27th Soft Magnetic Materials Conference
SMM27

Turin, 8 – 11 September 2025

Programme

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Programme in brief

Monday, September 8
17:00 - 19:00: Registration, Welcome drink at conference venue.

Tuesday, September 9
8:30: Opening
9:00 - 9:45: Morning program – **Keynote 1**
9:45 - 12:30: Morning program – **Lectures**
12:30 - 14:00: Lunch
14:00 - 14:45: Afternoon program – **Keynote 2**
14:45 - 16:15: Afternoon program – **Posters** 🍵 ☕
16:15 - 18:00: Afternoon program – **Lectures**

18:15 – 19:00: Guitar Concert at conference venue

Wednesday, September 10
8:30 - 9:30: Morning program – **Lectures**
9:30 - 10:15: Morning program – **Keynote 3**
10:45 - 12:30: Morning program – **Lectures**
12:30 - 14:00: Lunch
14:00 - 14:45: Afternoon program – **Keynote 4**
14:45 - 15:30: Afternoon program – **Lectures**
15:30 - 17:00: Afternoon program – **Posters** 🍵 ☕
17:00 - 18:30: Afternoon program – **Lectures**

20:15: Gala Dinner
Hotel Principi di Piemonte, Via Piero Gobetti, 15, 10123 Torino TO
(5 min. walk from the Metro station Porta Nuova)

Thursday, September 11
8:30 – 10:00: Morning program – **Lectures**
10:00 – 10:45: Morning program – **Keynote 5**
11:15 – 12:30: Morning program – **Lectures**
12:30 – 14:00: Lunch
14:00 – 15:30: Afternoon program – **Posters**
15:30 – 17:00: Afternoon program – **Lectures**
17:00 – 17:45: Afternoon program – **Closing**

18:00 Farewell event at conference venue

Tuesday, 9 September, 2025

Start	Speaker	Title	Institution
8:30	OPENING		
Keynote 1, Chair: Zhou Ye 👈			
9:00	Satoshi Okamoto	Novel approaches of high saturation magnetization nanocrystalline materials for powder and wound core applications	Tohoku University, Sendai, Miyagi, Japan
Session 1: Amorphous and nanocrystalline alloys ***Chair: Ferenc Zamborszky***			
9:45	Ivan Škorvánek	High temperature soft magnetic properties and domain structure of ultra-rapidly annealed FeCoBSiCu nanocrystalline alloys	Institute of Experimental Physics, Slovak Academy of Sciences, Slovakia
10:00	Yuya Tomita	Advanced approach for analysis of iron loss and permeability spectrum	Daido Steel Co., Ltd., Nagoya, Japan
10:15	Arcady Zhukov	Tailoring of magnetic softness and Giant Magnetoimpedance effect in amorphous microwires	Dept. Polym. Adv. Mater, University of Basque Country, UPV/EHU, San Sebastian, Spain
10:30	Nicoleta Lupu	Magnetic anisotropy control in Co-based amorphous wires for enhanced soft magnetic properties	National Institute of Research and Development for Technical Physics, Iași, Romania
10:45	Coffee Break ☕ 🍫		

Session 2: Magnetic measurements and instrumentation ***Chair: Georgi Shilyashki***			
11:15	Evangelos Hristoforou	New steel stress coupons based on induction heating and consequent quenching	National Technical University of Athens, Athens, Greece
11:30	Grzegorz Psuj	α"-martensite detection in 316L austenitic steel from Magnetic Barkhausen Noise measurement	West Pomeranian University of Technology in Szczecin - ZUT, al. Piastów 17, Szczecin Poland.
11:45	Ruilin Pei	Advanced soft magnetic measurements system under multi-physical field coupling	Shenyang University of Technology, Shenyang, China
12:00	Siamak Pourkeivannour	Electromagnetic Characterization of structural steel used in construction of large Power transformers	Royal SMIT Transformers, Nijmegen, the Netherlands
12:15	Jeanne Le Soudéer	Fast estimation of the influence of a tensile plastic strain on the magnetic behaviour of electrical steels	Université Paris-Saclay, ENS Paris-Saclay, CNRS, SATIE, France
12:30	Lunch		
Keynote 2, Chair: Nicoleta Lupu 👈			
14:00	Isabella Gallino	Alloy development and additive manufacturing of Fe-based Co-free amorphous alloys for soft magnetic applications	Technical University of Berlin, Berlin, Germany
Poster session 1 🚂 🚩 ☕ ***Chairs: Pavel Ripka, Nicolas Galopin, Luigi Solimene***			
14:45 – 16:15	Grain-oriented, non-oriented, and high-silicon alloys; Sensors and actuators, magnetic non-destructive testing; Fe-Ni, Fe-Co, soft ferrites, powder cores		

Session 3: Additive manufacturing of soft magnetic materials ***Chair: Bence Kocsis***			
16:15	Victorino Franco	The importance of secondary properties in magnetic filaments for additive manufacturing	University of Seville, Spain
16:30	Bruno Weise	Recent advances in additive screen printing of Fe-Co Soft Magnets	Fraunhofer Institute IFAM, Dresden, Germany
16:45	Dorian Heraud	Correlation Between the Mesostructure and Magnetic Properties of FeCoV Processed by L-PBF: Reducing Eddy Current Losses with Air Gaps	Univ. Grenoble Alpes, CEA, LITEN, DTNM, Grenoble, France
17:00	Ghali Sqalli	Inherent impact of FDM additive manufacturing processes on the magnetic performances of MnZn ferrite	Univ. Lille, Arts et Metiers Institute of Technology, Centrale, Lille, France
17:15	Léopold Mikula	A novel 3D printed structure with encapsulated air gaps for power electronic component	CEA Université Grenoble Alpes, France
17:30	Setareh Gorji Ghalamestani	Additive Manufacturing of Silicon Steel Ferromagnetic Cores for High-Frequency Loss Reduction in Electrical Machines	Sirris, Rue Bois Saint-Jean 12, 4102 Seraing, Belgium
17:45	Jon Gutiérrez	Moderate and high magnetization soft magnetic nanoparticles for the fabrication of smart magnetorheological fluids	Dept. Electricity and Electronics, Faculty of Science and Technology, Leioa, Spain

18:15

Guitar concert at conference venue

Poster session 1 ***Chairs: Pavel Ripka, Nicolas Galopin, Luigi Solimene***	
Tuesday, 9 September, 14:45 – 16:15	Grain-oriented, non-oriented, and high-silicon alloys; Sensors and actuators, magnetic non-destructive testing; Fe-Ni, Fe-Co, soft ferrites, powder cores

S.No.	Presenter	Title	Id 👇 📮
		GRAIN-ORIENTED, NON-ORIENTED, AND HIGH-SILICON ALLOYS	
1.	Yulin Li *(Department of Electric Engineering, Shenyang University of Technology, Shenyang, China)*	Influences of self-bonding, dispensing, and welding process on the magnetic properties of electrical steel lamination	**TuP-01**
2.	Deji Ma *(Department of Electric Engineering, Shenyang University of Technology, Shenyang, China)*	Effect of temperature and stress on the properties of high-silicon steel under wide frequency magnetic field excitation	**TuP-02**
3.	Seil Lee *(Materials Performance Research Group, POSCO Steel Solution Research Laboratory, 100 Songdo Science Road, Yeonsu-gu, Incheon, Republic of Korea)*	Reduction of Core Losses in Thin-Gauge Non-Oriented Electrical Steels Through Stress-Relief Annealing	**TuP-03**
4.	Adriano Alex de Almeida *(Aperam South America, Research Center Department. 1◦ Maio square, Timóteo 35180-018, MG, Brazil)*	Effect of Soaking Time on the Normalizing Annealing Process and Its Influence on Microstructure, Texture, and Magnetic Properties of Grain-oriented Electrical Steel.	**TuP-04**
5.	Préscillia Dupont *(UniLaSalle, UPJV, GeNumEr, URR 7511, 80082 Amiens, France)*	Effects of pulsed laser ablation with non-conventional patterns on rotational magnetic properties of GO electrical steels	**TuP-05**

6.	Yulin Li *(Institute of Electrical Engineering, Shenyang University of Technology, Shenyang, China)*	Performance Analysis and Research of High-Speed Motor with Dual-Phase Reinforcement Based on Rotor Local Carburizing	**TuP-06**
7.	Sara Fawaz *(Université d'Artois, UR 4025, Laboratoire Systèmes Electrotechniques et Environnement Béthune, F-62400, France.* *ESME, ESME Research Lab, Campus de Lille F-59000 Lille, France)*	Effects of Bending and Annealing on NOES, GOES, and FeCo Magnetic Materials	**TuP-07**
8.	Lucian Petrescu *(National University of Science and Technology POLITEHNICA Bucharest, Romania)*	Optimization of quadrupole core for homogenous magnetic field using non-oriented silicon-iron materials	**TuP-08**
9.	David Weinberg *(Hitachi Energy AB, Ludvika, Sweden)*	On the connection between remanence and core noise in transformers	**TuP-09**
10.	Luana Araújo Batista *(Aperam South America, Research Center Department, Timoteo, Brazil)*	Effect of titania addition on the ceramic film of a high permeability silicon steel	**TuP-10**
11.	Hisashi Mogi *(Steel Research Laboratories, Nippon steel corporation, Futtsu, Chiba, Japan)*	Bending angle influence of grain-oriented silicon steel on iron loss and domain patterns	**TuP-11**
12.	Lea Saleh *(Univ. Lille, Arts et Metiers Institute of Technology, Centrale Lille, Junia, ULR2697-L2EP, F-59000 Lille, France)*	Combined effects of tensile stress and magnetic aging on the magnetic properties of NO ES	**TuP-12**
13.	Fernando José Gomes Landgraf *(University of São Paulo, São Paulo, Brazil)*	Correlation of grain sizes and sheet thickness on the excess loss of non-grain oriented electrical steel	**TuP-13**

14.	Vincenzo Paolo Loschiavo *(Department of Engineering, University of Sannio, Benevento, 82100 Italy)*	Engineering evaluation of grain-oriented steel solutions for special applications in High Energy Physics	**TuP-14**
15.	Fabien Dancoisne *(Arts & Métiers Institute of Technology. (MSMP-EA7350) Mechanics, Surfaces and Materials Processing, 8 bd Louis XIV, Lille Cedex, 59046, France* *Univ. Lille, Arts & Métiers Institute of Technology, Centrale Lille, HEI. (L2EP-EA2697) Laboratoire d'Électrotechnique et d'Électronique de Puissance, Bâtiment ESPRIT, Avenue Henri Poincaré, Villeneuve d'Ascq, 59655, France)*	Precipitation and magnetic models coupling for magnetic aging prediction	**TuP-15**
16.	Adriano Alex De Almeida *(Aperam South America, Research Center Department, Praça 1 de Maio, Timóteo, 35180-018, MG, Brazil)*	Effect of laser scribing on the core losses and magnetic domains structure	**TuP-16**
17.			**TuP-17**
18.	Masoud Sistaninia *(Materials Center Leoben Forschung GmbH, Vordernberger Straße 12, A-8700 Leoben, Austria)*	Optimizing crystallographic texture for enhanced magnetic properties in non-oriented electrical steels	**TuP-18**
19.	Kyung-jun Ko *(POSCO Technical Research Laboratories, Pohang, Korea)*	Microstructure and Magnetic Properties of Grain-oriented Electrical Steel by Continuous Annealing under stress treatment	**TuP-19**

FE-NI, FE-CO, SOFT FERRITES, POWDER CORES

20.	Yao Ying *(Research Center of Magnetic and Electronic Materials, College of Materials Science and Engineering, Zhejiang University of Technology, Hangzhou 310014, China)*	Generation of extra eddy current loss in Mn-Zn ferrites in the high frequency range	**TuP-20**
21.	Bogdan Idzikowski *(Institute of Molecular Physics, Polish Academy of Sciences, Poznań, Poland)*	Coercivity of melt-spun Fe51Ni49 alloy after different treatment of their structure	**TuP-21**
22.	Fabien Sixdenier *(Universite Claude Bernard Lyon 1, Ampère, UMR5005, INSA Lyon, Ecole Centrale de Lyon, CNRS, Villeurbanne, F-69100, France)*	Comparison of losses measurements of ferrites for design purposes	**TuP-22**
23.	Muhammad Luqman Hashmi *(Politecnico di Torino, Torino, Italy;* *Istituto Nazionale di Ricerca Metrologica, Torino, Italy)*	Structural and magnetic properties of MgFe2O4: effect of fuel and annealing	**TuP-23**
24.	Muhammad Luqman Hashmi *(Politecnico di Torino, Torino, Italy, Istituto Nazionale di Ricerca Metrologica, Torino, Italy)*	Magnetic behaviour of Cu0.8Zn0.2Fe2O4-polystyrene composites	**TuP-24**
25.	Gongotree Phukan *(Nanomagnetism Lab, National Institute of Technology Nagaland, Chumukedima, Nagaland, India-797103)*	Influence of composition tuning on self-heating efficiency in FeCo nanoalloy for magnetic hyperthermia	**TuP-25**
26.	Miloš Jakubčin *(Institute of Experimental Physics, Slovak Academy of Sciences, Watsonova 47, Košice, Slovakia)*	Soft magnetic composites with enhanced permeability and low core losses prepared by mixing of Somaloy with Fe-P particles	**TuP-26**

27.	Bogdan Idzikowski *(Institute of Molecular Physics, Polish Academy of Sciences, Poznań, Poland)*	Hyperfine field distributions in Fe51Ni49 alloy with a locally differentiated crystal structure	**TuP-27**
28.	Jun Li *(School of Electric Engineering, Shenyang University of Technology, Shenyang, 110870, China)*	Magnetic properties of Fe-Co alloys under stress-magnetic field coupling	**TuP-28**
29.	Shenglei Che *(Research Center of Magnetic and Electronic Materials, Zhejiang University of Technology, Hangzhou 310014, China)*	High permeability MnZn ferrite for wide-temperature applications	**TuP-29**
30.	Nicoleta Banu *(Advanced materials Metrology and Life Science Division, INRIM, Torino, Italy)*	High-temperature wideband losses of sintered Mn-Zn ferrites	**TuP-30**

MOTORS AND TRANSFORMERS

31.	Yuji Tsuchida *(Oita University, Oita, Japan)*	Effect of laser welding on magnetic properties of EDM-cut and laser-cut laminated cores from non-oriented electrical steel sheets	**TuP-31**
32.	Takahiro Mizuta *(Mitsubishi Electric Corporation, Amagasaki, Japan)*	Estimation method for punched magnetic properties of electrical steel sheet	**TuP-32**
33.	Pontus Fyhr *(Alvier Mechatronics AB, Helsingborg, Sweden.* *Lund University, Faculty of Engineering, Lund, Sweden)*	Experimentally established build factors for electro-magnetic performance in a NO20 stator stack	**TuP-33**

SENSORS AND ACTUATORS, MAGNETIC NON-DESTRUCTIVE TESTING

34.	Mattia Butta Gonzales *(Faculty of Electrical Engineering, Czech Technical University in Prague)*	Correction of the offset drift of an orthogonal fluxgate by measurement of its core temperature	**TuP-34**
35.	Zhijun Wang *(State Key Lab for Strength and Vibration of Mechanical Structures, Shaanxi ERC of NDT and Structural Integrity Evaluation, Xi'an Jiaotong University, Xi'an 710049, China)*	A multi-feature fusion method for quantitative evaluation of plastic deformation via magnetic Barkhausen noise signals	**TuP-35**
36.	Michaela Kuepferling *(INRiM, Torino, Italy)*	Field sensing via Spin Hall Magnetoresistance	**TuP-36**
37.	Mahieddine Lahoubi *(Badji Mokhtar Annaba University, Laboratory LPS, Physics Department, Annaba, Algeria)*	Optimized magneto-optical Isolator based on bismuThP-substituted YIG fiber	**TuP-37**

38.	Anil Kumar Appukuttan Nair Syamala Amma *(Department of Measurement, Czech Technical University in Prague, Praha 6, Czech Republic)*	Effect of high-permeability backplate in the near-field wireless measurement of resistance	**TuP-38**
39.	Patryk Rybicki *(Institute of Nanotechnology and Materials Engineering, Faculty of Applied Physics and Mathematics, Gdansk University of Technology)*	Automatization of Barkhausen noise measurements for high resolution evaluation of stress distribution in welded steel components.	**TuP-39**
40.	Yusuke Kawamura *(Magnet Test Lab, ViennaMagnetics GmbH, Vienna, Austria)*	Failure-detection in Soft Magnetic Steel by MF Single Sheet Tester with Experimental Window	**TuP-40**
41.	Raquel Loriente Saturio *(Institute of Applied Magnetism, University Complutense of Madrid, Las Rozas, Spain)*	Magnetoelastic resonance in microwires for biosensors development	**TuP-41**
42.			**TuP-42**
43.	Martin Koll *(Institute of Electric Drives and Power Electronics, Johannes Kepler University Linz, Austria)*	A noise variance model of a differential eddy current coil used for coating thickness determination	**TuP-43**
44.	Adriano Alex De Almeida *(Aperam South America, Research Center Department 1◦ Maio square, Timóteo 35180-018, MG, Brazil)*	Effect of High Heating Rate and Soaking Time on Microstructure and Magnetic Properties of Non-Grain Oriented Electrical Steel	**TuP-44**

Wednesday, 10 September, 2025

Start	Speaker	Title	Institution
Session 4: Magnetic models and simulation; AI and machine learning ***Chair: Samuel Dobak***			
8:30	Guillermo Gestoso Carbajo	Multiscale modeling of magnetic sensors	Universidad del País Vasco, Leioa, Spain
8:45	Hiroshi Tsukahara	Grain size dependence of magnetostriction effects on excess loss in nanocrystalline soft magnetic materials	Tohoku University, Sendai, Japan
9:00	Benjamin Ducharne	Can we predict the magnetic loss of a nanocrystalline core from LCR-meter characterization	Université Claude Bernard Lyon, France
9:15	Tetsuji Matsuo	Prediction of loss increase in silicon steel sheet due to compressive stress of 100 MPa	Kyoto University, Kyoto, Japan
Keynote 3, Chair: Paola Tiberto 👈			
9:30	Mª Luisa Fernández-Gubieda	Magnetotactic bacteria: biological 1D magnetic nanostructure, biorobot for targeted therapies	University of Basque Leioa, Spain
10:15	Coffee Break ☕ 🧉		
Session 5: Grain-oriented, non-oriented, and high-silicon alloys ***Chair: Thierry Waeckerlé***			
10:45	Nora Leuning	Multi-layered cutting of thin non-oriented electrical steel sheets	RWTH Aachen University, Germany
11:00	Floran Martin	A multiscale model with geometrical domain decomposition in grain-oriented materials	Aalto University, Espoo, Finland
11:15	Alessandro Ferraiuolo	Effect of pinning site and crystallographic orientations on quasi-static magnetic loss of NGO FeSi steels	Marcegaglia Ravenna S.p.A., Ravenna, Italy

11:30	Fernando José Gomes Landgraf	Effect of texture, residual stress and stress relief annealing on magnetic properties anisotropy of non-grain oriented electrical steel for e-mobility.	University of São Paulo, São Paulo, Brazil
11:45	Lukas Powalla	Tailored electrical steel through silicon diffusion in deep drawing steel	Campus of Research Robert Bosch, Stuttgart, Germany
12:00	Giuseppe Abbruzzese	Effects of secondary grain size on laser scribing optimisation in GOES	SpIReS S.r.l., Terni, Italy
12:15	Gaoyuan Ouyang	Naturally occurring oxide on rapid solidified high silicon steel and its growth kinetics	Ames National Laboratory Department of Energy, USA
12:30	Lunch		
Keynote 4, Chair: Antonio Laudani 👈			
14:00	Min-Fu Hsieh	Artificial Intelligence-Assisted Design and Fault Diagnosis of Electric Motors for Green Transportation	National Cheng Kung University, Tainan, Taiwan
Session 6: Sensors and actuators, magnetic non-destructive testing ***Chair: Evangelos Hristoforou***			
14:45	Pavel Ripka	X-Y Flat Position Sensor with nanocrystalline armature	Czech Technical University, Prague
15:00	Rastislav Varga	Influence of Co on the Curie temperature in shape memory Fe-Ni-Ga-Co based microwires	1 RVmagnetics, Nemcovej 30, Kosice, Slovakia
15:15	Gajanan Pradhan	Electric Field Control of Magnetization in FeGa microstructures on PMN-PT	Istituto Nazionale di Ricerca Metrologica, Torino, Italy

Poster session 2 🚩☕ ***Chairs: Michaela Kuepferling, Alessandra Manzin, Giovanni Vinai***			
15:30 – 17:00		Magnetic measurements and instrumentation; Additive manufacturing of soft magnetic materials and components; Thin films, wires, particles, novel magnetic materials; High-frequencies and power electronics applications; Bio-electromagnetics and medical applications	
Session 7: Magnetostriction, anisotropy, magnetocaloric properties ***Chair: Mykyta Liedienov***			
17:00	Jia Yan Law	Propelling FeMnNiGeSi high-entropy alloys to new heights in magnetocalorics	University of Seville, Spain
17:15	Meenakshi	Colossal Magnetocaloric Effect in Gd2CrMnO6 Oxide for Next-Generation Cooling	Central University of Haryana, India
17:30	Vincenzo Paolo Loschiavo	A semi-coupled model of a Fe-Ga cantilever beam with PWL stress-dependent magneto-elastic characteristic	Department of Engineering, University of Sannio, Benevento, Italy
17:45	Abhishek Naik	Surface artificial grooving and engraving for magnetic anisotropy texture patterning	Department of Physics, Universitè de Liège, Belgium
18:00	Danilo Gartner Aurich	Magnetic loss behaviour of non-grain-oriented material due to cyclic mechanical fatigue	RWTH Aachen University, Aachen, Germany
18:15	Anna Kosogor	Modelling of magnetostructural transitions in MM'X magnetocaloric compounds	University for Continuing Education Krems, Austria

20:15 **Gala Dinner** 😋🍽️🍴

Poster session 2 ***Chairs: Clementine Delaunay, Michaela Kuepferling, Giovanni Vinai***	
Wednesday, 10 September 15:30 – 17:00	Magnetic measurements and instrumentation; Additive manufacturing of soft magnetic materials and components; Thin films, wires, particles, novel magnetic materials; High-frequencies and power electronics applications; Bio-electromagnetics and medical applications

S.No.	Presenter	Title	Id 👇 📮
		THIN FILMS, WIRES, PARTICLES, NOVEL MAGNETIC MATERIALS	
1.	Marco Madami *(Dipartimento di Fisica e Geologia, Università di Perugia, Perugia, Italy)*	Topological Spin-Wave Edge Modes in a Moiré Magnonic Crystal	**WeP-01**
2.	Saida Bahamida *(Research unit UR-MPE, University of Boumerdes, 1 Avenue de l'Independance, Boumerdes 35000, Algeria)*	Magnetic properties in Fe/FePd multilayers	**WeP-02**
3.	Mohamed Abdennour Sahari *(Research laboratory: IRME-Department of Physics, University of Boumerdes, Boumerdes, Algeria)*	Structural and Magnetic Properties of Fe-Pd Thin Films with Gd-Substitution	**WeP-03**
4.	Fernando Luis de Araujo Machado *(Universidade Federal de Pernambuco, Recife, PE, Brasil)*	Antiferromagnetism and magnetic properties in Thin Film of FeNi	**WeP-04**
5.	Grzegorz Psuj *(West Pomeranian University of Technology in Szczecin - ZUT, al. Piastów 17, Szczecin Poland)*	Magnetic field for controlling electromagnetic tunable metasurfaces operating in the terahertz band	**WeP-05**

6.	Özden Acar *(TENMAK-Boron Research Institute, Ankara, Turkey* *Ankara Yildirim Beyazit University, Ankara, Turkey)*	Investigating the Effect of Various PVD Coatings on the Magnetic Properties of Electrical Steels	**WeP-06**
7.	Gabriele Barrera *(Advanced Materials Metrology and Life Sciences, INRiM, Turin, 10135, Italy)*	Spectral analysis and magnetic hysteresis of soft ribbons, thin films, nanoparticles	**WeP-07**
8.	Jiří Maier *(Czech Technical University in Prague, Czech Republic)*	Micro-fluxgate core made of novel multilayer material to reduce eddy currents at high excitation frequencies	**WeP-08**
9.	Sung-Min Ahn *(Department of Electrical Engineering, Pohang University of Science and Technology (POSTECH), Pohang 37673, Gyeongbuk, Korea)*	Effect of thermal magnetization fluctuation on geometrically constrained magnetic domain wall at the ferromagnetic nanowire	**WeP-09**
10.	Krzysztof Grochot *(Institute of Electronics, AGH University of Krakow, Kraków, Poland)*	Influence of Ferromagnetic Interlayer Exchange Coupling on Current-Induced Magnetization Switching and Dzyaloshinskii-Moriya Interaction in Co/Pt/Co Multilayer System	**WeP-10**
11.	Luca Ferraris *(Department of Energy "Galileo Ferraris", Politecnico di Torino, Italy)*	The Study of Magnetic Layer for Soft Magnetic Composite Materials via Layer-by-Layer Assembly	**WeP-11**

ADDITIVE MANUFACTURING OF SOFT MAGNETIC MATERIALS AND COMPONENTS

12.	Mohamed Arezki Amitouche *(ICB PMDM LERMPS, UMR 6303, CNRS, Université Marie et Louis Pasteu, Belfort, France.* *ROBERVAL, UMR 7337, CNRS, Université de Technologie de Compiègne, Compiègne, France)*	Reducing Magnetic Losses in FeSi6.5 Electric Machines through Multi-Material Additive Manufacturing	**WeP-12**
13.	Marwane Dherbécourt *(Univ. Lille, Arts et Metiers Institute of Technology, Centrale Lille, Junia, ULR2697-L2EP, F-59000 Lille, France)*	Development of innovative MnZn-NiZn bi-material ferrites using FDM additive manufacturing	**WeP-13**
14.	Purbasha Sharangi *(INRIM, Istituto Nazionale di Ricerca Metrologica, Strada delle Cacce, 5, 10135 Torino, Italy)*	Effects of Ni addition on the magnetic and structural properties in Fe-Si-B-Nb alloy produced by different techniques	**WeP-14**
15.	Antonio Faba *(Department of Engineering, University of Perugia, Perugia, Italy)*	Additively manufactured magnetic components for passive stabilization of nanosatellites	**WeP-15**
16.	Antonio Laudani *(University of Catania, Catania, Italy)*	A neural network approach to reproduce magnetic hysteresis of Fe2.9%Si Additive Manufacturing material	**WeP-16**
17.	Maksim A. Sitnikov *(Department of Electrical Engineering and Automation, Aalto University, Espoo, Finland)*	Residual stresses in additively manufactured FeSi-Inconel composites using hot isostatic pressing	**WeP-17**
18.	Uma Rajput *(Politecnico di Torino, Department of Energy, Corso Duca degli Abruzzi 24, 10129 Torino, Italy.* *Istituto Nazionale di Ricerca Metrologica (INRIM), Strada delle Cacce 91, 10135 Torino, Italy)*	Magnetic Behavior of Amorphous Fe-Si-B Close-Eutectic Ribbons: Compositional Effect	**WeP-18**

19.	Boris Rajčić *(Institute of General and Physical Chemistry, Belgrade, Serbia)*	Atmosphere-dependent Laser Modification and Characterization of Irradiated Nickel and Titanium Alloys	**WeP-19**
20.	Bence Kocsis *(University of Szeged, Department of Mechanical Engineering, 7. Mars tér, Szeged 6724, Hungary)*	Effect of remelting on magnetic properties of Fe-6.5Si produced by SLM	**WeP-20**

MAGNETIC MEASUREMENTS AND INSTRUMENTATION

21.	Luigi Solimene *(Politecnico di Torino, Department of Energy, Torino, Italy)*	Characterization of soft magnetic materials under arbitrary DC-bias conditions	**WeP-21**
22.	Michal Ulvr *(CMI, Czech Republic)*	Round robin comparison of power losses performed by Epstein and SST above 50 Hz at room temperature	**WeP-22**
23.	Mohammad Torabi Shahbaz *(Institute of Electrical Drives and Power Electronics, Johannes Kepler University Linz, Linz, Austria)*	Magnetic characterization of low permeability materials with a yoked-based measuring system	**WeP-23**
24.	Marco Coïsson *(INRIM, Italy)*	MetroMag: a European infrastructure for low magnetic field metrology	**WeP-24**
25.	Sanghoon Lee *(Department of Physics, Korea University, Seoul 136-701, Korea)*	Tailoring magnetic anisotropy via phosphorus composition grading in $Ga_{1-x}Mn_xAs_{1-y}Py$ films	**WeP-25**
26.	Clémentine Delaunay *(Politecnico di Torino, Department of Energy, Torino, Italy)*	Magnetic characterization under PWM and PWM-like excitations	**WeP-26**
27.	Kei Iwanaga *(Oita University, Oita, Japan)*	Evaluation method for magnetic properties of actual laminated stator core using interpolated core	**WeP-27**

28.	Markus Kuhnt *(Independent Researcher, GERMANY)*	Coercivity measurements of complex-shaped soft magnetic parts according to IEC 60404-7:2019	**WeP-28**
29.	Tatsuya Kai *(Oita University, Oita, Japan)*	Examination of Magnetic Sensor Core Material for Strength Identification of Automotive Steel	**WeP-29**
30.	Christophe Dolabdjian *(Normandie Univ, UNICAEN, ENSICAEN, CNRS, GREYC, Bd Maréchal Juin 14000 Caen, France)*	Very long-term equivalent magnetic drift observations of PHMR sensors	**WeP-30**
31.	Muhammad Sahil *(University of Salento, Department of Mathematics and Physics "Ennio De Giorgi", Lecce, Italy)*	Substrate and Thickness Effects on Fe70Ga30 Thin Films for SAW-Based Applications	**WeP-31**
32.	Semi Park *(Doshisha University, Kyoto, Japan)*	Reexamination of applicability of H-coil method for single-sheet tester	**WeP-32**
33.	Karl Hollaus *(TU Wien, Vienna, Austria)*	Magnetics for filters: measurement and simulation	**WeP-33**
34.	Ken-ichi Yamamoto *(University of the Ryukyus, Okinawa, Japan)*	Reliability of magnetic measurements of soft magnetic materials near resonance frequency using two-coil method	**WeP-34**
35.	Kotaro Irie *(Oita University, Oita, Japan)*	Cooling control by secondary current heating and magnetic properties for actual laminated stator cores	**WeP-35**
36.	Ferenc Zámborszky *(Magnetec-Ungarn Kft, Gyongyos, Hungary)*	Time domain effects in the magnetic response of Fe-based nanocrystalline cores	**WeP-36**
37.	Carlo Appino *(Istituto Nazionale di Ricerca Metrologica-INRIM, Strada delle Cacce 91, Torino, Italy)*	Interlaboratory comparison of 1-D and 2-D loss measurements in NO Fe-Si sheets	**WeP-37**

38.	Akihiko Saito *(Daido Steel Co., Ltd., Nagoya, Japan)*	Proposal of a new shield measurement method and the theoretical calculations	**WeP-38**
39.	Andres Garzon *(Würth Elektronik. EMC &SiPi Product Management Department. Waldenburg, Germany)*	Combined Experimental Measurements to identify the effect of the additives in Soft Magnetic Ferrites for Industrial applications	**WeP-39**
40.	Hamed Hamzehbahmani *(Department of Engineering, Durham University, Durham, DH1 3LE, UK)*	A Pragmatic Approach to Fault diagnosis of Magnetic Cores based on Frequency Spectrum Analysis of Magnetic Field Strength	**WeP-40**
41.	Alessandro Prete *(Lagor S.r.l., Asti, Italy)*	In-line fluxmetric thickness measurement setup for grain-oriented steels	**WeP-41**

HIGH-FREQUENCIES AND POWER ELECTRONICS APPLICATIONS

42.	Shuichiro Hashi *(Department of Electrical and Electronic Engineering Tohoku-Gakuin University, Sendai, Japan)*	Evaluation of high frequency magneto-optic effect of magnetic garnet film	**WeP-42**
43.	Michael Freitag *(YAGEO Group, KEMET Electronics Corporation)*	Power Inductor design improvements with new Nanomet® soft magnetic low loss high saturation material	**WeP-43**
44.	Norifumi Kobayashi *(Department of Electrical and Mechanical Engineering, Nagoya Institute of Technology, Aichi, Japan)*	Loss evaluation for high-power air-gapped DC inductors used in power applications	**WeP-44**
45.	Raymond Quinn *(Tampere University, Tampere, Finland)*	Time-harmonic design approach for saturable filter inductors in power electronic applications	**WeP-45**

46.	Takuya Taniguchi *(Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan)*	Cross terms of harmonics in iron loss induced by multi-frequency magnetic fields	**WeP-46**
47.	Hiroaki Matsumori *(Nagoya Institute of technology, Nagoya, Japan)*	EMI filter inductor modelling method for power converters without actual device	**WeP-47**

BIO-ELECTROMAGNETICS AND MEDICAL APPLICATIONS

48.	Valentin Nica *(Department of Chemical Engineering, University of Salamanca, Salamanca, Spain)*	Field-controlled magnetoelectric core-shell-shell nanoparticles as remote magnetic hyperthermia and on-demand drug release	**WeP-48**
49.	Nicoleta Lupu *(National Institute of Research and Development for Technical Physics, Iasi, Romania)*	Magnetic amorphous wires in magnetoelastic sensors for biomedical applications	**WeP-49**

Thursday, 11 September, 2025

Start	Speaker	Title	Institution
Session 8: Magnetic measurements and instrumentation ***Chair: Ratislav Varga***			
8:30	Georgi Shilyashki	Tangential Field Coils for Analyses of Soft Magnetic Materials – A Systematic Comparison of Methodologies	Magnet Test Labs, Vienna Magnetics GmbH, Vienna, Austria
8:45	Florian Poltschak	Change in soft magnetic properties during forming technology production	Johannes Kepler University Linz, Austria
9:00	Vittorio Bertolini	Dynamic hysteresis characterization of Fe-Si materials: comparison of magnetic performances	University of Perugia, Italy
9:15	Leonardo Colombo	Multi-level PWM core loss tester employing switched-model power amplifiers	Lund University, Sweden
9:30	Samuel Dobák	PWM-induced magnetic losses in soft magnetic composites: measurement and modeling	University in Košice, Košice, Slovakia
9:45	Akihiko Saito	Measuring method of permeability and permittivity of noise suppression sheets at the frequency from 6 GHz to 30 GHz- IEC/TC51/WG10 activities-	Daido Steel Co., Ltd., Nagoya, Japan
Keynote 5, Chair: Masahiro Yamaguchi 👈			
10:00	Sigrid Jacobs	Standardisation of Magnetic Alloys and Steels: a worldwide collaborative effort	ArcelorMittal Global R&D, Zwijnaarde, Belgium
10:45	Coffee Break ☕		

Session 9: Thin films, wires, particles, novel magnetic materials ***Chair: Victorino Franco***			
11:15	Giovanni Maria Vinai	Magnetic domain quenching in PMN-0.4PT/Ni heterostructures via mild annealing cycles	CNR – Istituto Officina dei Materiali, Trieste, Italy
11:30	Yoshiaki Zaizen	Effect of grain size on iron loss of Fe-3%Si under compressive stress	JFE Steel Corporation, Japan
11:45	José Luis Hidalgo González	Properties Magnetic in Thin films of FeNi/Cu/FeNi obtained by electrodeposition.	Universidad Autónoma de San Luis Potosí, Mexico
12:00	Aszad Alam	Cellulose Nanocrystal (CNC)-Stabilized Ferrofluids: Effective Stabilization Condition for Optimized Magnetic and Self-Heating Performance	Indian Institute of Technology Hyderabad, Telangana, India
12:15	Mykyta Liedienov	Tailoring magnetic properties of manganite nanoparticles via temperature, time, and pressure	Jilin University, Changchun, China
12:30	Lunch		
Poster session 3 🚂🚩 ***Chairs: Gabriele Barrera, Vittorio Bertolini, Clementine Delaunay***			
14:00 – 15:30	Amorphous and nanocrystalline alloys; Magnetic models and simulations, AI and machine learning; Magnetostriction, anisotropy, magnetocaloric properties; Basic problems, magnetisation processes; Energy harvesting, renewables, environmental aspects		

Programme of the SMM27 Conference

Session 10: High-frequencies and power electronics applications ***Chair: Kazushi Ishiyama***			
15:30	Rabbiya Anjum	FeCo-based nano-granular films with ultra-high resistivity for sub-GHz magnetics-on-silicon	Tyndall National Institute, Ireland
15:45	Jaume Calvo-de la Rosa	Enhanced radar absorption with soft magnetic layer composites for stealth applications	Universitat de Barcelona, Barcelona, Spain
16:00	Yanhui Gao	Proposal of a measurement-based approach for high frequency iron loss prediction of soft magnetic materials	Oita University, Oita, Japan
Session 11: Fe-Ni, Fe-Co, soft ferrites, powder cores ***Chair: Frederic Mazaleyrat***			
16:15	Vasiliki Tsakaloudi	Development of ferrite powders for inductive heating	Centre for Research and Technology-Hellas, Greece
16:30	Takeshi Shibayama	Enhancement of DC Bias Characteristics in NiCuZn Ferrite-Zn2SiO4 Composites with Core-Shell Structure	TDK Corporation, Japan
16:45	Ángel Sota Muñoz	Development of soft magnetic composites by field-assisted sintering technology (FAST)	University of Navarra, Donostia/San Sebastián, Spain
17:00	Closing & Prizes 🏆 🏅		

18:00 **Farewell event**

Poster session 3 ***Chairs: Gabriele Barrera, Vittorio Bertolini, Alessandra Manzin***	
Thursday, 11 September 14:00 – 15:30	Amorphous and nanocrystalline alloys; Magnetic models and simulations, AI and machine learning; Magnetostriction, anisotropy, magnetocaloric properties; Basic problems, magnetisation processes; Energy harvesting, renewables, environmental aspects

S.No.	Presenter	Title	Id 👇 📮
	BASIC PROBLEMS, MAGNETISATION PROCESSES		
1.	Jeanne Le Soudéer *(IFP Energies nouvelles, Institut Carnot IFPEN Transports Energie, 1 et 4 avenue de BoisPréau, 92852 Rueil-Malmaison, France.* *Université Paris-Saclay, ENS Paris-Saclay, CNRS, SATIE, 91190 Gif-sur-Yvette, France.* *Université Paris-Saclay, Centrale Supélec, ENS Paris-Saclay, CNRS, LMPS laboratoire de mécanique Paris-Saclay, 91190 Gif-sur-Yvette, France)*	Impact of guillotine cutting on losses in silicon steel	**ThP-01**
2.	Ibtissem Belgasmi *(Université de Bordj Bou Arréridj, Bordj Bou Arréridj, Algérie)*	Improved Energetic Model Presentation in Both Centered and Non-centered Minor Hysteresis Loops	**ThP-02**
	MAGNETOSTRICTION, ANISOTROPY, MAGNETOCALORIC PROPERTIES		
3.	Floran Martin *(Department of Electrical Engineering and Automation, Aalto University, Espoo, Finland)*	Analysis and characterization of magnetostrictive vibrators	**ThP-03**

4.	Mahieddine Lahoubi *(Badji Mokhtar Annaba University, Laboratory LPS, Physics Department, Annaba, Algeria)*	HC–T magnetic phase diagrams of DyIG at low temperatures	**ThP-04**
5.	Achref Douiri *(Institute of Electrical Machines (IEM), RWTH Aachen University, Germany)*	Investigation of the magneto-mechanical effect on the magnetic properties of PMSMs using finite element analysis	**ThP-05**
6.	Ulyanov Maxim Nikolaevich *(Chelyabinsk State University, Chelyabinsk, Russia)*	Thermolysis and magnetism of TbxH2-3xSb2O6·nH2O (x = 0.33, 0.67) pyrochlores	**ThP-06**
7.	Asma Kalem *(Univ. Artois, UR 4025, Laboratoire Systèmes Électrotechniques et Environnement (LSEE), Béthune, F-62400, France)*	Numerical and experimental analysis of equivalent magnetostriction forces	**ThP-07**
8.	Masaki Ito *(Doshisha University, Kyoto, Japan)*	Magnetostriction measurement using a vertical yoke single-sheet tester	**ThP-08**
9.	Surendra Kumar *(Department of Physics, Shivaji College, University of Delhi, New Delhi-110027, India)*	Spintronics-Oriented Magnetism and Structural Insights of Yb2FeCrO6 Double Perovskite	**ThP-09**
10.	Zbigniew Śniadecki *(Institute of Molecular Physics, Polish Academy of Sciences, Poznań, Poland)*	Structural disorder in pseudo-binary Ce(Fe0.9Co0.1)2 compound as an origin of ferromagnetism	**ThP-10**
11.	Keisuke Matsumoto *(Ehime University, Matsuyama, Japan)*	Magnetic properties and magnetocaloric effect of ErAl2-xBx	**ThP-11**

AMORPHOUS AND NANOCRYSTALLINE ALLOYS

12.	Przemysław Zackiewicz *(Łukasiewicz Research Network – Institute of non-Ferrous Metals, Gliwice, Sowinskiego 5* *Silesian University of Technology, PhD School, Gliwice, Akdemicka 2a)*	High induction soft magnetic Fe-Co-B cores	**ThP-12**
13.	Nobuhisa Ono *(Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan)*	Iron loss and magnetization dynamics of amorphous and nanocrystalline ribbons with various magnetostriction	**ThP-13**
14.	Merlin Thamm *(Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM, Dresden Branch)*	Engineering nanocrystalline soft magnets – A novel heat-treatment approach	**ThP-14**
15.	Alexander Chizhik *(University of Basque Country, Department of Polym. and Adv. Mater., Spain)*	Torsional and bending stress influence on magnetic properties of amorphous glass covered microwires	**ThP-15**
16.	Naoya Soda *(Ibaraki University, Graduate School of Science and Engineering, Hitachi, Ibaraki, Japan)*	Magnetic Properties Investigation of Impregnated Adhesive Laminated Fe-Based Amorphous by Vector Magnetic Measurement	**ThP-16**
17.	Deji Ma *(Shenyang University of Technology, Shenyang, China)*	Effect of residual stress and cutting damage on losses in motor with amorphous stator core	**ThP-17**
18.	Branislav Kunca *(Institute of Experimental Physics, Slovak Academy of Sciences, Watsonova 47, 040 01 Kosice, Slovakia)*	Soft magnetic properties and microstructure of the conventionally and ultra-rapidly annealed FeCoB(SiCu) high-Bs alloys	**ThP-18**

19.	Kornel Richter *(Faculty of Electrical Engineering and Informatics, Technical University in Kosice, Kosice, 042 00 Slovakia* *Cassovia New Industry Cluster (CNIC), Trieda SNP 457/1, Kosice 040 11 Slovakia* *Slovak academy of sciences, Watsonova 47, 040 01, Kosice, Slovakia)*	Enhancement of the Matteucci Effect in amorphous glass-coated microwires	**ThP-19**
20.	Zbigniew Śniadecki *(Institute of Molecular Physics, Polish Academy of Sciences, Poznań, Poland)*	Enthalpies of formation and glass-forming ability of (Sc1-xTMx)Fe2 (TM – transition metal) alloys	**ThP-20**
21.	Rania Saoudi *(LEM Tech France, Allée des Parcs, Saint Priest, France)*	Aging of FeCuNbSiB Nanocrystalline Materials in Fluxgate Current Sensors	**ThP-21**
22.	Shozo Hiramoto *(Photon Science Innovation Center, Sendai, Japan.* *Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan)*	Narrow stripe domains and low iron loss in nanocrystalline alloys by controlled annealing	**ThP-22**
23.	Pavel Ripka *(Czech Technical University in Prague, Faculty of Electrical Engineering, Czech Republic)*	Thinned Vitrovac tape for microfluxgate core	**ThP-23**
24.	Pavel Ripka *(Faculty of Electrical Engineering, Czech Technical University, Prague, Czech Republic)*	Modelling of nanocrystalline flake laminated materials	**ThP-24**
25.	Tibor-Adrian Óvári *(National Institute of Research and Development for Technical Physics, Iași, Romania)*	Soft magnetic behavior and magnetization reversal in rapidly solidified submicronic amorphous wires	**ThP-25**

26.	Valentina Zhukova *(Dept. Polym. Adv. Mater, University of Basque Country, UPV/EHU, San Sebastian, Spain.* *Dept. Appl. Phys. I, EIG, University Basque Country, UPV/EHU, 20018, San Sebastian, Spain.* *EHU Quantum Center, University of Basque Country, UPV/EHU, 20018, San Sebastian, Spain)*	Single domain wall propagation in Co-rich magnetic microwires with graded magnetic anisotropy	**ThP-26**
27.	Maciej Kowalczyk *(Faculty of Materials Science and Engineering, Warsaw University of Technology, Wołoska 141, 05-507 Warszawa, Poland)*	Heat transfer analysis during ultra-rapid annealing process of amorphous ribbon	**ThP-27**
28.	Olivier de la Barrière *(Laboratoire SATIE, CNRS/ENS Paris Saclay, 91190 Gif-sur-Yvette, France)*	Magnetic loss and domain wall dynamics in amorphous ribbons with longitudinally-induced anisotropy: theory and experiments	**ThP-28**

ENERGY HARVESTING, RENEWABLES, ENVIRONMENTAL ASPECTS

29.	Meziane Hamel *(Laboratory of Energy and Mechanical Engineering, University of Boumerdès, Algeria)*	Coupled Magneto-Mechanical Modeling of a TPMLG for Wave Energy Conversion	**ThP-29**
30.	Federica Celegato *(Advanced Materials for Metrology and Life Sciences Division, INRiM, Torino, Italy)*	Porous polymer sponge and magnetic nanoparticles: a magneto-elastic energy	**ThP-30**

MAGNETIC MODELS AND SIMULATIONS; AI AND MACHINE LEARNING

31.	Benjamin Ducharne *(ELyTMaX IRL3757, Univ Lyon, INSA Lyon, Centrale Lyon, Université Claude Bernard Lyon 1, Tohoku University, Sendai 980-8577, Japan.* *Univ Lyon, INSA Lyon, LGEF EA682, 69621 Villeurbanne, France)*	Analytical expression including fractional derivative for the dynamic magnetic power loss: generalization	**ThP-31**
32.	Christoph Dobler *(Institute of Electric Drives and Power Electronics, Johannes Kepler University, Linz, Austria)*	Model-based estimation of electrical conductivity based on analytical eddy current models for ring-shaped samples	**ThP-32**
33.	Anastassios Skarlatos *(Université Paris-Saclay, CEA, List, F-91120, Palaiseau, France)*	Efficient calculation of harmonic distortion measurements involving closed magnetic circuits	**ThP-33**
34.	Meziane Hamel *(Laboratory of Energy and Mechanical Engineering, University of Boumerdès, Algeria)*	An Investigation of Efficiency Trade-offs in Dynamic Preisach Model Optimization with Metaheuristic and Gradient-Based Algorithms	**ThP-34**
35.	Ermin Rahmanović *(Institute of Electrical Power Engineering, FERI, University of Maribor, Maribor, Slovenia)*	Experimental evaluation of Madelung's rules for static magnetization curves	**ThP-35**
36.	Rodrigo Ferreira de Medeiros *(GRUCAD/EEL/CTC, Federal University of Santa Catarina, Florianópolis, Brazil)*	Study of Models and Methodologies for the Iron Loss Separation	**ThP-36**
37.	Anastassios Skarlatos *(Université Paris-Saclay, CEA, List, F-91120, Palaiseau, France)*	Semi-analytical calculation of excess hysteresis losses in ferromagnetic laminates	**ThP-37**

38.	Mitja Garmut *(Institute of Electrical Power Engineering, FERI, University of Maribor, Maribor, Slovenia)*	Multi-Objective Optimization of an IPM Machine with Simultaneous Variation of Magnet Geometry and Magnetic Material Properties	**ThP-38**
39.	Ayoub Ainouz *(Univ. Lille, Arts et Metiers Institute of Technology, Centrale Lille, Junia, ULR 2697-L2EP, F-59000 Lille, France)*	A Hybrid Approach Based on the Jiles-Atherton Model and Artificial Intelligence for Modelling the Dynamic Hysteresis of Electrical Steels	**ThP-39**
40.	Sławomir Ziętek *(AGH University of Kraków, Kraków, Poland)*	Reinforcement learning applications for macrospin modelling	**ThP-40**
41.	Thierry Waeckerlé *(Aperam Research Center, rue P. Chevenard, 58160 Imphy, France)*	Induction heating of cladded material using a low Curie point: electromagnetic simulation	**ThP-41**
42.	Zhe Cui *(Multidisciplinary Unit for Energy Science (MUFENS), Dpto. Física de la Materia Condensada, ICMS-CSIC, Universidad de Sevilla, Sevilla, Spain)*	High-throughput DFT study on MM'X alloys for magnetic refrigeration	**ThP-42**
43.	Yusuke Kawamura *(Steel Research Laboratories, Nippon Steel Corporation, Chiba, Japan* *Institute of Biomedical Electronics, Vienna University of Technology, Vienna, Austria.* *Magnet Test Labs, Vienna Magnetics GmbH, Vienna, Austria)*	Classification of Magnetic Domain Structures in GOES Using Convolutional Neural Networks	**ThP-43**
44.	Marco Stella *(Dipartimento di Ingegneria, Università degli Studi di Perugia, Italy)*	Implementation of the energy-based model in finite element method for simulations of magnetic components for electric machines	**ThP-44**

45.	Yasmine Gabi *(Fraunhofer Institute for non-destructive testing IZFP, Campus E3 1, Saarbrücken, Germany.* *Chair of Cognitive Sensor Systems, Saarland University, Fraunhofer IZFP, Campus E3 1, Saarbrücken, Germany)*	Eddy current Analytical calculation under low frequency AC magnetic field.	**ThP-45**
46.	Riccardo Scorretti *(University of Perugia, Department of Engineering, Perugia, Italy* *Univ Lyon, CNRS, INSA Lyon, Université Claude Bernard Lyon 1, Ecole Centrale de Lyon, Ampère, UMR5005, 69100 Villeurbanne, France)*	B-driven energy based model by using a modified Newton-Raphson algorithm	**ThP-46**
47.	Mislav Trbušić *(Faculty of Electrical Engineering and Computer Science, University of Maribor, Slovenia)*	The effect of eddy currents on the temperature of pickup coils when measuring paramagnetic materials at high frequencies	**ThP-47**
48.	Tetsuji Matsuo *(Kyoto University, Kyoto, Japan)*	Representation of fractional power-law frequency dependences of magnetic property using Cauer circuit	**ThP-48**
49.	Julien Taurines *(Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab, 38000 Grenoble, France)*	Analytical Isotropic Magnetic Hysteresis Modeling with Two Material Hysteresis Parameters	**ThP-49**
50.	Yasmine Gabi *(Fraunhofer institute for non-destructive testing IZFP. Saarbrucken, Germany)*	Improved Arctangent-Based Hysteresis Model for Residual Stress Analysis	**ThP-50**

Programme of the SMM27 Conference

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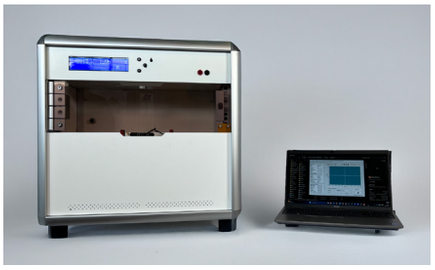

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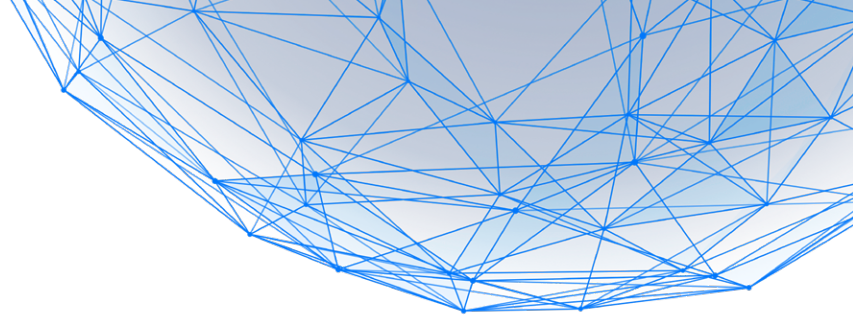

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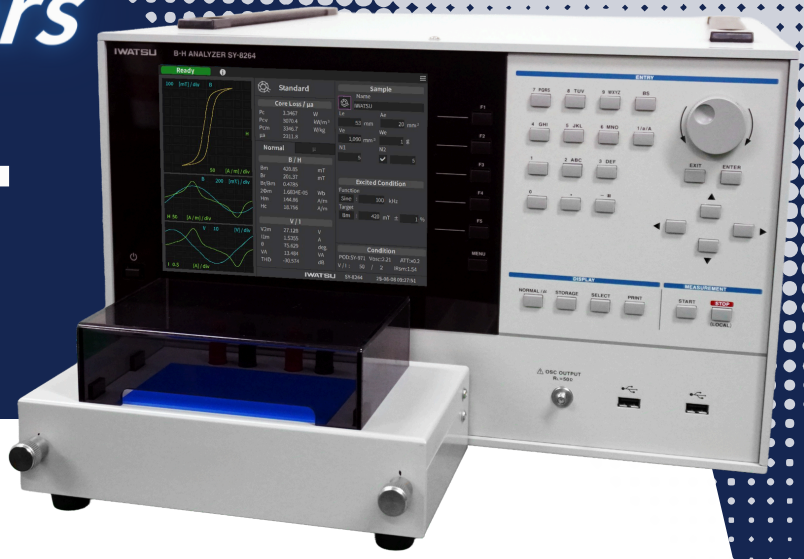

Key Features

- **Test Frequency** 10Hz to 1MHz (SY-8264)
  to 10MHz/to 20MHz /to 30MHz (option for SY-8264)
- **Signal waveform** SINE or PULSE
- **Max. Input current** ±6A, ±10A (release in 2026)
- **Max. Input voltage** ±200V
- **Excitation method** Automatic excitation (Target : Hm, Bm, I1m or V2m)
- **Automatically degaussing after excitation to avoid magnetization**
- **Normal mode and μ mode are measured at the same time**

Measurement method		**CROSS-POWER method (Compatible to IEC62044-3 standard)**
Measurement item (Symbol)		**Max. Magnetic flux density(Bm), Residual magnetic flux density(Br), Max.Magnetic field strength(Hm), Coersive force(Hc), Rectangular ratio(Br/Bm), Relative amplitude permeability(μa), Core loss(Pc,Pcv,Pcm), Primary excitation current(I1m), Secondary induced voltage(V2m), Phase(θ), Total magnetic flux linkage(2φm), Apparent power(VA), Impedance permeability(μz), Complex permeability(μ′,μ″), Loss coefficient(tanδ), Inductance(L), Resistance(R), Impedance(|Z|), Quality factor(Q), Total harmonic distortion(THD)**
Waveform display		**B-H curve, Primary current, Secondary voltage, Magnetic field, Flux density**
Test	**SINE**	**10Hz - 1MHz (SY-8264) ※1MHz-30MHz as optional**
	PULSE	**10Hz - 1MHz**
Magnetic field detection		**Voltage detection on non-inductive shunt, Max. current at ±6A**
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Digitizer		**Resolution : 16bits (8192points/cycle)**
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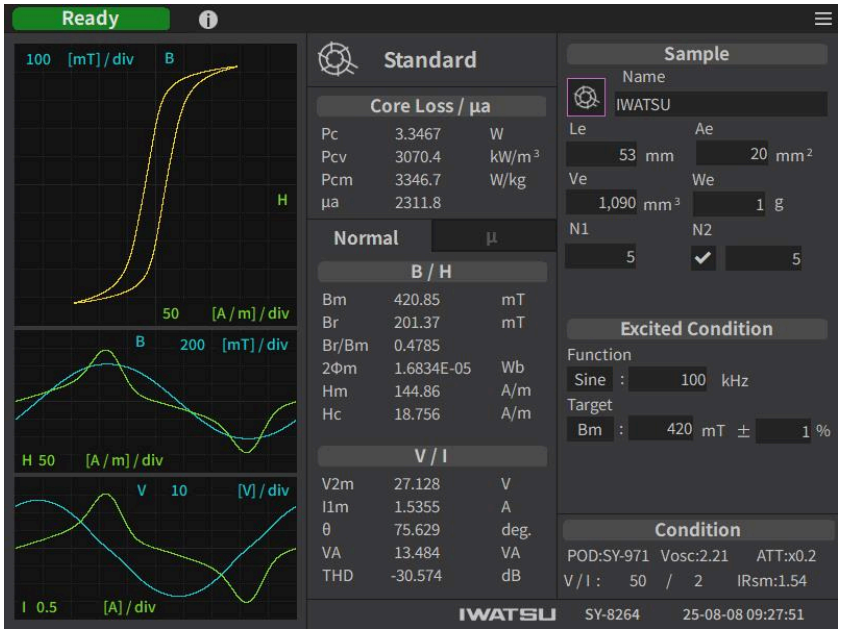
Display of SY-8264 Series



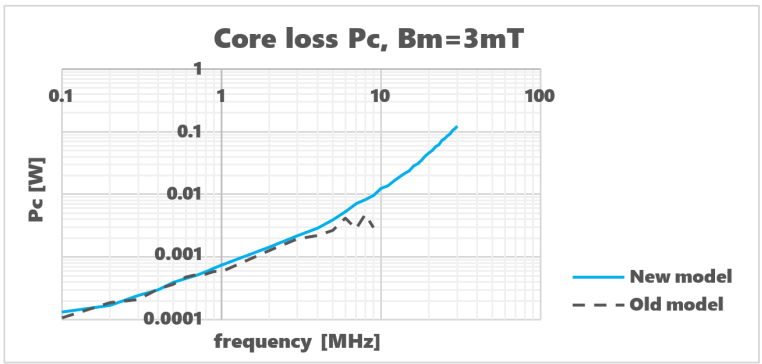
Measurement Comparison

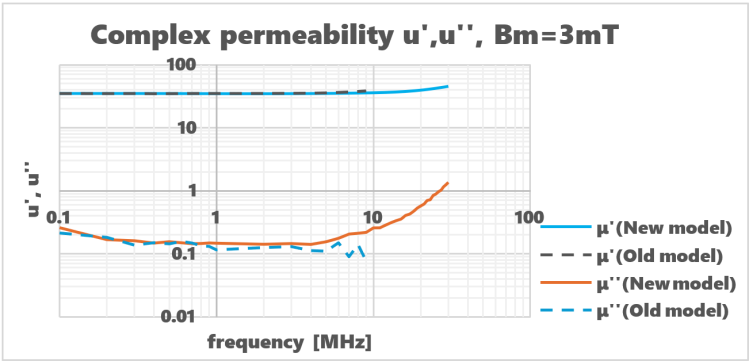
SY-8264 (New model)
10Hz to 30MHz as optional

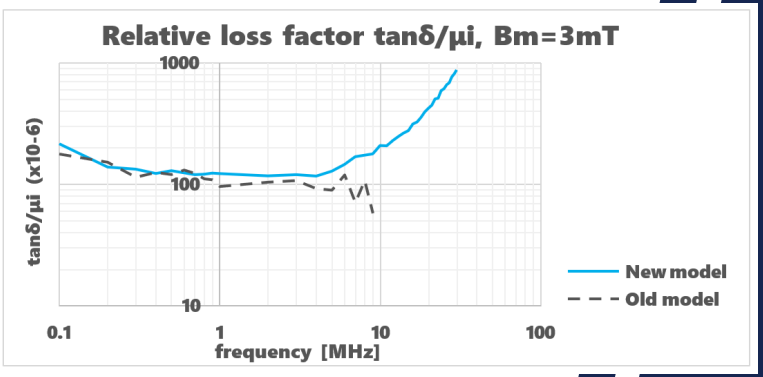
SY-8218 (Old model)
10Hz to 10MHz

Material: TN6D Ferrite(NiZn)

Method: 2coil







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An Electrical Machine Enterprise Focused on Material Application Technology

Suzhou Inn-Mag New Energy Technology Co., Ltd. stands as a national high-tech enterprise in China, dedicated to the integrated implementation of high-performance motor design, development, manufacturing, sales, and promotion. Spearheaded by preeminent experts recruited through China's national-level major talent introduction initiative, the company was established by a cohort of young doctoral scholars who completed their academic pursuits at the University of Cambridge and the University of Oxford in the United Kingdom prior to returning to China to pursue their entrepreneurial endeavors.

Over two decades of cumulative efforts, the Inn - Mag team has pioneered, on an international scale, an interdisciplinary innovation approach centered on "new motors - new materials". For the first time, new materials have been introduced into the motor domain, thereby subverting traditional motor technologies. Four generations of technological iterations, encompassing 200 product variants, have been mass - applied across sectors such as new energy vehicles, rail transit, and construction machinery. These applications include collaborations with over 40 central enterprises and renowned international entities: China Railway Rolling Stock Corporation (CRRC), Robert Bosch GmbH (Germany), Cummins Inc., Schaeffler Group, China First Automobile Works (FAW), NIO Inc., Geely Automobile Holdings Ltd., SAIC - GM - Wuling Automobile Co., Ltd., Angang Steel Company Limited, Maanshan Iron & Steel Co., Ltd., Taiyuan Iron & Steel (Group) Co., Ltd., Xinyu Iron and Steel Co., Ltd., and Lianyuan Iron and Steel Group Co., Ltd. Inn - Mag's high - performance electric drive products are dedicated to carbon emission reduction, making contributions to the international "dual - carbon" (carbon peaking and carbon neutrality) objectives and the electrification strategy.

To date, INN-MAG has published over 100 academic papers in various international journals and conferences, among which more than 80 have been indexed by SCI/EI. These publications are featured in prestigious academic platforms such as the IEEE Transactions series and AIP Advances. It has filed more than 170 patent applications, including 69 granted invention patents (with 1 U.S. patent included) and 71 utility model patents (with 1 German patent included). A number of its technological achievements have reached the international leading level. With its outstanding innovation capability, Inn-Mag is gradually emerging as a leader in the interdisciplinary field of motors and electromagnetic materials.

Suzhou INN-MAG New Energy Technology Co.,Ltd.

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