

JAPMED'5 "Fifth Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting and Nano Materials"

September 16 - 19, 2007, Golden Bay Hotel, Larnaca - Cyprus

Web-site: //www.topkinisis.com/conference/japmed5/

Sunday, September 16th

17:00-20:00 : Registration

20:00-21:30 : Welcome Reception

Monday, September 17th

08:45-09:00 : Opening Session

Welcome address by the Chairman of JAPMED' 5, Academician Professor Dr-Ing. A.G. Mamalis

Address by the Co-Chairman of JAPMED' 5, Professor M. Enokizono

Address by the Co-Chairman of JAPMED' 5, Professor J. Giapintzakis

09:00-11:20 : Session on Applied Superconductivity

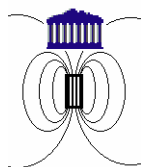
Session Chairman: J. Tegopoulos, Greece

09:00 - 09:30 : Keynote presentation by A.G. Mamalis (National Technical University of Athens, Greece) on Recent Trends of Applied Superconductivity

09:30-11:20 Oral presentations

No	Ref	Title	Authors	Affiliation
1	16	On the magnetic resistance of YBaCuO bulk superconductor dynamically interacting with troubled magnetic flux of iron-homopolar magnetic track	Gino D'Ovidio, Francesco Crisi, Giovanni Lanzara	University of L'Aquila, Italy
2	20	Study on methods to suppress decay of trapped magnetic field in HTS bulk subjected to AC magnetic field	Kazuhiro Yamagishi, Osami Tsukamoto	Yokohama National University, Japan
3	51	High pressure and hot-pressing manufactured magnesium diboride, the inclusions of higher borides as possible pinning centers in the material	T. Prikhna, W. Gawalek, A. Mamalis, Y. Savchuk, N. Sergienko, M. Wendt, T. Habisreuther, J. Noudem, X. Chaud, V. Moshchil, V. Turkevich, P. Nagorny, A. Kozyrev, J. Dellith, C. Schmidt, D. Litzkendorf, U. Dittrich, S. Dub	Institute for Superhard Materials of the National Academy of Sciences of Ukraine
4	34	Coupled Transient Thermal and Electromagnetic Finite Element Analysis for Quench Simulation in Superconducting Magnets	J. Simkin, S.C. Taylor, E. Xu, A.M. Michaelides	Vector Fields, UK
5	53	Explosive compaction and synthesis of MgB ₂ superconductor using the powder in tube technique	A.G. Mamalis, E. Hristoforou, D.E. Manolakos, P. Svec, T. Prikhna, J.D. Theodorakopoulos, G. Kouzilos	National Technical University of Athens, Greece
6	32	Magnetization of the YBCO bulk with permanent magnets and hybrid magnetizer	Janos Kosa, Istvan Vajda, Tatiana Prikhna	Budapest University of Technology and Economics / Institute for Superhard Materials of NASU, Hungary

11:20-11:50 Coffee Break



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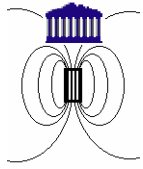
11:50-13:50 : Session on Nanotechnology
Session Chairman: F. Marquis, USA

11:50 - 12:20: Keynote presentation by Ch. Doumanidis (University of Cyprus, Cyprus) on Nanomanufacturing Research at NSF and at the University of Cyprus

12:20-13:50 Oral presentations

No	Ref	Title	Authors	Affiliation
1	14	Structure and magnetic features of nanostructured Co-Cu alloys synthesized by new modification of mechanochemical synthesis	Rauf Iskhakov, Elena Denisova, Ludmila Kuzovnikova, Sergey Komogortsev, Alexander Balaev, Galina Bondarenko	L.V. Kirensky Institute of Physics, Akademgorodok / Institute of Chemistry and Chemical Technology SB RAS, Akademgorodok, Russia
2	55	Nanograin based magnetic peculiarities in Ni electrodeposited films	Ch.S. Karagianni, P. Svec, K. Efthimiadis, E. Hristoforou	National Technical University of Athens, Greece
3	13	Synthesis and characterization of lead titanate nanopowders by organic acid precursor	M.M. Rashad, R.S. Mohammed, M.M. Hessien, I.A. Ibrahim, A.T. Kandil	Central Metallurgical Research and Development Institute / Helwan University , Egypt
4	60	Mechanical Micro-Sensors based on Carbon Nanotube Thin Films	Giulia Lanzara and Fu-Kuo Chang	Department of Aeronautics and Astronautics, Stanford University, California, USA
5	65	Bonding of a Single Carbon Nanotube on a Tip Using Dielectrophoresis with a DC-pulse Voltage	H.J. Jeong, Y.H. Jung, D.W. Lee	Pusan National University, South Korea

13:50-15:00 Lunch Break



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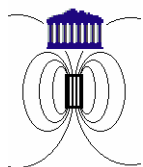
15:00-17:00 : Session on Particular Advanced Materials

Session Chairman: K. Nagaya, Japan

15:00 - 15:30 : Keynote presentation by M. Enokizono (Oita University, Japan) on Dynamic Vector Magneto-Hysteretic E&S Model

15:30-17:00 Oral presentations

No	Ref	Title	Authors	Affiliation
1	49	Computer Simulation of Distributions and Structure Formations of Magnetic Spherocylinder Particles and Nonmagnetic Spere Particles in MAGIC Fluid under Steady Magnetic Field	Yasushi Ido, Takafumi Inagaki	Nagoya Institute of Technology, Japan
2	28	Inspection Robot Climbing Vertical Cross Piping Using Magnetic Adhesive Mechanism	Kosuke Nagaya, Koudou Kubo, Takayuki Hoshi, Tomohiko Yoshino	Gunma University, Japan
3	43	New Ag-SnO ₂ -MeO Ecological Advanced Materials for Electrical Contacts Used in Electromagnetic Contactors	Magdalena Lungu, Stefania Gavriiliu, Smaranda Nitu, Traian Canta, Delia Patroi, Petre Budrugeac, Silvia Hodorocea	National Institute for R&D in Electrical Engineering-INCDIE ICPE-CA, Politechnical University of Bucharest, Technical University of Cluj-Napoca, Romania
4	35	A new drive system using a SMA heat engine and its applications	Tsugunori Kanada	Oita University, Japan
5	62	Comparison of flux leakage transducers used for evaluation of stress loaded materials	Tomasz Chady, Grzegorz Psuj, Shoichiro Nagata	University of Miyazaki, Japan



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Tuesday, September 18th

09:00-11:20 : Session on Magnetic Materials

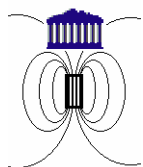
Session Chairman: F. Hantila, Romania

09:00 - 09:30 : Keynote presentation by A. Moses (Cardiff University, UK) on Loss Analysis in Magnetic Materials

09:30-11:20 Oral presentations

No	Ref	Title	Authors	Affiliation
1	39	Magnetic Evaluation of Hardening Effect for Carbon Steel	Yuichiro Kai, Yuji Tsuchida, Masato Enokizono	Oita University, Japan
2	31	Development of magnetic chromatography for ion separations using novel magnetic column	SeokBeom Kim, Yuichi Okimoto, Satoru Murase, So Noguchi, Hidehiko Okada	Okayama University / Hokkaido University, Japan
3	15	Co-Ferrite Thin Films with High Coercivity on Glass and Silica Substrates by Sol-gel Method	Yasuo Okazaki, Hitoshi Ohashi, Shunji Yanase, Shuichiro Hashi, Yutaka Ohya	Gifu University, Japan
4	26	Eddy Currents and Hysteresis Losses Evaluation Using Dynamic Preisach Model	Samy Hassani Ould Ouali, Hassane Mohellebi, Rachid Chaibi, Mouloud Feliachi	University de Tizi-Ouzou, Algeria
5	36	Magnetic Properties and Shape Memory Effect of Fe-Mn-Cr-Si-R-B Ferromagnetic Shape Memory Alloys	Takashi Todaka, Masashi Sonoda, Masato Enokizono	Oita University, Japan
6	10	Synthesis of Mn-Zn ferrites and correlation of magnetic properties with manganese substitution	M. M. Hessien, M. M. Rashad, K. El-Baraway, I. A. Ibrahim	Central Metallurgical Research and Development Institute, Egypt

11:20-11:50 Coffee Break



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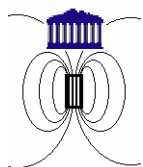
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Tuesday, September 18th

11:50-13:50 : Poster Session

Session Chairman: E. Hristoforou, Greece

No	Ref	Title	Authors	Affiliation
1	1	Taguchi method for the optimization of transformer cores annealing process	Pavlos S. Georgilakis	Technical University of Crete, Greece
2	3	A multiobjective evolutionary algorithm approach for the optimum economic and environmental performance of an off-grid power system containing renewable energy sources	Yiannis A. Katsigiannis, Pavlos S. Georgilakis	Technical University of Crete, Greece
3	4	Design Optimization of Distribution Transformers Based on Mixed Integer Programming Methodology	Eleftherios I. Amoiralis, Pavlos S. Georgilakis, Marina A. Tsili	Technical University of Crete / Technical University of Athens, Greece
4	7	An ant colony optimization solution to the integrated generation and transmission maintenance scheduling problem	Pavlos S. Georgilakis, Peter G. Vernados, Constantine Karytsas	Technical University of Crete / Technological Educational Institute of Piraeus / Centre for Renewable Energy Sources, Greece
5	8	Optimal sizing of small isolated hybrid power systems using tabu search	Yiannis A. Katsigiannis, Pavlos S. Georgilakis	Technical University of Crete, Greece
6	12	Optimized geothermal binary power cycles	Evgenia Konoleontos, Constantine Karytsas, Dimitris Mendrinou, Pavlos S. Georgilakis	National Technical University of Athens / Centre for Renewable Energy Sources / Technical University of Crete, Greece
7	25	Utility-Based Economic Assessment of Distribution Transformers Considering Specific Load Characteristics and Environmental Factors	Eleftherios I. Amoiralis, Pavlos S. Georgilakis, Marina A. Tsili, Athanassios T. Souflaris	Technical University of Crete, National Technical University of Athens, Schneider Electric AE, Greece
8	37	Assessment of Geothermal Resources for Power Generation	Dimitris Mendrinou, Constantine Karytsas, Pavlos S. Georgilakis	Centre for Renewable Energy Sources / Technical University of Crete, Greece
9	21	Comparison between model and experiment in studying the electric arc	Smaranda Nitu, Constantin Nitu, Cristi Mihalache, Paula Anghelita, Dan Pavelescu	University of 'POLITEHNICA' / Research and Development Institute for the Electrotechnic Industry, Romania
10	22	FEM Package for Iron Loss Evaluation and Minimization of Two Grade Lamination Wound Cores	Themistoklis Kefalas, Antonios Kladas	National Technical University of Athens, Greece
11	40	Theoretical and experimental analysis of laminated iron core losses	Panagiotis G. Rovolis, Antonios G. Kladas	National Technical University of Athens, Greece

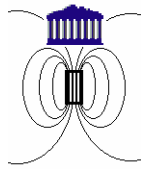


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12	41	Dynamic performance simulation of a four sided linear permanent magnet machine for power generation from sea waves	Nikolaos M. Kimoulakis, Antonios G. Kladas, John A. Tegopoulos	National Technical University of Athens, Greece
13	42	Varistor Modelling for Power Electronics Applications Simulations	Cristinel Mihalache, Smaranda Nitu, Florin Ionescu	University 'Politehnica' Bucharest, Romania
14	44	Landfill Gas (LFG) Plants: An application on energy regarding environmental impact	Anna A. Tsave, Emmanuel S. Karapidakis	Technological Educational Institute of Crete, Greece
15	56	Ferromagnetic powders from the red mud	S. Krimpalis, P. Svec, K. Efthimiadis, Ch.S. Karagianni, E. Hristoforou	National Technical University of Athens, Greece
16	57	Phase transformations of Co-enhanced Finemet amorphous ribbons based on resistance-temperature correlation	T. Papaioannou, P. Svec, D. Janickovic, E. Hristoforou	National Technical University of Athens, Greece
17	58	Synthesis and characterization of Co precursors for magnetic thin film growth by the MOCVD method	N.D. Papadopoulos, Ch.S. Karagianni and E. Hristoforou	National Technical University of Athens, Greece
18	59	A Fast Whole Blood Coagulation Magnetostrictive Sensor	L. Theodorakis, Ch.S. Karagianni, and E. Hristoforou	National Technical University of Athens, Greece
19	61	Induction motor estimation based on magnetic field analysis	D. Raptis, A. Kladas, Z. Papazaharopoulos	National Technical University of Athens, Greece
20	2	Seawater desalination technology based on rotating-coupling electromagnetism effect	Peng Zhang, Bin Guo, Shu-kang Cheng, Hai-long Gong	Harbin Institute of Technology, China
21	6	One Numerical Method for Anisotropic Micro Strip Lines Determination	Nebojsa B. Raicevic, Sasa S. Ilic	University of Nis, Serbia
22	23	Simplified appraisal method for fatigue on sitting for extended periods by using finger plethysmogram	Etsunori Fujita, Yumi Ogura, Naoki Ochiai, Tsutomu Kamei, Koji Murata, Yoshiyuki Ueno, Shigehiko Kaneko	Deltatooling Co. Ltd / University Graduate School of Medical Science / Chiba Institute of Technology / The University of Tokyo, Japan
23	67	Analysis of Energetically Losses in Quasi-Stationary Regime of the Electromagnetic Field	Horia Andrei , Fanica Spinei, Gianfranco Chicco, Valentin Dogaru-Ulieru	Valahia University of Targoviste, Romania
24	68	Aspects Regarding the Multiobjective Optimization of the Induction Heating Process	Teodor Leuca, Mihaela Novac, Ecaterina Vladu and Ovidiu Novac	University of Oradea, Romania
25	69	Breast Tumor Detection using the Numerical Analysis of the Thermal Inverse Problem	Florea Hantila, Oana Drosu, Mihai Maricar	Polytechnica University of Bucharest, Romania
26	70	Eddy-Current Melting of Ferromagnetic Bodies	F. Hantila, M. Maricar, O. Drosu and S. Marinescu	Polytechnica University of Bucharest, Romania



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27	71	Numerical Analysis Method for Solving the Coupled Electromagnetic and Thermal Field Questions for Induction Heating Systems With Moving Parts	Mircea-Nicolae Arion, Teodor Leuca, Florea Ioan Hantila	University of Oradea, Romania
28	72	Permanent magnet and wound salient pole synchronous generator design comparison	H. Patsios, A. Kladas	National Technical University of Athens, Greece

13:50-15:00 Lunch Break

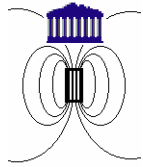
Tuesday, September 18th

15:00-17:20 : Session on Applied Electromagnetics I
Session Chairman: G. D'Ovidio, Italy

15:00 - 15:30 : Keynote presentation by Motomichi Ohto (Yaskawa Electric Co Ltd, Japan) on The Development Trend of Electric Motor for Robots

15:30-17:20 Oral presentations

No	Ref	Title	Authors	Affiliation
1	9	Genetic algorithm solution to the market-based transmission expansion planning problem	Pavlos S. Georgilakis, Constantine Karytsas, Peter G. Vernados	Technical University of Crete / Centre for Renewable Energy Sources / Technological Educational Institute of Piraeus, Greece
2	47	Analysis of induction heating apparatus controlled by two excitation coils with different frequencies	Kiichiro Honda, Koji Fujiwara, Yoshiyuki Ishihara, Toshiyuki Todaka	Doshisha University, Japan
3	18	Transient Analysis of Special Transformers Coupled with FEM	Snezana Cundeva, Marija Cundeva-Blajer, Ljupco Arsov	Ss. Cyril & Methodius University, FYROM
4	24	Electromagnetic actuator modeling for modular robotics applications	Constantin Nitu, Smaranda Nitu, Bogdan Gramescu	University 'POLITEHNICA' of Bucharest, Romania
5	63	Investigation of Amorphous Alloy Cores and Permanent Magnets at Cryogenic Temperatures	L.I. Chubraeva, D.A. Korotkov, M.V. Manzuk, A.R. Orlov, S.S. Timofeyev, N.Yu. Vandyuk, D.A. Volkov	VNII Electromash, State University of Aerospace Instrumentation, Saint-Petersburg, Russia
6	30	Unification of Anisotropy and FEM-BE Models for Distribution Transformer Optimization	Themistoklis Kefalas, Marina Tsili, Antonios Kladas	National Technical University of Athens, Greece



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Wednesday, September 19th

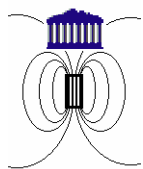
09:00-11:20 : Session on Applied Electromagnetics II
Session Chairman: L. Chubraeva, Russia

09:00 - 09:30 : Keynote presentation by K. Yamada (Saitama University, Japan) on Nano Magnetic Materials

09:30-11:20 Oral presentations

No	Ref	Title	Authors	Affiliation
1	5	The State of the Art in Engineering Methods for Transformer Design and Optimization: a Survey	Eleftherios I. Amoiralis, Marina A. Tsili, Pavlos S. Georgilakis	Technical University of Crete / Technical University of Athens, Greece
2	29	Eddy Current Analysis for ECT of a Conductor with a Conductive Crack by BEM	Kazuhisa Ishibashi	Tokai University, Japan
3	54	Magnetic non destructive testing in ferritic steels	K. Kosmas, P. Svec and E. Hristoforou	National Technical University of Athens, Greece
4	38	NDE by Means of Frequency Sweep Excitation and Spectrogram Method	Shoichiro Nagata, Masato Enokizono	University of Miyazaki, Japan
5	48	Modeling and Identification of Parameters on Saturated Induction Machine on the new equivalent circuit	K. Dakhouché	University of Nantes, France
6	11	Three-Dimensional Analysis of Electric Current Distribution in a Small-Scale Scramjet Driven DCW MHD Generator	Motto Ishikawa, Daiki Gotoh, Toru Takahashi, Takayasu Fujino	University of Tsukuba, Japan

11:20-11:50 Coffee Break



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Wednesday, September 19th

11:50-14:10 : Session on Advanced Techniques Session Chairman: Y. Okazaki, Japan

11:50 - 12:20 : Keynote presentation by F.D.S. Marquis (Naval Postgraduate School, Monterey, USA) on Manufacturing and Processing of Nanopowders and Nanostructured Materials (coauthored by A.G. Mamalis)

12:20-14:10 Oral presentations

No	Ref	Title	Authors	Affiliation
1	17	A Proposal on Efficient Driving Method for Linear Oscillatory Actuator	Yinggang Bu, Makoto Karasawa, Yusuke Isono, Tsutomu Mizuno	Shinshu University, Japan
2	19	Development of a technique for capturing Sleep Predictor Signals during wakefulness	Etsunori Fujita, Yumi Ogura, Naoki Ochiai, Kohji Murata, Tsutomu Kamei, Yoshiyuki Ueno, Shigehiko Kaneko	Deltatooling Co. Ltd / University Graduate School of Medical Science / Chiba Institute of Technology / The University of Tokyo, Japan
3	64	Results of Development and Investigation of HTSC Electric Power Installation	E.N Andreev, L.I. Chubraeva, D.A. Korotkov, M.V. Manzuk, S.S. Timofeyev, N.Yu. Vandyuk , D.A. Volkov, I.V. Volynkin	VNII Electromash, State University of Aerospace Instrumentation, Saint-Petersburg, Russia
4	66	Oxygenation of bulk and thin-walled MT-YBCO under high and atmospheric oxygen pressure	Tatiana Prikhna, Xavier Chaud, Nina Sergienko, Wolfgang Gawalek, Yaroslav Savchuk, Jacques Rabier, Anne Joulain, Sergey Dub, Vladimir Melnikov, Doris Litzkendorf, Victor Moshchil, York Bierlich, Peter Nagorny	National Academy of Sciences of Ukraine, Ukraine CNRS/CRETA, Institut fur Photonische Technologien, Germany Universite de Poitiers, France
5	27	Vibration Isolation System Using Spring Actuator with Iron particle layers Stacked with Permanent Magnet and Electromagnet under Disturbance Cancellation Control	Kosuke Nagaya, Hideki Hata, Asuka Nojiri, Naoya Sakamoto	Gunma University, Japan
6	46	Design Optimization of Analysis of a High Speed Synchronous Reluctance Machine Using 2D and 3D Numerical and Analytical Methods	Mehran Mirzae, Seyed Ehsan Abdollahi	Amirkabir University of Technology, Iran

14:10-14:30 Closing Session and Concluding Remarks