

JAPMED'4 "Fourth Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting and Nano Materials"

September 17-20, 2005, El Gezira Cairo Hotel, Egypt

Web-site: <http://www.ntua.gr/JAPMED4>

Saturday, September 17th

17:00-20:00 : Registration

20:00-21:30 : Welcome Reception

Sunday, September 18th

09:00-09:30 : Opening Session

Welcome address by the Chairman of JAPMED' 4, Academician Professor Dr-Ing. A.G. Mamalis

Address by the President of the Japan Society of Applied Electromagnetics and Mechanics, Professor J. Tani

Address by the Member of the Executive Committee of JAPMED' 4, Director of the UCLA Center for Energy, Professor M. Abdou

Address by the Co-Chairman of JAPMED' 4 and President of the Egyptian Academy of Science and Technology Research, Professor Fawzi El-Refaie

Address by the Minister of Higher Education & Scientific Research, H.E. Professor A. Salamah

09:30-11:30 : Session on Applied Superconductivity I

09:30 - 10:00 : Keynote presentation by K. Salama (University of Houston, USA) on the Promise of HTS for Electric Power Applications

10:00-11:30 Oral presentations

| No | Ref | Title | Authors | Affiliation |
|----|-----|---|---|--|
| 1 | 177 | Numerical Analysis of Repulsed Magnetization of a Bulk Superconductor by Long and Low Field with Temperature Control | M. Tsuchimoto, H. Kamijo and H. Fujimoto | Hokkaido Institute of Technology, 7-15 Maeda, Teine-ku, Sapporo 006-8585, Japan |
| 2 | 112 | Comparison of the behavior of the three superconductors YBCO, Bi-2212 and MgB ₂ in different environmental conditions | M. Ochsenkühn-Petropoulou, R. Argyropoulou, C. Dounis, P. Karaboulis, A. Altzoumailis and K.M. Ochsenkühn | Laboratory of Inorganic and Analytical Chemistry, School of Chemical Engineering, National Technical University of Athens, Iroon Polytechniou 9, 157 73 Athens, Greece |
| 3 | 107 | Perspectives of elementary technologies for AC power applications of high temperature superconductors | O. Tsukamoto | Faculty of engineering Yokohama National University, 79-5 Tokiwadai, Hodogaya-ku, Yokohama, Kanagawa, 240-8501, Japan |
| 4 | 121 | High Temperature Superconducting Levitation Flywheel System and Its Control | Masato Saito, Kosuke Nagaya, Kazuya Kobayashi and Yoshinori Ando | Department of Mechanical Engineering, Gunma University, Kiryu Gunma 376-8515, Japan |
| 5 | 114 | Lift and guidance forces by using iron-magnetic track with side rims and passive HTC superconducting plate: experimental analyses | Gino D'Ovidio, Francesco Crisi, Aurelio Navarra and Giovanni Lanzara | Transportation Department, Faculty of Engineering, University of L'Aquila, 67040 - Monteluco di Roio , Italy |
| 6 | 175 | Flux Motion during Pulse Field Magnetization of Bulk Superconductor | Hiroyuki Ohsaki, Keita Fujiyama and Ryosuke Shiraiishi | Graduate School of Frontier Sciences, The University of Tokyo, Shinryoiki-Kibanto 307, 5-1-5 Kashiwanoha, Kashiwa 277-8561, Japan |

11:30-12:00 Coffee Break



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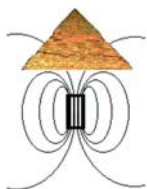
12:00-14:00 : Session on Applied Superconductivity II

12:00 - 12:30: Keynote presentation by W. Gawalek (Institut fuer Physikalische Hochtechnologie, Germany) on Bulk MgB₂-Superconductors: A New Material for Energy Technologies?

12:30-14:00 Oral presentations

| No | Ref | Title | Authors | Affiliation |
|----|-----|--|--|--|
| 1 | 156 | Study of the Losses in a HTC Superconducting Tube: Comparison of Methods of Calculation | T. Satiramatekul, K. Berger, B. Douine, J. Leveque, D. Netter, F. Bouillault, A. Rezzoug | LGEP, Supélec, Plateau de Moulon, 91192 Gif-sur-Yvette Cedex, France |
| 2 | 143 | Investigation of a model HTSC transformer with amorphous alloy cores | Eugeni N. Andreev and Lidia I. Chubraeva | NII Electromash, 196084, Moskowsky 100, Saint-Petersburg, Russia |
| 3 | 166 | A New Analysis Method for Accurate Supercurrent Distribution inside HTS Bulk | Tomohiro Yanagawa, Kazufumi Kaneda, So Noguchi, Hideo Yamashita and Atsushi Ishiyama | Graduate School of Information Science and Technique, Hokkaido Univ., N14 W9, Kita-ku, Sapporo 060-0814, Japan |
| 4 | 192 | Influence of some metallic additives on the flux trapping ability of High Temperature Superconducting Ceramics | Andras Szalay, Athanassios Mamalis, Istvan Vajda, Gabor Bertalan, Margit Enisz | Budapest University of Technology and Economy, Budapest, Hungary |
| 5 | 169 | Application of Lorentz force to a magnetic levitation system for a non-magnetic thin plate | Takahisa Ohji, Takashi Shinkai, Kenji Amei and Masaaki Sakui | Dept. of Electrical and Electronic Engineering, Toyama University, 3190 Gofuku, Toyama 930-8555, Japan |
| 6 | 194 | High Magnetic Field Effect on Texture of Low GNO Silicon Steel | O.S. Es-Said, C.M.B. Bacaltchuk, G.A. Castello-Branco, C. Iskandar, P. Koo, A. Kasseh, R. Abourialy, H. Garmestani | Loyola Marymount University-Mechanical Engineering Department, 1 LMU Drive, Los Angeles, 90045-2659, USA |

14:00-15:30 Lunch Break



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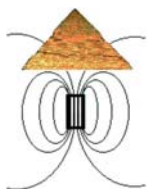
15:30-17:30 : Session on Nanotechnology I

15:30 - 16:00 : Keynote presentation by A.G. Mamalis (National Technical University of Athens, Greece) on recent advances on nanotechnology

16:00-17:30 Oral presentations

| No | Ref | Title | Authors | Affiliation |
|----|-----|---|--|---|
| 1 | 104 | Synthesis of Nano-Sized Ni-Fe Powder by Chemical Process for Magnetic Applications | S. F. Moustafa and W. M. Daoush | Central Metallurgical R&D Institute, Cairo, Egypt |
| 2 | 144 | Nanomaterials synthesized in carbon-helium plasma at atmospheric pressure | Grigory N. Churilov, Eleonora A. Petrakovskaya, Natalia V. Bulina and Alexey V. Marachevsky | L.V. Kirensky Institute of Physic SB RAS, 660036 Krasnoyarsk, Russia |
| 3 | 178 | Magnetic properties of nanocrystalline ferrite $Ti_xCo_{1+x}Fe_{2-2x}O_4$ and $CoFe_2O_4$ composite thin films | Ma Ryushin, Yasuo Okazaki, Yutaka Ohya, Shunji Yanase and Shuichiro Hashi | Faculty of Engineering, Gifu University, 1-1 Yanagido, Gifu, 501-1192, Japan |
| 4 | 102 | High-pressure synthesized nanostructural magnesium diboride-based materials for superconductive electromotors, generators and pumps | T. Prikhna, W., N. Novikov, Y. Savchuk, M. Zeisberger, N. Sergienko, V. Moshchil, M. Wendt, T. Habisreuther, S.X. Dou, S. Dub, V. Melnikov, C. Schmidt, J. Dellith, P. Nagorny | Institute for Superhard Materials, 2, Avtozavodskaya Str., Kiev, 04074, Ukraine |
| 5 | 110 | Novel Anti-corrosion Nano-Sized Vanadia-Based Thin Films Prepared by Sol-Gel Method for Aluminum Alloys | Abdel Salam Hamdy, A. A. Ismail, D. P. Butt and A. K. Ismail | Department of Surface Treatment & Corrosion Control, Central Metallurgical R & D Institute, CMRDI, P.O. Box: 87, Helwan, Cairo, Egypt |
| 6 | 185 | Development of a 3D Tactile Sensor | Mami Tanaka, Seiji Chonan, Takashi Iijima, Yoshikatsu Tanahashi | Dept. of Bioengineering and Robotics Graduate School of Engineering, Tohoku University, Aobayama 04, Sendai 980-8579, Japan |

20:00 Departure for the Cruise on the Nile



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Monday, September 19th

09:00-11:00 : Session on Nanotechnology II

09:00 - 09:30 : Keynote presentation by F. Marquis (South Dakota School of Mines and Technology, USA) on Fully Integrated Carbon Nanotube Composites for Structural, Thermal and Electrical Management

09:30-11:00 Oral presentations

| No | Ref | Title | Authors | Affiliation |
|----|-----|---|---|--|
| 1 | 136 | CO ₂ Catalytic Decomposition at 400 – 600 °C Over Freshly Reduced Nano-Crystallite CuFe ₂ O ₄ Prepared by Mechanochemical Activation | M. H. Khedr and A. A. Farghali | Chemistry Department, Faculty of Science, (Beni-Suef Branch) Cairo University, Egypt |
| 2 | 189 | On the road to true silicon lasers using nanoparticles | Anton Fojtik and Milan Kalal | Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in Prague, Brehova 7, 115 19 Prague 1, Czech Republic |
| 3 | 180 | Cluster formation of Ferromagnetic Nano-particles in Micro-capillary Flow | Hiroshige Kikura, Noritaka Kakuta, Daisuke Ito, Masanori Aritomi and Yuji Kobayashi | Tokyo Institute of Technology, 2-12-1 Ohokayama, Meguro-ku, Tokyo 152-8550, Japan |
| 4 | 141 | A Modified Direct Nitridation Method for Formation of Nano-AlN Whiskers | Mohamed Radwan, Mohamed Bahgat and Abd El-Hady A. El-Geassy | Central Metallurgical Research and Development Institute (CMRDI), P.O. Box 87 Helwan, 11421 Cairo, Egypt |
| 5 | 154 | Synthesis of CoPt nanoparticles by a modified polyol method | V. Tzitzios, D. Niarchos, and D. Petridis | Institute of Materials Science, N.C.S.R. "Demokritos" Agia Paraskevi 15310 Athens, Greece |
| 6 | 173 | Studying the influence of crystallization times on the synthesis of Nanosized ZSM-5 | R. M. Mohamed, O. A. Fouad, A. A. Ismail and I. A. Ibrahim | Central Metallurgical R&D Institute, CMRDI, P.O.Box 87 Helwan, Cairo, Egypt |

11:00-11:30 Coffee Break



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Monday, September 19th

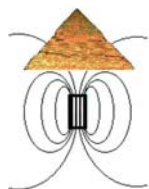
11:30-13:30 : Session on Applied Electromagnetics and Magnetic Materials I

11:30 - 12:00 : Keynote presentation by M. Enokizono (Oita University, Japan) on High Power Density and High Efficiency Electrical Machines

12:00-13:30 Oral presentations

| No | Ref | Title | Authors | Affiliation |
|----|-----|--|--|--|
| 1 | 105 | Computational Analysis of Power Frequency Devices by a Novel Hybrid Quasi-Static Finite Difference – FEM Technique | T. I. Kosmanis, T. V. Yioultsis and T. D. Tsiboukis | Dept. of Electrical and Computer Engineering, Aristotle University of Thessaloniki, GR-52124, Thessaloniki, Greece |
| 2 | 129 | Study on Demagnetization Characteristics of Magnetic Shielding Plate in Cathode Ray Tube | N. Takahashi, K. Takemoto, M. Nakano and K. Shimada | Dept. Electrical and Electronic Eng., Okayama Univ., Okayama, 700-8530 Japan |
| 3 | 116 | Generation and self-excitation of the magnetic field in technical devices | I.M. Kirko, G.E. Kirko | Perm, Institute of physical problems of technology "Magnet", Russia |
| 4 | 128 | Topology Optimization of Linear Motor for Rope-less Elevator by Using Density Method and ON/OFF Method | Yoshifumi Okamoto and Norio Takahashi | Department of Electrical and Electronic Engineering, Okayama University, 3-1-1 Tsushima, Okayama, 700-8530, Japan |
| 5 | 111 | Electric and magnetic field measurements in an indoor electric power substation | Anastasia S. Safigianni and Anastasia Kostopoulou | Electrical and Computer Engineering Department, Democritus University Thrace, Xanthi, Greece |
| 6 | 113 | Analytical of Metallic Microbead Detection based on High-Frequency Eddy-Current Probe | Sotoshi Yamada, Komkrit Chomsuwan, Takeshi Hagino, Haiyan Tian, Kenhachiro Minamide, and Masayoshi Iwahara | Institute of Nature and Environmental Technology, Kanazawa University, 2-40-20 Kodatsuno, Kanazawa, Ishikawa 920-8667, Japan |

13:30-15:00 Lunch Break



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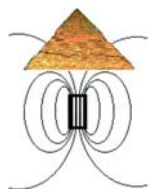
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Monday, September 19th

15:00-16:30 : Poster Session

| No | Ref | Title | Authors | Affiliation |
|----|-----|--|---|---|
| 1 | 103 | A Heuristic Solution to the Transformer Manufacturing Cost Optimization Problem | P. S. Georgilakis, M. A. Tsili and A. T. Souflaris | Department of Production Engineering & Management, Technical University of Crete, GR-73100, Chania, Greece |
| 2 | 106 | Electromagnetic actuator with magnetic stored energy | Smaranda Nitu, Constantin Nitu, Gheorghe Tuluca and Gheorghe Dumitrescu | University "POLITEHNICA" of Bucharest, 313, Spl. Independentei, 060042 Bucharest, Romania |
| 3 | 115 | The Power Satellite of space station | I.M. Kirko, G.E. Kirko, V.I. Kirko | Perm, Institute of physical problems of technology "Magnet", Russia |
| 4 | 118 | Photovoltaic Applications | Horia Andrei, Valentin Dogaru-Ulieru, Costin Cepisca, Gianfranco Chicco | Faculty of Electrical Engineering, Valahia University of Targoviste, 18-20 Blv. Unirii Targoviste, Dambovita, Romania |
| 5 | 123 | Secondary Separation Effect of Metal Feeders | Ladislav Musil, Zofia Praglowska-Gorczyńska, Bohuš Ulrych, Ivo Doležal | Czech Technical University, Technická 2, 166 27 Prague, Czech Republic |
| 6 | 124 | Transient state investigation of the Double Output Induction Generator in autonomous operation | Peter G. Vernados and Maria G. Ioannides | Laboratory of Electric Drives, Faculty of Electrical and Computer Engineering, National Technical University of Athens, Heron Polytechniou 9, 15773, Athens, Greece |
| 7 | 131 | Electromagnetic Knowledge Specification: A New Language | S.R.H. Hoole, A. Mascrenge and K. Navukkarasu | Department of Electrical and Electronic Engineering, Faculty of Engineering, University of Peradeniya, Sri Lanka |
| 8 | 132 | Geometry Optimization of Electric Shielding in Power Transformers Based on Finite Element Method | Anastassia J. Tsivgouli, Marina A. Tsili, Antonios G. Kladas, Pavlos S. Georgilakis, Athanassios T. Souflaris and Annie D. Skarlatini | Department of Production Engineering & Management, Technical University of Crete, GR-73100, Chania, Greece |
| 9 | 133 | A Decision Tree Method for the Selection of Winding Material in Power Transformers | Pavlos S. Georgilakis, Alkiviadis T. Gioulekas and Athanassios T. Souflaris | Department of Production Engineering & Management, Technical University of Crete, GR-73100, Chania, Greece |
| 10 | 134 | Decision Support System for Evaluating Transformer Investments in the Industrial Sector | Pavlos S. Georgilakis | Department of Production Engineering & Management, Technical University of Crete, GR-73100, Chania, Greece |
| 11 | 135 | Synthesis of Tungsten Carbide-Base Nanocomposite Powders by a Novel Method | Sayed F. Moustafa, Z. Abdel-Hamid, U Gadallah | Central Metallurgical R&D Institute, CMRDI, P.O.Box 87 Helwan, Cairo, Egypt |
| 12 | 140 | Synthesis and Characterization of Barium Hexaferrite Nanoparticles | Mohamed M. Rashad, Mohamed Radwan and Mahmoud M. Hessien | Electronic Materials Laboratory, Central Metallurgical R&D Institute (CMRDI), P.O. Box 87 Helwan, 11421 Cairo, Egypt |
| 13 | 145 | Development of integrated kinetic energy storage systems | L.I. Chubraeva | NII Electromash, 196084, Moskowsky 100, Saint-Petersburg, Russia |
| 14 | 146 | Analytical solutions to eddy current problems relevant to SQUID based Non-Destructive Evaluation | Nikolaos Poulakis, Theodoros Theodoulidis and Efthymios Liarokapis | Department of Physics, National Technical University of Athens, Athens 15780, Greece |



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|----|-----|--|---|---|
| 15 | 149 | Induction Motors' Faults Detection and Diagnosis by Using Dedicated Software | Olympiada A. Syggeridou, Maria G. Ioannides | National Technical University of Athens, Faculty of Electrical and Computer Engineering, Heroon Polytechniou 9, 15773 Athens, Greece |
| 16 | 152 | Advances in magnetic materials of electric machine design | G.K. Kalokiris, A.G. Kladas, I.K. Hatzilau, S. Cofinas and I.K. Gyparis | Faculty of Electrical and Computer Engineering, National Technical University of Athens, 9 Iroon Polytexneiou str., 15780 Athens, Greece |
| 17 | 160 | Asynchronous motor drive loss optimization | Nikolaos Tsouvalas, Ioannis Xydis, Ioannis Tsakirakis and Z. Papazacharopoulos | ASPETE, Department of Education in Electrical Engineering, BO Neou Herakleiou, 14121 Athens, Greece |
| 18 | 161 | Flexible Control for a Grid Connected Variable Speed Permanent Magnet Generator Wind Turbine | A. Haniotis and A. Kladas | Faculty of Electrical and Computer Engineering, National Technical University of Athens, 9 Iroon Polytexneiou street, 15780 Athens, Greece |
| 19 | 172 | A Computerized Contactless Semiconductor Surface Characterization Using Surface Acoustic Wave | T. E. Taha and M. Elkordy | Faculty of Electronics Eng., Menoufia University, Menouf, 32952, Egypt |
| 20 | 179 | Identification of Three-dimensional Distribution of Metal Particles Using Electromagnetic Tomography System | Tomasz Chady, Masato Enokizono, Takashi Todaka, Yuji Tsuchida and Tomoharu Yasutake | Department of Electrical Engineering, Technical University of Szczecin, ul. Sikorskiego 37, 70-313 Szczecin, Poland |
| 21 | 181 | Laminated Iron Core Losses Evaluation and Measurements | P. Rovolis, A. Kladas, J. Tegopoulos | Faculty of Electrical & Computer Engineering, National Technical University of Athens, 9 Iroon Polytechniou Street, 15780 Athens, Greece |
| 22 | 182 | Comparison of IEC/CENELEC and ANSI/NFPA Requirements for Installations and Apparatus in Potential Explosive Atmospheres | Spyros Kiartzis, Katerina Tsita and Nikos Papaletsos | Hellenic Petroleum SA, Thessaloniki Industrial Complex, P.O. Box 10044, 54110, Thessaloniki, Greece |
| 23 | 186 | Influence of the surface roughness on the magnetization reversal and the magnetic properties | E. Girgis, S. P. Souren and M.L.Benkhedir | Solid State Physics Department, National Research Centre, Tahrir St., Dokki, Cairo, Egypt |
| 24 | 187 | Effect of Post Oxidation Annealing On the Electrical properties of Anodic Oxidized Films in Pure Water | Bicharia Nadjji | Laboratoire d'Electrification des Entreprises Industrielles, Faculte des Hydrocarbures et de la chimie, Universite M'hamed Bougara Boumerdes, Egypt |
| 25 | 190 | Magnetic nanocomposites: preparation and characterization of Co-Ferrite nanoparticle | M.H. Khedr, A.A. Omar and S.A. Abdel-Moaty | Chemistry Departement, Faculty of Science, (Beni-Suef Branch)Cairo University, Egypt |
| 26 | 193 | The effect of strain hardening in the extrusion of bimetallic tubes of porous internal layer | A. G. Mamalis, G. L. Petrosyan, D. E. Manolakos, and A. F. Hampardzunyan | Faculty of Mechanical Engineering, National Technical University of Athens, 9 Iroon Polytexneiou str., 15780 Athens, Greece |
| 27 | 195 | Mechanical Properties of Superconducting MgB ₂ Wire | M. Hanna, H. Fang and K. Salama | Texas Center for Superconductivity (TcSUH), University of Houston, Houston, TX 77004, U.S.A. |
| 28 | 197 | A new high T _c - value Investigated in the compound YBa ₂ Cu _{3-x} Ag _x O _{6.5+d} | Emad Kh. Al-Shakarchi, Salwan K.J. Al-Ani and W.M. Faysal | Al-Nahrain University, College of Science, Physics Department, P.O. Box 64055, Baghdad, Iraq |
| 29 | 200 | Environmentally Friendly Machining of Ceramic Based YBCO Bulk Superconductor | János Kósa and István Vajda | Budapest University of Technology and Economics, Hungary |

16:30-17:00 Coffee Break



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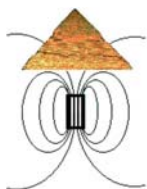
17:00-19:00 : Session on Applied Electromagnetics and Magnetic Materials II

17:00 - 17:30 : Keynote presentation by J. Moharam (University of Central Florida, USA) on Challenges in Modeling Nano-Photonics Structures

17:30-19:00 Oral presentations

| No | Ref | Title | Authors | Affiliation |
|----|-----|--|--|--|
| 1 | 171 | Study of biasing effects on coupled microstrip lines characteristics | T. E. Taha and M. Elkordy | Faculty of Electronics Eng., Menoufia University, Menouf, 32952, Egypt |
| 2 | 199 | Three Dimensional Constitutive Equations of Ferromagnetic Materials with Magnetoelastic Coupling | Eiji Matsumoto, Tomomi Hase and Takaaki Suzuki | Department of Energy Science, Kyoto University, Japan |
| 3 | 151 | Tree-Based Algorithm for Efficient Computation of Scalar Excitation Potential from Free Currents | Wolfgang Hafra, André Buchau and Wolfgang M. Rucker | Institute for Theory of Electrical Engineering, University of Stuttgart, Pfaffenwaldring 47, 70569 Stuttgart, Germany |
| 4 | 137 | Design and Control of a Micro-Mass Measurement System Employing Permanent Magnet Repulsive-Type Magnetic Bearing | Alaa A. Hussien, Sotoshi Yamada and Masayoshi Iwahara | Institute of Nature and Environmental Technology, Kanazawa University, 2-40-20 Kodatsuno, Kanazawa, 920-8667 Ishikawa, Japan |
| 5 | 130 | Development of a Benchmark Problem using a General Optimisation Package with Powell's Method | S. R. H. Hoole and K.R.C. Wijesinghe | Department of Electrical and Electronic Engineering, Faculty of Engineering, University of Peradeniya, Sri Lanka |
| 6 | 117 | Evaluation of the Parameter of a Magnetic Hysteresis Model | Costin Cepisca, Horia Andrei, and Valentin Dogaru-Ulieru | Faculty of Electrical Engineering, Politehnica University of Bucharest, 313 Splaiul Independentei, sect. 6, Bucharest, Romania |

20:00 Departure for the Banquet – Sahara Dinner



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Tuesday, September 20th

09:00-10:45 : Session on Particular Advanced Materials I

09:00 - 09:30 : Keynote presentation by B. Raveau (Universite de Caen, France) on Advanced Materials

09:30-10:45 Oral presentations

| No | Ref | Title | Authors | Affiliation |
|----|-----|---|---|---|
| 1 | 147 | Synthesis and magnetic characteristics of crystallized ceramic in the BaO–NiO–TiO ₂ –Fe ₂ O ₃ system | A. Francis and W. Daoush | Central Metallurgical Research and Development Institute-CMRDI, P.O.Box 87 Helwan –Cairo –Egypt |
| 2 | 109 | Basgan – New class of materials for radiation protection | V. I. Kirko | Research Institute of Physics and Engineering, Krasnoyarsk, Russia |
| 3 | 170 | Magnetic Properties and Shape Memory Effect of Fe-Cr-Ni-Si-Mn Alloys Produced by Melt Spinning Technique | Takashi Todaka, Seiju Teshima and Masato Enokizono | Department of Electrical and Electronic Engineering, Faculty of Engineering, Oita University, 700 Dannoharu, 870-1192 Oita, Japan |
| 4 | 157 | Zinc oxide thin films prepared by thermal evaporation deposition and its photocatalytic activity | O. A. Fouad, A. A. Ismail, Z. I. Zaki, R. M. Mohamed | Central Metallurgical R & D Institute (CMRDI), P. O. Box: 87 Helwan 11421, Cairo, Egypt |
| 5 | 155 | Homogenization of Structured Electromagnetic Materials Using the Periodic Unfolding Method | O. Ouchetto, S. Zouhdi, A. Bossavit, G. Griso, B. Miara, A. Razek | Laboratoire de Génie Electrique de Paris LGEP-Supélec Plateau de Moulon, 91192 Gif-sur-Yvette, France |

10:45-11:15 Coffee Break



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Tuesday, September 20th

11:15-13:15 : Session on Particular Advanced Materials II

11:15 - 11:45 : Keynote presentation by K. Nagaya (Gunma University, Japan) on Vibration Suppression Device using Permanent-Electromagnet and MRF Shear Damper

11:45-13:15 Oral presentations

| No | Ref | Title | Authors | Affiliation |
|----|-----|--|--|--|
| 1 | 138 | Conductive Thin Film Formation on to polymeric Surfaces Using Electro-less Plating Technique | A. Abdel Aal, A. Elhag Ali | Central Metallurgical Research & Development Insitute, CMRDI, P.O . 87 Hellwan, Cairo, Egypt |
| 2 | 158 | First Magnetic Materials with Sensitivity for the Physical Quantity "Curvature" | H. Pfützner, E.Kaniusas, J.Kosel, L.Mehnen, T. Meydan, F. Borza, M. Vázquez, M. Rohn, A.M. Merlo, B. Marquardt | Bioelectricity & Magnetism Lab, University of Technology, Vienna, Austria |
| 3 | 148 | Performances of a Waste Recycling Separator with Permanent Magnets | Florea Hantila, Mihai Maricarur, Claudia Popescu, Costin Ifrim, Stergios Ganatsios | Politehnica University of Bucharest, Romania |
| 4 | 174 | Circular polarization beam splitter based on optical tunneling through an embedded low-index film | Rasheed M. A. Azzam and Cristina L. Spinu | Department of Electrical Engineering, University of New Orleans, New Orleans, Louisiana 70148, USA |
| 5 | 183 | Future trends for manufacture medical implants with crystals oh Sapphire | N.Novikov, O. Rozenberg, S. Sokhan, V. Voznyj | Bakul Institute for Superhard Materials, Autozavodskaya str. 2, Kiev, Ukraine |
| 6 | 188 | Microwear of Cutting Tool in Precision Single-Point Diamond Machining of Polymers for Optical and Bioengineering Application | A. G. Mamalis, S. N. Lavrynenko | Materials Cutting & Cutting Tools Dept., National Technical University "Kh.P.I.", Kharkov, Ukraine |

13:15-14:45 Lunch Break



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Tuesday, September 20th

14:45-16:45 : Session on Advanced Techniques I

14:45 - 15:15: Keynote presentation by N. Ghoniem, (University of California at Los Angeles, USA) on the Emerging Field of Nanomechanics and Micromechanics

15:15-16:45 Oral presentations

| No | Ref | Title | Authors | Affiliation |
|----|-----|--|--|---|
| 1 | 164 | Magnetic properties and copper precipitation in Fe-0.3% wt.% Cu alloys | S. Takahashi, A. Kubota, S. Kobayashi, Y. Kamada, H. Kikuchi and K. Ara | NDE and Science Research Center, Faculty of Engineering, Iwate University, 020-8551 Morioka, Japan |
| 2 | 125 | Nondestructive Evaluation (NDE) by high Tc SQUID Magnetometry : Measurement and Modeling | H. Kokabi, M. Poloujadoff, G. Bonnet, A. Sentz and H. J. Krause | Laboratoire d'Instruments et Systèmes d'Ile de France (LISIF), Université Paris 6, Case 252, 4, Place Jussieu, 75252 Paris Cedex 05, France |
| 3 | 163 | Development of Apparatus for Magnetic Measurements of Charpy Impact Test Pieces | Hiroaki Kikuchi, Mamoru Harada, Katsuyuki Ara, Yasuhiro Kamada, Satoru Kobayashi and Seiki Takahashi | NDE & SR-C, Faculty of Engineering, Iwate University, 4-3-5 Ueda, Morioka, 020-8551 Iwate, Japan |
| 4 | 127 | New 1D-2D magnetic sensors for Applied Electromagnetic Engineering | F. Alves, A-D. Bensalah | SPEE Labs/Satie ENS-Cachan, 61, Av. Pdt Wilson, 94235 Cachan Cedex, France |
| 5 | 196 | Eddy current analysis by BEM utilizing induced currents at 90-degree edge | Kazuhiisa Ishibashi | Department of Mechanical Engineering, Faculty of Engineering, Tokai University Japan 2-28-4 Tomigaya, Shibuya-ku, Tokyo, 151-0063 Japan |
| 6 | 159 | The analytical study of the electromagnetic accelerator | A.M. Suhail , J. Al-Saadi, K.A. Al-Naimee | Physics department, College of science, University of Baghdad, Baghdad, Iraq |

16:45-17:15 Coffee Break



JAPMED'4 "Fourth Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting and Nano Materials"

September 17-20, 2005, El Gezirah Cairo Hotel, Egypt

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Tuesday, September 20th

17:15-19:00 : Session on Advanced Techniques II

17:15 - 17:45 : Keynote presentation by R. Azzam (University of New Orleans, USA) on Recent Advances in Optical Polarimetry

17:45-19:00 Oral presentations

| No | Ref | Title | Authors | Affiliation |
|----|-----|--|---|--|
| 1 | 119 | Experimental Measurements of the Effective Thermal Conductivity of a Lithium Titanate (Li ₂ TiO ₃) Pebbles-Packed Bed | A. Abou-Sena, A. Ying and M. Abdou | Mechanical and Aerospace Engineering Department, UCLA, Los Angeles, CA 90095-159, USA |
| 2 | 162 | Three-Dimensional Computation of Magnetohydrodynamics in a Weakly Ionized Plasma with Strong MHD Interaction | Motoo Ishikawa, Makoto Yuhara and Takayasu Fujino | Graduate School of Systems and Information Engineering, University of Tsukuba, Tsukuba 305-8573, Japan |
| 3 | 126 | MHD Flows in a Lithium-Lead Blanket of a Fusion Power Reactor | Sergey Smolentsev, Mohamed Abdou | MAE Dept., UCLA, 44-114 Engineering IV, Box 951597, Los Angeles, CA 90095, USA |
| 4 | 122 | Dynamic parameters of feeder of molten metal | Ladislav Musil, Zofia Praglowska-Gorczyńska | Czech Technical University, Technická 2, 166 27 Prague, Czech Republic |
| 5 | 184 | Radiation Shielding Requirements for Magnets in Fusion Reactors | M. E. Sawan | Fusion Technology Institute, The University of Wisconsin, 1500 Engineering Dr., Madison, Wisconsin, U.S.A. |

19:00-19:30 Closing Session and Concluding Remarks

20:30 Departure for the Pyramids Light and Sound Show