

Investigation of the soft magnetism of some High Entropy Alloys

M. Calvo-Dahlborg(1), J. Cornide(1), F. Richomme(1), J.Juraszek(1), J. Cieslak(2), K. Matusiak(2), U. Dahlborg(1), T.C. Hansen(3), A. Fitch(4)

(1) CNRS-UMR6634, University of Rouen Normandie, Rouen, France; (2) AGH University of Science and Technology, Krakow, Poland; (3) Institut Laue-Langevin, Grenoble, France; (4) ESRF, Grenoble, France

P2-28 Tuesday 5:45 PM

Effect of adding W and Si on the critical heating rate in fabricating the Fe-based nanocrystalline alloys

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P2-29 Tuesday 5:45 PM

Structural and magnetic behavior of Fe(Nb,Zr) rich alloys produced by mechanical alloying

A. Carrillo, L. Escoda, J. Saurina, J.J. Suñol

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P2-30 Tuesday 5:45 PM

Effect of an annealing on magnetic properties of Fe-Ni films electroplated in citric-acid-based plating baths

T. Yanai, J. Kaji, H. Aramaki, K. Kouda, K. Eguchi, K. Takashima, M. Nakano, H. Fukunaga

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P2-31 Tuesday 5:45 PM

Hysteresis properties of the amorphous high permeability Co66Fe3Cr3Si15B13 alloy

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P2-32 Tuesday 5:45 PM

Thermal stability, crystallization and magnetic properties of high induction metallic ribbons Fe67Co20B13.

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P2-33 Tuesday 5:45 PM

Influence of Spark Plasma Sintering parameters on Magnetic and Structural properties of FeCo alloy

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P2-34 Tuesday 5:45 PM

Structure and magnetic properties of Fe-Co-B alloy thin films prepared on cubic (001) single-crystal substrates

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P2-35 Tuesday 5:45 PM

Structural and magnetic behavior of Fe(Nb,Zr) rich alloys produced by mechanical alloying

A. Carrillo, L. Escoda, J. Saurina, J.J. Suñol

Dept. Physics, University of Girona, Girona, Spain

P2-36 Tuesday 5:45 PM

Withdrawn

P2-37 Tuesday 5:45 PM

Preparation and magnetic properties of Fe-based soft composite materials

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P2-38 Tuesday 5:45 PM

Low coercivity and high permeability of metastable phases of Co-based soft magnet fabricated via non-equilibrium technique

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P2-39 Tuesday 5:45 PM

Withdrawn

P2-40 Tuesday 5:45 PM

The impacts of traditional (isotherm), impulse, as well as stress annealing on the soft magnetic properties tailoring of FINEMET-type precursor

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P3-01 Wednesday 5:00 PM

Influence of Fe addition in structural transformation and thermomagnetic behavior of Ni-Mn-Sn melt spun ribbons

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P3-02 Wednesday 5:00 PM

Microstructure evolution and large magnetocaloric effect of La_{0.8}Ce_{0.2}(Fe_{0.95}Co_{0.05})_{11.8}Si_{1.2} alloy prepared by strip-casting and annealing

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P3-03 Wednesday 5:00 PM

Giant barocaloric effect triggered through spin-crossover mechanism

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P3-04 Wednesday 5:00 PM

Magnetocaloric effect in RNi₂ (R= Tb,Dy) melt-spun ribbons from specific heat measurements

J. L. Sánchez Llamazares (1), C. F. Sánchez-Valdés (2), P. J. Ibarra-Gaytán (1), Pablo Álvarez-Alonso (3,4), J. A. Blanco (3), Pedro Gorria (4)

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P3-05 Wednesday 5:00 PM

Magnetocaloric response and critical exponents of Fe₇₀Zr₃₀ mechanically alloyed systems

A.F. Manchón-Gordón, J.J. Ipus, L.M. Moreno-Ramírez, J.S. Blázquez, C.F. Conde, V. Franco, A. Conde

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P3-06 Wednesday 5:00 PM

The Reliability of power laws and universal scaling of the magnetocaloric effect: range of applicability and universality classes

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P3-07 Wednesday 5:00 PM

Study on the corrosion and magnetic properties of bonded LaFe_{10.96}Co_{0.54}Si_{1.5}Co_{0.2} plates

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P3-08 Wednesday 5:00 PM

Magnetocaloric effect of Gd₂O₃ nanoparticles in periodic silica matrix: influence of concentration and substrate dimensionality

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P3-09 Wednesday 5:00 PM

The influence of Cr and Ni on the character of magnetic phase transition in LaFe_{11.52-x}M_xSi_{1.48} alloys

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P3-10 Wednesday 5:00 PM

Development of high temperature magnetic shape memory Ni-Mn-Ga based alloys

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P3-11 Wednesday 5:00 PM

Optimization of the supersaturated solid solution produced by mechanical alloying as a precursor of the La(Fe,Si)₁₃ phase

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P3-12 Wednesday 5:00 PM

La(Fe_{1-x}Si_x)₁₃ nanoparticles produced by pulsed laser deposition: new window for the study of the phase 1:13

N. R. Checca (1), W. Torres (1), R. J. Caraballo-Vivas (1), D. L. Mariano(1), D. R. Sanchez (1), A. Rossi (2), M. S. Reis (1), D. L. Rocco (1,3)

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P3-13 Wednesday 5:00 PM

Effect of temperature truncated calorimetric measurements on the magnetocaloric properties of biphasic materials

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P3-14 Wednesday 5:00 PM

Influence of structural disorder on normal and inverse magnetocaloric effect in $Y_{1-x}Tb_xCo_2$ ($0 \leq x \leq 1$) compounds

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P3-15 Wednesday 5:00 PM

The influence of raw materials and production route of $(Mn,Fe)_2(P,Si,Ge)$ alloys on their structure and magnetocaloric properties

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P3-16 Wednesday 5:00 PM

Dynamical magnetic response of magnetic nanoparticles in biological environments

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P3-17 Wednesday 5:00 PM

Magnetosomes for hyperthermia: heating mechanisms and in vitro efficiency

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P3-18 Wednesday 5:00 PM

Microwave-assisted synthesis of iron oxide nanoparticles in biocompatible organic environment

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P3-19 Wednesday 5:00 PM

Magnetic field controlled oscillations of Fe-Cr-Nb-B soft magnetic particles for destruction of osteosarcoma cells

H. Chiriac, E. Radu, D.-D. Herea, G. Stoian, T.-A. Óvári, N. Lupu

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P3-20 Wednesday 5:00 PM

Exchange coupled bi-magnetic nanoparticles for hyperthermia and magnetic resonance imaging

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P3-21 Wednesday 5:00 PM

PEG-coated Manganese-Nickel-Ferrite Nano-Rods For Hyperthermia Applications.

Da-Ae Lee (1), Hyewon Chung (1), Hongsub Bae (1), Sungwook Hong (2), Ilsu Rhee(1)

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P3-22 Wednesday 5:00 PM

Current-driven domain wall motion based memory devices: application to a ratchet ferromagnetic strip.

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P3-23 Wednesday 5:00 PM

FORC study of magnetization reversal and interphase interactions in soft/semi-hard magnetic bilayer ribbons based on Fe and Co

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P3-24 Wednesday 5:00 PM

Domain imaging and stray field structure investigation using new volumetric scanning techniques

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P3-25 Wednesday 5:00 PM

Current controlled domain wall velocity in FINEMET-type microwires

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P3-26 Wednesday 5:00 PM

Hysteresis Modeling and Losses in 410L stainless steel

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P3-27 Wednesday 5:00 PM

Design of PCB search coils for AC magnetic flux density measurement

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P3-28 Wednesday 5:00 PM

A Study on the Design of Magnetizer and Spoke Type Motor

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P3-29 Wednesday 5:00 PM

A hybrid multi-pole Fe78Si13B9+FeSi3 soft magnetic core for application in the stators of the low-power PMBLDC motors

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P3-30 Wednesday 5:00 PM

Design of 210kW Class IPMSM Considering Permanent-Magnet demagnetization based on magnetic curve

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P3-31 Wednesday 5:00 PM

Simulation of stress dependence of hysteresis loss using an energy-based domain model

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P3-32 Wednesday 5:00 PM

Optimum Design of PMA-SynRM for Minimum Inductance of Q-axis and Experimental Verification

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P3-33 Wednesday 5:00 PM

Using Finite Element Modelling and experimental methods to investigate planar coil sensor topologies for inductive measurement of displacement.

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P3-34 Wednesday 5:00 PM

Modeling of the hysteresis loop in transverse field-annealed FeCuNbSiB nanocrystalline ribbons

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P3-35 Wednesday 5:00 PM

3D Flux distribution of Epstein Frame Tester

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P3-36 Wednesday 5:00 PM

The effect of conductor permeability on electric current transducers

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