DAY 0 - September 6th, 2011		
6.30 pm	*8:00 pm*	**Welcome cocktail at Royal Continental Hotel and Registration**
DAY 1 - September 7th, 2011		
8:00 am	*9:00 am*	**Registration**
9:00 am	*9:20 am*	**Opening Ceremony**
9:20 am	*11:00 am*	**Plenary session PL1**
11:00 am	*11:30 am*	**Coffee break**
11:30 am	*12:50 pm*	**Oral sessions OS01 and OS02 in parallel**
12:50 pm	*2:00 pm*	**Lunch**
2:00 pm	*4:20 pm*	**Poster Session PS1 & Coffee break**
4:20 pm	*6:00 pm*	**Oral sessions OS03 and OS04 in parallel**
DAY 2 - September 8th, 2011		
8:30 am	*10:40 am*	**Plenary session PL2**
10:40 am	*11:10 am*	**Coffee break**
11:10 am	*12:50 pm*	**Oral sessions OS05 and OS06 in parallel**
12:50 pm	*2:00 pm*	**Lunch**
2:00 pm	*4:20 pm*	**Poster Session PS2 & Coffee break**
4:20 pm	*6:00 pm*	**Oral sessions OS07 and OS08 in parallel**
8:00 pm	-	**Social Dinner at Complesso Monastico S. Chiara**
DAY 3 - September 9th, 2011		
9:00 am	*10:40 am*	**Oral sessions OS09 and OS10 in parallel**
10:40 am	*11:10 am*	**Coffee break**
11:10 am	*12:50 pm*	**Oral sessions OS11 and OS12 in parallel**
12:50 pm	*2:00 pm*	**Lunch**
2:00 pm	*4:20 pm*	**Poster Session PS3 & Coffee break**
4:20 pm	*5:40 pm*	**Oral sessions OS013 and OS014 in parallel**
5:40 pm	*6:00 pm*	**Closing Ceremony**

Plenary Session 1

September 7th, 2011
9:20 am - 11:00 am
Auditorium

Chairs:

K. Miya, Hosei University, Japan
G. Rubinacci, Università degli Studi di Napoli Federico II , Italy

9:20 am - 10:10 am

PL1.1 The Road Ahead for Electromagnetic Metamaterials

Nikolay Zheludev
**Optoelectronics Research Centre &Centre for Photonic Metamaterials University of Southampton, UK*

10:10 am - 11:00 am

PL1.2 Recent Trends on Condition Monitoring using Electromagnetic Measurements

Fumio Kojima
**Organization of Advanced Science and Technology, Kobe University, Japan*

Plenary Sessions 2

September 8th, 2011
8:30 am - 10:40 am
Auditorium

Chairs:

F. Kojima, Kobe University, Japan
T. Takagi, Tohoku University, Japan

8:30 am - 9:20 am

PL2.1 Transmission Eigenvalues and Inverse Scattering Theory

David Colton
**Department of Mathematical Sciences, University of Delaware, USA*

9:20 am - 10:10 am

PL2.2 The JET Programme in Support of ITER

Lorne D. Horton
**Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Tohoku University, Japan*

10:10 am - 10:40 am

PL2.3 The Fukushima accident

Hidetoshi Hashizume
**Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Tohoku University, Japan*

Oral Session 1: Non destructive evaluation #1

September 7th, 2011
11:30 am - 12:50 pm
Auditorium

Chairs:

S. Udpa, College of Engineering, Michigan State University, USA
A. Tamburrino, Università degli Studi di Cassino, Italy

11:30 am - 11:50 am

OS01.1 Fabrication of imitative stress corrosion cracking specimen using lithography and solid state bonding

Noritaka Yusa[*] , Hidetoshi Hashizume
[*]Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Tohoku University, Japan

11:50 am - 12:10 pm

OS01.2 NDT of Polymer Nanocomposite For Structural Applications Using Electromagnetic Techniques

C. Bonavolontà, M. Valentino[*], C. Meola, G. M. Carlomagno, R. Volponi, S. Cantoni
[*]CNR-SPIN institute, Naples, Italy

12:10 pm - 12:30 pm

OS01.3 Improvement of Crack Inspection Possibility Using the Gradient Directional Magnetization and Linearly Integrated Hall Sensors Array

Jinyi Lee[*], Jungmin Kim, Jongwoo Jun, Myoungki Choi
[*]Department of Control, Instrumentation and Robot Engineering Chosun University, Gwangiu, Korea

12:30 pm - 12:50 pm

OS01.4 Electromagnetic Modeling of Fatigue Cracks in Plant Environment for Eddy Current Testing

Tetsuya Uchimoto[*], Toshiyuki Takagi, Keitaro Ohtaki, Yoichi Takeda, Akira Kawakami
[*]Institute of Fluid Science, Tohoku University, Sendai, Japan

Oral Session 2: Electromagnetic sensors and actuators #1

September 7th, 2011
11:30 am - 12:50 pm
Mirabilis Room

Chairs:

Y. Kawase, Gifu University, Japan
R. Martone, Seconda Università degli Studi di Napoli, Italy

11:30 am - 11:50 am

OS02.1 Equivalent Circuit and Planar Traction Force on the Induction Planar Actuator

Nolvi F Baggio Filho[*], Aly F Flores Filho
[*]Federal University of Rio Grande do Sul, Porto alegre, Brazil

11:50 am - 12:10 pm

OS02.2 Production of Magnetic Planetary Gear and Measurement of Basic Properties

Yoshinori Ando, Takatoshi Ugajin, Akira Baba, Tomoyuki Fujita, Kosuke Nagaya*
**Department of Mechanical System Engineering, Gunma University, Kuiu. Japan*

12:10 pm - 12:30 pm

OS02.3 Comparison of different types of SRG topologies for Wind turbine application

Dawoon Choi, Jian Li, Ning Sun and Yunhyun Cho*
**Power Electronic Applications Lab., Dong-A University, Hadan2dong, Busan, South Korea*

12:30 pm - 12:50 pm

OS02.4 Eddy current effects on the steady state operating of a non-salient pole synchronous machine

Bruno A. T. Iamamura, Yvonnick Le Menach, Abdelmounaim Tounzi, Nelson Sadowski, Eilin Guillot, Thierry Jacq, Jeremy Langlet*
**EDF-Lamel, France*

Oral Session 3: Nanotechnology applications and simulation of electromagnetic devices

September 7th, 2011
4:20 pm - 6:00 pm
Auditorium

Chairs:

L. Brazil, University of Brasilia, Gama College, Brasil
G. Miano, Università degli Studi di Napoli Federico II, Italy

4:20 pm - 4:40 pm

OS03.1 Probe for detecting weakly interacting magnetic nanoparticles

Antal Gasparics, Gabor Vertesy, Jozsef Pavo, Szabolcs Gyimothy, Matteo Cacciola*
**Hungarian Academy of Sciences, Res. Institute for Tech. Physics and Materials Science, Budapest, Hungary*

4:40 pm - 5:00 pm

OS03.2 Thermoacoustic generation of airborne ultrasound using carbon materials at the micro- and nanoscale

Andrea Harrer, Jens Prager, Marc Kreutzbruck, Matthias Guderian, Asmus Meyer-Plath*
**BAM Federal Institute for Materials Research and Testing, Berlin, Germany*

5:00 pm - 5:20 pm

OS03.3 Alumina filled silicone nanocomposites for electrical insulation of power rotating machines

*E. Amendola, A.M. Scamardella, G. Lupò , C. Petrarca**
**Università di Napoli Federico II, Italy*

5:20 pm - 5:40 pm

OS03.4 Light Control through Anisotropy: From Invisibility Cloaks to High-Compact Photonic Devices

Baile Zhang, George Barbastathis*
**Singapore-MIT Alliance for Research and Technology Centre, Singapore*

5:40 pm - 6:00 pm

OS03.5 Applying FEM-RBCI to the Analysis of Plasmons in

Giovanni Aiello, Salvatore Alfonzetti, Valentina Brancaforte, Viviana Chiarello, Nunzio Salerno*
**DIEEI, University of Catania, Italy*

Oral Session 4: Innovative materials and applications #1

September 7th, 2011
4:20 pm - 6:00 pm
Mirabilis Room

Chairs:

V. Coccorese, Università degli Studi di Napoli Federico II, Italy
A. J. Moses, Cardiff University, UK

4:20 pm - 4:40 pm

OS04.1 Collision Energy Analysis of Miniature Electromagnetic Relay with Permanent Magnet
Tadashi Yamaguchi, Yoshihiro Kawase, Satoshi Suzuki, Wataru Koyanagi, Katsuhiro Hirata, Tomohiro Ota*
**Department of Information Science, Gifu University, Japan*

4:40 pm - 5:00 pm

OS04.2 Slip Detection with Multi-Axis Force/Torque Sensor in Universal Robot Hand
Futoshi Kobayashi, Shuhei Maruta, Hiroyuki Nakamoto, Yasuaki Kida, Kazuhiro Sasabe, Nobuaki Imamura, Hidenori Shirasawafumio Kojima,*
**Dept. of Systems Science, Kobe University, Japan*

5:00 pm - 5:20 pm

OS04.3 Analysis of the Abnormal Change on Surface Magnetic Field Caused by Cycle Loading Stress Concentration
Liqiang Zhong, Luming Li, Xing Chen*
**Tsinghua University, Beijing, China*

5:20 pm - 5:40 pm

OS04.4 Time reponse properties on deformation velocity for a solid polymer electrolyte sensor
Manabu Otsuki, Takeshi Okuyama, Mami Tanaka*
**Tohoku University, Sendai, Japan*

5:40 pm - 6:00 pm

OS04.5 Study on Liquid Crystalline Flow Induced by Direct Curent Electric Field
Kenta Kodama, Tetsuhiro Tsukiji, Shun Nishimura*
**Sophia University, Tokyo, Japan*

Oral Session 5: Electromagnetic sensors and actuators #2

September 8th, 2011
11:10 am - 12:50 pm
Auditorium

Chairs:

V. Tucci, Università degli Studi di Salerno, Italy
S. Yang, Zhejiang University, China

11:10 am - 11:30 am

OS05.1 Design optimization of a permanent-magnet excited synchronous machine for electrical automobiles
P. Di Barba, M. E. Mognaschi, R. Palka, P. Paplicki, S. Szkolny*
**West Pomeranian University of Technology, Szczecin, Poland*

11:30 am - 11:50 am

OS05.2 Multi-pole magnetization of Nd-Fe-B bonded magnets for rotary linear actuators
M. Karbowiak, B. Jankowski, D. Kapelski, M. Przybylski, B. Slusarek*
**Tele &Radio Research Institute, Warsaw, Poland*

11:50 am - 12:10 pm

OS05.4 Structure and Fundamental Evaluation of Magnetic Type Tactile Sensor

Hiroyuki Nakamoto, Satoru Takenawa, Yasuaki Kida*

**Hyogo Prefectural Institute of Technology, Kobe, Japan*

12:10 pm - 12:30 pm

OS05.5 Optimal Design of Rotor Bars of a Written-pole Motor By using Response Surface Method for Improving the Pole-Writing Performance

Seong-Cheol Park , Myoung-Hyun Choi, Kyeong-Jin Yuk, Byung-Taek Kim*

**Kunsan National Univ., Gunsan, S. Korea*

Oral Session 6: Inverse problems

September 8th, 2011
11:10 am - 12:50 pm
Mirabilis Room

Chairs:

A. Formisano, Seconda Università degli Studi di Napoli, Italy
D. Lesselier, CNRS, France

11:10 am - 11:30 am

OS06.1 Fast, Accurate and Reliable Identification of Hidden Conductive Objects with Deterministic and Stochastic Methods

Alice Reinbacher-Köstinger, Christian Magele, Werner Renhart*

**IGTE, Graz University of Technology, Graz, Austria*

11:30 am - 11:50 am

OS06.2 Impact reduction of the uncertain geometrical parameters on magnetic material identification of an EI electromagnetic inductor using an adaptive inverse algorithm

Ahmed Abdallh, Guillaume Crevecoeur, Luc Dupré*

**Department Electrical Energy, Ghent University, Belgium*

11:50 am - 12:10 pm

OS06.3 Image reconstruction of defects in Magnetic Induction Tomography of low conductive structures using level set method and Tellegen adjoint model

Piotr Putek, Piotr Baniukiewicz, Roger Van Keer*

**Department of Mathematical Analysis, Ghent University, Ghent, Belgium*

12:10 pm - 12:30 pm

OS06.4 Practical Implementations of Numerical Algorithms in Electrical Impedance Tomography

Tomasz Rymarczyk

**Net-art, Lublin, Poland*

12:30 pm - 12:50 pm

OS06.5 Applications of Multi-frequency Inversion Algorithm to Quantitative NDE of Cracks in Welding Joints of a Metallic Lattice Sandwich Plate

Dongli Zhang, Zhenmao Chen, Hongmei Li*

**MOE Key Laboratory for Strength and Vibration, School of Aerospace,Xi'an Jiaotong University, Xi'an, China*

Oral Session 7: Nuclear fusion, plasmas and applied superconductivity

September 8th, 2011
4:20 pm - 6.00 pm
Mirabilis Room

Chairs:

R. Albanese, Università degli Studi di Napoli Federico II, Italy
X. Maldague, University Laval, Canada

4:20 pm - 4:40 pm

OS07.1 Adaptive mapping of a 7-D parameter space of ASDEX Upgrade for disruption prediction
Raffaele Aledda, Barbara Cannas, Alessandra Fanni, Giuliana Sias, Gabriella Pautasso, Asdex Upgrade Team*
**DIEEE- University of Cagliari, Cagliari, Italy*

4:40 pm - 5:00 pm

OS07.2 Assessment of ion cyclotron antenna performance in ASDEX Upgrade using TOPICA
Silvio Ceccuzzi, Roberto Cesario, Alena Krivska, Francesco Mirizzi, Gianluca Ravera, Angelo Antonio Tuccillo, Riccardo Maggiora, Daniele Milanesio, Vladimir Bobkov, Franz Braun, Jean-Marie Noterdaeme, Irene Zammuto*
**Associazione EURATOM-ENEA sulla fusione, Roma, Italy*

5:00 pm - 5:20 pm

OS07.3 Identification of Wire Breakage Status Based on the Measurement and Inversion of Magnetic Field Surrounding the Cable in Conduit Conductors of ITER Magnets
Shuxia Tian, Zhenmao Chen , Yong Li, Yongbin Zuo , Xiaowei Wang*
**MOE Key Laboratory for Strength and Vibration, School of Aerospace,Xi'an Jiaotong University, Xi'an, China*

5:20 pm - 5:40 pm

OS07.4 Simulation on the Teflon Ablation Plasma in Capillary
Dongyao Liu, Yanhuang Zhou, Yonggang Yu*
**Nanjing Univeristy of Science &Technology, Nanjing, China*

5:40 pm - 6:00 pm

OS07.5 An Quantum-Inspired Evolutionary Algorithm Applied to Design Optimizations of Electromagnetic Devices
*Yanan Bai, Shiyou Yang**
**Zhejiang University, Hangzhou, China*

Oral Session 8: Non destructive evaluation #2

September 8th, 2011
4:20 pm - 6.00 pm
Auditorium

Chairs:

D. Davino, Università degli Studi del Sannio, Italy
G. Y. Tian, Newcastle University, UK

4:20 pm - 4:40 pm

OS08.1 Support Plate Modelling in Eddy Current Tube Testing with Bobbin Coils
Theodoros Theodoulidis
**University of Western Macedonia, Kozani, Greece*

4:40 pm - 5:00 pm

OS08.2 Structural Health Monitoring Using Metal-core Piezoelectric Fiber Composites

Jian Liu[*], Jinhao Qiu

[*]Nanjing University of Aeronautics and Astronautics, Nanjing, China

5:00 pm - 5:20 pm

OS08.3 Experimental Eddy Current Measurements of Flawed Edges Compared with Results from Probabilistic Numerical Models

M. R. Cherry[*], J. S. Knopp, M. P. Blodgett

[*]University of Dayton Research Institute, Dayton OH, USA

5:20 pm - 5:40 pm

OS08.4 Numerical modelling of eddy-current testing inspection taking into account the effect of the measuring circuit

Anastassios Skarlatos[*], Christophe Reboud, Steve Mahaut, Jean-Marc Decitre

[*]CEA, LIST, Gif-sur-Yvette cedex, France

5:40 pm - 6:00 pm

OS08.5 Time Reversal Pulsed Terahertz Inspection of Dielectric Structures

Przemyslaw Lopato[*], Tomasz Chady

[*]West Pomeranian University of Technology, Szczecin, Poland

Oral Session 9: Analysis and simulation of electromagnetic devices #1

September 9th, 2011
9:00 am - 10:40 am
Auditorium

Chairs:

V. Mazauric, Schneider Electric, France
A. Savini, Università di Pavia, Italy

9:00 am - 9:20 am

OS09.1 Magnetostatic Analysis by BEM with Magnetic Double Layer as Unknown Utilizing Volume Magnetic Charge

Kazuhisa Ishibashi[*], Zoran Andjelic, Yasuhito Takahashi, Koji Fujiwara, Yoshiyuki Ishihara, Tomoaki Takamatsu, Kenta Tsuzaki, Shinji Wakao

[*]Corporate Research, ABB Switzerland Ltd, Baden, Switzerland

9:20 am - 9:40 am

OS09.2 A novel technique based on integral formulation to treat the motion in the analysis of electric machinery

Flavio Calvano, Giorgio Dal Mut, Fabrizio Ferraioli, Alessandro Formisano, Fabrizio Marignetti, Raffaele Martone[*], Guglielmo Rubinacci, Antonello Tamburrino, Salvatore Ventre

[*]Seconda Università di Napoli, Napoli, Italy

9:40 am - 10:00 am

OS09.3 Modeling of Planar Radiating Circuits by Analytic and FFT-accelerated Discrete Green's Function

Tarek Bdour[*], Noemmen Ammar, Taoufik Aguili

[*]Laboratory of System communications in Engineering School of Tunis (ENIT), Tunis, Tunisia

10:00 am - 10:20 am

OS09.4 Triplexer Filter for Application in Integration of UMTS and WLAN Systems

L. M. Arruda, B. G. M. De Oliveira, M. T. De Melo[*]

[*]Universidade Federal de Pernanbuco, Departamento de Eletrônica e Sistemas, Recife, Brazil

10:20 am - 10:40 am

OS09.5 A Dielectric Resonator Antenna with a BaTiO Cylinder

Adaildo D'assunçaô, Elder Oliveira, Joaô Oliveira, Alciney Miranda*
Universidade Federal do Rio Grande do Norte, Natal, RN, Brazil

Oral Session 10: Innovative materials and applications #2

September 9th, 2011
9:00 am - 10:40 am
Mirabilis Room

Chairs:

M. Cherry, University of Dayton Research Institute, USA
F. Villone, Università degli Studi di Cassino, Italy

9:00 am - 9:20 am

OS10.1 Effects of Strip Thickness and Silicon Content on Magnetic Barkhausen Noise of Non-oriented Electrical Steel at 50 Hz

Nkwachukwu Chukwuchekwao, Anthony Moses, Phil Anderson*
Wolfson Center for Magnetics, Cardiff School of Engineering, Cardiff University, UK

9:20 am - 9:40 am

OS10.2 Study of structural and magnetic properties of Heusler alloys with the help of Hubbard model and ab-initio calculations

Mikhail Zagrebino, Vasiliy Buchelnikov, Vladimir Sokolovskiy, Ilya Motylev*
Condensed matter physics department, Chelyabinsk State University, Chelyabinsk, Russia

9:40 am - 10:00 am

OS10.3 Smart magneto-elastic materials for passive damping applications

*D. Davino, A. Giustiniani, C. Visone**
University of Sannio, Benevento, Italy

10:00 am - 10:20 am

OS10.4 Experimental Investigation on Heat Transfer Characteristics in Rectangular Duct Flow of a Magnetic Fluid under Magnetic Field

Masaaki Motozawa, Jia Chang, Tatsuo Sawada, Yasuo Kawaguchi*
Department of Mechanical Engineering, Tokyo University of Science, Noda, Japan

10:20 am - 10:40 am

OS10.5 The Dynamic Behaviour of Magnetic Levitating Magnet-Magnetic Fluid Element in Alternating Magnetic Field

Seiichi Sudo, Takumi Goto, Michihiro Shinozaki, Toshiya Kainuma, Hidemasa Takana, Hideya Nishiyama*
Faculty of Systems Science and Technology, Akita Prefectural University, Yurihonjo, Japan

Oral Session 11: Electromagnetic sensors and actuators #3

September 9th, 2011
11:10 am - 12:50 pm
Mirabilis Room

Chairs:

M. Nakano, Tohoku University, Japan
M. Valentino, CNR-SPIN, Italy

11:10 am - 11:30 am

OS11.1 Development of a Spherical Stepping Motor Rotating around Six Axes

Akio Gofuku, Ryo Sasaki, Tomoaki Yano, Yosuke Wada, Mitsunobu Shibata*
Graduate School of Natural Science and Technology, Okayama University, Japan

11:30 am - 11:50 am

OS11.2 PM LSM with High Air-Gap Flux Density for Transportation

Mitsunobu Terata, Nobuo Fujii, Takeshi Mizuma, Morimasa Hayashida*

Department of Electrical Engineering, Kyushu University, Japan

11:50 am - 12:10 pm

OS11.3 Analysis of Magnetizing Method of LSPM Motor Considering Secondary Conductor

Jeong-Jong Lee, Young-Kyoun Kim, Se-Hyun Rhyu, In-Sung Jung*

Korea Electronics Technology Institute, Korea

12:10 pm - 12:30 pm

OS11.5 Mode Coupling of a Flexible Rotor Supported by a Magnetic Bearing due to the Nonlinearity of Electromagnetic Force

Ryosuke Amano, Hiroki Gotanda, Toshihiko Sugiura*

Mechanical Engineering, Keio University, Yokohama, Japan

Oral Session 12: Analysis and simulation of electromagnetic devices #2

September 9th, 2011
11:10 am - 12:50 pm
Auditorium

Chairs:

L. UdpaA, College of Engineering, Michigan State University, USA
K. Ishibashi, ABB Switzerland Ltd, Switzerland

11:10 am - 11:30 am

OS12.1 Double Antennas for Passive Long Range UHF-Band RFID

Kota Watanabe, Yuta Watanabe, Hajime Igarashi, Hiroshi Waki*

Graduate School of Information Science and Technology, Hokkaido University, Sapporo, Japan

11:30 am - 11:50 am

OS12.2 Fast Analysis of Metallic Antennas by Parallel Moment Method Implemented on CUDA

Imre Kiss, Péter Tamás Benkő, Szabolcs Gyimóthy*

Department of Broadband Infocommunications and Electromagnetic Theory, Budapest University of Technology and Economics, Budapest, Hungary

11:50 am - 12:10 pm

OS12.3 Stochastic Spectral Finite Element Method for solving 3D stochastic eddy current problems

Karim Beddek, Stéphane Clénet, Yvonnick Le Menach, Olivier Moreau*

L2EP - University Lille 1, Villeneuve d'Ascq, France

12:10 pm - 12:30 pm

OS12.4 A thermodynamic insight to signal integrity

Vincent Mazauric, Thiago Borges, Loic Rondot*

Schneider Electric, Strategy &Innovation, Grenoble, France

12:30 pm - 12:50 pm

OS12.5 Accurate design of Helmholtz coils for ELF Bioelectromagnetic interaction by means of continuous FSO

S. Coco, A. Laudani, F. Riganti Fulginei, A. Salvini*

DIEEI, University of Catania, Catania, Italy

Oral Session 13: Non destructive evaluation #3

September 9th, 2011
4:20 pm - 5:40 pm
Auditorium

Chairs:

T. Uchimoto, Tohoku University, Japan
N. Yusa, Tohoku University, Japan

4:20 pm - 4:40 pm

OS13.1 Electromagnetic non-destructive methods for Corrosion Characterisation
Gui Yun Tian, Liang Cheng, Mohammed Alamin, Hong Zhang, Yunze He*
**School of Electrical, Electronic and Computer Engineering, Newcastle University, Newcastle upon Tyne, UK*

4:40 pm - 5:00 pm

OS13.2 On a Novel Computational Scheme of Dyadic Green's Functions of Electrically-Uniaxial Planar-Layered Composites
Y. Zhong, M. Lambert, D. Lesselier, X. Chen*
**Laboratoire des signaux et systèmes, CNRS-Supèlec-Univ. Paris Sud 11, Gif-sur-Yvette, France*

5:00 pm - 5:20 pm

OS13.3 Evaluation of metal-containing diamond-like carbon coatings as a vibrating sensor
T. Takeno, T. Ohno, H. Miki, T. Takagi*
**Tohoku University International Advanced Research and Education Organization, Sendai, Japan*

5:20 pm - 5:40 pm

OS13.5 Numerical simulation of phased-array laser ultrasound and its application in inner defect inspection
Cuixiang Pei, Kazuyuki Demachi*
**Department of Nuclear Engineering and Management, the University of Tokyo, Tokyo, Japan*

Oral Session 14: Biomedical engineering

September 9th, 2011
4.20 pm - 5.40 pm
Mirabilis Room

Chairs:

Y. Ido, Nagoya Institute of Technology, Japan
T. Sawada, Keio University, Japan

4:20 pm - 4:40 pm

OS14.1 Active Loading Machine using MR Fluid Clutch for Leg Rehabilitation System
Hiroshi Nakano, Masami Nakano*
**Institute of Fluid Science, Tohoku University, Sendai, Japan*

4:40 pm - 5:00 pm

OS14.2 High Speed Rotation Handpieces Applied in Dentistry
Lourdes M. Brasil, Thiago S. De Rodrigues, José F. Silva, Karita S. Damião*
**Post-Graduation Program in Biomedical Engineering, UnB-FGA, Gama, Brazil*

5:00 pm - 5:20 pm

OS14.3 Encouragement of enzyme reaction utilizing hysteresis loss heating of ferromagnetic particles
Masashi Suzuki, Atsushi Aki, Toru Mizuki, Ron Usami, Toru Maekawa, Hisao Morimoto*
**Bio-Nano Electronics Research Centre, Toyo University, Saitama, Japan*

5:20 pm - 5:40 pm

OS14.5 Sensitivity Analysis on the Temperature Dependence of a Neuronal Signal Duration
Simona Elia, Patrizia Lamberti, Vincenzo Tucci*
**Department of Electronic and Computer Engineering, University of Salerno, Fisciano, Italy*

Poster session 1

September 7th, 2011
2:00 pm - 4:20 pm
Gazebo

Chairs:

K. Capova, University of Zilina, Slovakia
T. Sugiura, Keio University, Japan
T. Theodoulidis, University of Western Macedonia, Greece

PS1.01 Study of Defect Inspection in Ceramic Materials Using UT and X-Ray Methods
Yoshihiro Nishimura, Takayuki Suzuki, Naoki Kondo, Hideki Kita , Kiyoshi Hirao*
**National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan*

PS1.02 Optimized Designation of Detector for Broken Steel Stranded Wire Faults in ACSR
Yunfeng Xia, Xingliang Jiang, Zhijing Zhang, Jianglin Hu, Lichun Shu*
**State Key Laboratory of Power Transmission Equipment and System Security and New Technology, Chongqing University, Chongqing, China*

PS1.03 Eddy-Current Quality Control of the Generator Winding Connections
Mikhail Roytgarts, Andrew Smirnov*
**OJSC "Power Machines", St.Petersburg, Russia*

PS1.04 Approach for Reconstruction of Damage-Induced Magnetization
Hongmei Li, Zhenmao Chen, Yong Li, Li Wang, Dongli Zhang*
**MOE Key Laboratory for Strength and Vibration, Xi'an Jiaotong University, Xi'an, China*

PS1.05 Design of a Novel Eddy Current Sensor for Detecting Broken Strands of Transmission Conductor
Xingliang Jiang, Yunfeng Xia, Zhijing Zhang, Jianglin Hu, Lichun Shu*
**State Key Laboratory of Power Transmission Equipment and System Security and New Technology, Chongqing University, Chongqing, China*

PS1.06 Magnetic Field Gradient Imaging for Material Classification by Magnetic Resonance Imaging
Haitao Zhu, Kazuyuki Demachi, Masaki Sekino, Mitsuru Uesaka*
**Department of Nuclear Engineering and Management, The University of Tokyo, Tokyo, Japan*

PS1.07 Frequency Sweeping Excitation and Spectrogram Method to Evaluate Hardened Carbon Steel
*Taisuke Matsuda, Yuji Tsuchida, Masato Enokizono**
**Oita University, Oita, Japan*

PS1.08 Evaluation of Inductance Coil and Fluxgate Magnetometer under Harmonic and Pulsed Excitations in ECT
Milan Smetana, Ladislav Janousek*
**Department of Electromagnetic and Biomedical Engineering, University of Zilina, Zilina, Slovak Republic*

PS1.09 Non-destructive Method for Evaluation of Deterioration of Austenitic Stainless Steel using Initial Magnetic Phase
Katsuyuki Kinoshita
**Department of Energy Conversion Science, Kyoto University, Japan*

PS1.10 Defect Detection in Transition Zones of Sucker Rods Using Magnetostrictive Guided Waves
Jiang Xu, Xinjun Wu, Yihua Kang*
**Huazhong University of Science and Technology, Wuhan, P.R. China*

PS1.11 Analysis of the excitation current parameters in ferromagnetic material pulsed eddy current testing
Zhiyuan Xu, Xinjun Wu, Chen Huang, Hai Ke*
**School of Mechanical Science &Engineering, Huazhong University of Science and Technology, Wuhan, China*

PS1.12 Electromagnetic transient studies in the ITER tokamak
Raffaele Albanese, Roberto Palmaccio, Guglielmo Rubinacci, Salvatore Ventre, Fabio Villone, Boris Bellesia, Alfredo Portone, Pietro Testoni , Felix Rodriguez Mateos*
**DIEL, Università di Napoli Federico II, Napoli, Italy*

PS1.13 Magnetic Sensory in Electric Engines using the Haar Wavelet
Aldo A. Belardi, José R. Cardoso , Carlos A. Sartori*
**Centro Universitário da FEI, Sao Paulo, Brasil*

PS1.14 Frequency Response Characteristics for Linear Actuator
Atsurou Oonishi, Katsuhiro Hirata, Byungjin Yoo, Noboru Niguchi*
**Department of Adaptive Machine Systems, Osaka University, Osaka, Japan*

PS1.15 A Study on the Design Parameters of the Inductive Power Transformer
Chan-Bae Park, Hyung-Woo Lee , Byung-Song Lee*
**Korea Railroad Research Institute, Uiwang, Korea*

PS1.16 Numerical Simulation of Electromagnetic Vibration of Gyro-Motor
Baokun Yang, Hongbing Zheng, Guirong Yan*
**Xi'an Jiaotong University, Xi'an, China*

PS1.17 Design Optimization of the Magnet System for the Lorentz Force Velocimetry of Electrolytes
Artem Alferenok, Ulrich Lŭdtke*
**Ilmenau University of Technology, Ilmenau, Germany*

PS1.18 A Novel Electromagnetic Circuit Breaker by Using a Bistable Structure
Chi Hsiang Pan
**Chin-yi University of Technology, Taiwan*

PS1.19 Optimal Design of Permanent Magnet Linear Synchronous Motor for Ultra Low Force Pulsations
Yu-Wu Zhu, Sang-Geon Lee, Yun-Hyun Cho*
**Dong-A University, Buzan, Korea*

PS1.20 Permanent Magnet Linear Synchronous Motor Characteristics Comparison with Different Topology Structures
Yu-Wu Zhu, Sang-Geon Lee, Yun-Hyun Cho*
**Dong-A University, Buzan, Korea*

PS1.21 Wireless Energy Transmission Device with Thrust for Transportation
Nobuo Fujii, Shuhei Kanamitsu, Takeshi Mizuma*
**Kyushu University, Japan*

PS1.22 Calculation and Control of Stray Losses in Power Transformer
Yan Li, Eerhemubayaer, Xin Sun*
**Shenyang University of Technology, China*

PS1.23 A Novel Wound Rotor Line-start Permanent Magnet Synchronous Motor
Guihong Feng, Chao Li, Bingyi Zhang*
**Shenyang University of Technology, CHina*

PS1.24 A Tie-plate Optimization of 24 MVA Power Transformer using FEM with Adaptive Sampling Strategy
Pan Seok Shin, Hyeong Taek Jang, Young Bae Kim*
**Hongik University, Korea*

PS1.25 A Study on Topology Structure Selection ofHigh-Speed Slotless PM Machine for Micro Turbine
Chang-Hum Jo, Li jian, Yun-Hyun Cho, Byung-Chul Woo, Yeon-Ho Jeong, Do-Kwan Hong*
**Dong-A University, Korea*

PS1.26 Optimization Design for 2 Degrees of Freedom Actuator by using 3-Dimension Finite Element Method with GA
Wataru Kitagawa, Takahiro Shimizu , Takaharu Takeshita*
**Nagoya Institute of Technology, Japan*

PS1.27 Characteristic Analysis of a Hybrid Excited Flux Switching
Jin-Seok Jang, Jae-Kwang Lee , Byung-Taek Kim*
**Kunsan National University, S. Korea*

PS1.28 A comparative study of sensorless speed control
Lu An, Kay Hameyer*
**Institute of Electrical Machines, RWTH Aachen University, Aachen, Germany*

PS1.29 Electromechanical Energy Conversion in Electric Corona Discharge
*L. Zhao , K. Adamiak**
**Univ. of Western Ontario, Ontario, Canada*

PS1.30 Determination of the Current Matrix of Eddy Current
Aldo A. Belardi, Allan D. Tirado , Gustavo Bobrow*
**Centro Universitário da FEI, Brazil*

PS1.31 Passive Magnetic Bearings
A. Musolino, M. Raugi, R. Rizzo, E. Tripodi*
**University of Pisa, Italy*

PS1.32 Multi Optimization of High Efficiency Induction Motor Considering Cost Effect
Pil-Wan Han, Yon-Do Chun, Jae-Hak Choi, Un-Jae Seo, Dae-Hyun Koo, Ju Lee*
**Korea Electrotechnology Research Institute, Korea*

PS1.33 Pareto Optimization of Antennas for Passive UHF-band RFID
Yuta Watanabe, Kota Watanabe, Hajime Igarashi*
**Hokkaido University, Sapporo, Japan*

PS1.34 NURBS based BEM implementation of surface impedance boundary conditions
Rafael Vázquez, Annalisa Buffa, Luca Di Rienzo*
**IMATI-CNR, Pavia, Italy*

PS1.35 Max-Min K-Means Clustering Algorithm and Application in Post-processing of Scientific Computing
Cheng Wang, Jiaojiao Li, Junqing Bai, Guirong Yan, Longli Dong*
**MOE Key Laboratory for Strength and Vibration Xi'an Jiaotong University, Xi'an, China*

PS1.36 Influence of the Objective Function in the Process of Optimal Design of an Electromagnetic Measurement System
Marija Cundeva-Blajer, Ljupco Arsov*
**Ss. Cyril and Methodius University, Faculty of Electrical Engineering and Information technologies, R. Macedonia*

PS1.37 Field synthesis in a magnetic subdomain with arbitrarily discretized boundary
Paolo Di Barba, Antonio Savini*
**University of Pavia, Italy*

PS1.38 Generation of the Frequential Behavior of the Magnetic Hysteresis from a Spectral Analysis
Abdelmadjid Nouicer[*]*, Elamine Nouicer*
[*]*Electrical engineering department, Univesity of Skikda, Algeria*

PS1.39 Analysis of the Similarity between Residual Magnetic Field Distribution and the Stress-Strain State for 7CrMoVTiB10-10 (T/P24) Steel
Maciej Roskosz[*]*, Michał Bieniek*
[*]*Silesian University of Technology, Poland*

PS1.40 Experimental Study of Quasi-Static and Dynamic Magnetic and Magnetoelastic Properties of <110> Oriented Crystals TbxDy1-xFe1.95 Alloys
Pei Zhao[*]*, Youhe Zhou*
[*]*Lanzhou University, China*

PS1.41 Influence of the particle sizes ratio (matrix/inclusion) on the densification and magnetic properties in soft magnetic composites
Ling Xiao[*]*, Yanhua Sun, Chunhua Ding, Lie Yu*
[*]*Xi'an Jiaotong University, China*

PS1.42 Research on magnetomechanical coupling tests of Q235 steel tubular member specimens
Ergang Xiong[*]*, Junhai Zhao, Sheliang Wang*
[*]*College of Civil Engineering, Chang'an University, China*

PS1.43 Investigation of the Numerical Error Influence in a 3D FE Post-Processing Iron Loss Calculation Procedure
M. Fratila[*]*, A. Benabou, A. Tounzi, R. Ramarotafika, M. Dessoude*
[*]*L2EP-Lamel, Université Lille Nord, Cité Scientifique Villeneuve d'Ascq, France*

PS1.44 A Comparative Study of Synchronous Reluctance and Switched Reluctance Motors for High-Performance Fault-Tolerant Applications
Ilhem Bouchareb[*]*, Amar Bentounsi, Abdesselam Lebaroud*
[*]*Department of Electrical Engineering, University of Mentouri, Constantine, Algeria*

PS1.45 Influence of the manufacturing process on magnetic properties of claw pole generator stators: B-H curve variability measurements
R. Ramarotafika[*]*, A. Benabou, S. Clénet*
[*]*L2EP-Lamel, Université Lille 1, Cité Scientifique Villeneuve d'Ascq, France*

PS1.46 Damping force of a semiactive damper utilizing magnetic particles under applied magnetic field
Y. Ido[*]*, K. Hayashi , T. Kawai*
[*]*Nagoya Institute of Technology, Japan*

PS1.47 Stability of magnetization oscillations driven by spin-polarized currents
M. d'aquino[*]*, R. Bonin, G. Bertotti, C. Serpico, I.D. Mayergoyz*
[*]*Università degli Studi di Napoli Parthenope, Napoli, Italy*

PS1.48 Comparison of real-time control strategies with hysteresis compensation for magnetostrictive actuators
Daniele Davino, Alessandro Giustiniani[*]*, Luigi Iannelli, Ciro Visone*
[*]*University of Salerno, Italy*

PS1.49 Radiation Absortion of NiZn Nanoferrite Doped with Copper
Ulisanda Ribeiro De Lima[*]*, Ricardo Silveira Nasar, José Humberto De Araújo*
[*]*Instituto federal de Educação Ciência e Tecnologia do Piauí, Brasil*

PS1.50 Hydrodynamic instability in a microchannel
Kazuya Kawashima[*]*, Yutaka Nagaoka, Atsushi Aki, Toru Maekawa*
[*]*Toyo University, Japan*

PS1.51 Finite Element Based Analysis of Intersubband Absorption Coefficient in Quantum Well Structures
Gustavo Soares Vieira, Roberto Yuji Tanaka, Nancy Mieko Abe, Priscila Pereira Favero, Angelo Passaro*
**Institute for Advanced Studies, Brazil*

PS1.52 Manipulation of Carbon Nanotubes by Dielectrophoresis
Tomofumi Ukai, Toru Maekawa*
**Toyo University, Japan*

PS1.53 Numerical Study of the Electrical Behaviour in Carbon Nanotube Composites
Luigi Egiziano, Alessandro Giustiniani, Patrizia Lamberti, Giovanni Spinelli, Vincenzo Tucci, Walter Zamboni*
**University of Salerno, Italy*

PS1.54 Permittivity Computation in CNT-Filled Polymers
Alessandro Giustiniani, Giovanni Spinelli, Vincenzo Tucci, Walter Zamboni*
**University of Salerno, Italy*

PS1.55 GPU-accelerated T-matrix method for the near-field computation in optical nanostructures
Giovanni Iadarola, Carlo Forestiere, Giovanni Miano, Luca Dal Negro, Andrea Chiariello, Fabio Villone*
**Università di Napoli Federico II, Italy*

PS1.56 Tactile based Object Manipulation (TbOM) for Multi-Fingered Robot Hand
Wataru Fukui, Futoshi Kobayashi, Fumio Kojima, Hiroyuki Nakamoto, Tadashi Maeda, Nobuaki Imamura, Kazuhiro Sasabe, Hidenori Shirasawa*
**Kobe University, Japan*

PS1.57 Nonlinear Dynamic Behaviors in a Magnetically-Saturated Controllable Reactor
Jianlong Zou, Li Zhao, Dong Fu, Xikui Ma*
**Xi'an Jiaotong University, China*

PS1.58 Haptic Perception Mechanism of Softness
Daisuke Tsuchimi, Takeshi Okuyama, Mami Tanaka*
**Tohoku University, Sendai, Japan*

PS1.59 Dynamic Rheology of Magnetic Viscoelastic Fluids
Yuhiro Iwamoto, Hiroshi Yamaguchi, Xiao-Dong Niu, Shogo Anzai*
**Depertment of Mechanical Engineering, Doshisha University, Kyoto, Japan*

PS1.60 3D FE analysis and control of a submerged arc electric furnace
*Paolo Di Barba, Fabrizio Dughiero, Maurizio Dusi, Michele Forzan, Maria Evelina Mognaschi, Mauro Paioli, Elisabetta Sieni**
**Padova University, Italy*

PS1.61 Cluster Formation in Two Dimensional Channel Flow of a Magnetic Fluid under Uniform Magnetic Field
*Akihiro Nakamura, Satoshi Suzuoka, Tatsuo Sawada**
**Keio University, Yokohama, Japan*

PS1.62 Effect of Uniform Magnetic Field on Magnetorheological Fluid under Impact Load
*Yoshitaka Moroka, Ahmad Isnikurniawan, Hiromichi Ohba , Tatsuo Sawada**
**Keio University, Yokohama, Japan*

PS1.63 Performance Assessment of a Rotating Curved-Form Tool in a Finishing System
P.S. Pa
**National Taipei University of Education, Taiwan*

PS1.64 A 3-D fluid channel of magneto-rheological valve
Dandan Liu, Chunrui Tang, Zhongqin Li*
**Heilongjiang Institute of Science and Technology, China*

PS1.65 Dislocation Fields in Arbitrary Multilayered Piezoelectric
Jerzy Pawet Nowacki
[*]The Polish-Japanese Institute of Information Technology, Warsaw, Poland

PS1.66 An experimental study of power generation and storage using a flexible piezoelectric device
Yoshikazu Tanaka[*], Keitaro Matsumura , Hidemi Mutsuda
[*]Graduate school of engineering, Hiroshima University, Japan

PS1.67 Finite element analysis on the permeable and impermeable boundary conditions of a hole in ferroelectrics
Y.H. Cui, Q.D. Liu[*]
[*]Xi'an Jiaotong University, China

PS1.68 Electrical and Magnetic Properties of High Dielectric Constant Nickel Zinc Ferrite
Joaõ Oliveira, Elder Oliveira, Adaildo D'Assunçaõ[*], Alciney Miranda, Lucianna Gamma, Aluska Simoẽs
[*]Universidade Federal do Rio Grande do Norte, Brazil

PS1.69 Characteristics of Barkhausen Noise and Permeability on Neutron Irradiated Pure Fe and Fe-Cu Alloy
Hiroaki Kikuchi[*], Yasuhiro Kamada, Satoru Kobayashi , Junichi Echigoya
[*]Iwate University, Japan

PS1.70 Metal Magnetic Memory in Material Fatigue Analysis Part I - The Earth's magnetic field
Miroslaw Witos[*], Maciej Roskosz
[*]Air Force Institute of Technology, Poland

Poster session 2

September 8th, 2011
2:00 pm - 4:20 pm
Gazebo

Chairs:
L. Di Rienzo, Politecnico di Milano, Italy
C. Petrarca, Università degli Studi di Napoli Federico II , Italy
L. Janousek, University of Zilina, Slovakia

PS2.01 A Novel Magnetic Testing Method for the Loss of Metallic Cross-sectional Area of Bridge Cables
Xinjun Wu[*], Jianming Yuan, Anran Ben
[*]Huazhong University of Science and Technology, China

PS2.02 An Inversion Scheme for Sizing of Wall Thinning Defect from Pulsed Eddy Current Testing Signals
Shejuan Xie[*], Toshiyuki Takagi, Tetsuya Uchimoto, Zhenmao Chen, Li Wang
[*]Institute of Fluid Science, Tohoku University, Japan

PS2.03 Study on Oxide-scale Inspection about the Stainless Steel Pipe in Boiler of Power Plant
Ding Keqin , Zhao Na[*]
[*]China Special Equipment Inspection and Research Institute, China

PS2.04 Nondestructive evaluation of pipe wall thinning utilizing long-pulsed magnetic field
Toshihiko Yao, Yuji Tsuchida, Masato Enokizono[*]
[*]Oita University, Japan

PS2.05 Improvement of crack radar system to detect flaws in pipes
Hidetoshi Hashizume[*], Noritaka Yusa, Yasutomo Sakai
[*]Tohoku University, Japan

PS2.06 **Flaw Detection on Three-dimensional Shape Portion using Uniform Eddy Current Multi-probe**
Katsuhiro Fukuoka, Mitsuo Hashimoto*
**The University of Shiga Prefecture, Japan*

PS2.07 **Evaluation of Loose Assemblies Using Multi-frequency Eddy Currents and Neural Networks**
Cung Thanh Long, Pierre-Yves Joubert, Eric Vourc'h, P. Larzabal*
**SATIE, ENS Cachan, CNRS, UniverSud, Cachan, France*

PS2.08 **Eddy Current Numerical Evaluation of Carbon-fibre Reinforced Polymer by Finite Element Method**
Jun Cheng, Jinhao Qiu, Toshiyuki Takagi, Tetsuya Uchimoto*
**MOE Key Laboratory for Aircraft Structural Mechanics and Control, Nanjing University, China*

PS2.09 **NDT-adapted GMR probe with local magnetization unit for MFL testing**
Andreas Neubauer, Matthias Pelkner, Verena Reimund, Hans-Martin Thomas, Marc Kreutzbruck*
**Federal Institute for Materials Research and Testing, Berlin, Germany*

PS2.10 **Finite Element Model for the Characterization of Deleterious Phases by Eddy Current Technique**
Maria C.L. Areiza, Rodrigo Sacramento, Joao M.A. Rebello, Rubem L. Sommer, Diego Gonzalez*
**Laboratory of Nondestructive Testing, University of Rio de Janeiro, Rio de Janeiro, Brazil*

PS2.11 **Nondestructive Testing in Extreme Environments using a Magnetic Image Conduit**
Jinyi Lee, Jungmin Kim, Myoungki Choi*
**Department of Control, Instrumentation and Robot Engineering Chosun University, Korea*

PS2.12 **Comparison of different structures of a permanent-magnet excited synchronous machine for electric vehicle drives**
H. May, R. Palka, P. Paplicki, S. Szkolny*
**West Pomeranian University of Technology, Szczecin, Poland*

PS2.13 **Design and Analysis of a Sub-fractional Slot Concentrated Winding BLDCM with Unequal Tooth Widths**
Seray Senol, Ozgur Ustun*
**Electrical Engineering Dept., Istanbul Technical University, Istanbul, Turkey*

PS2.14 **A Study on Optimal Design for Error Reduction of Magnetic Position Sensor**
*Min-Gyu Kim, Won-Kyu Kim, Ki-Chan Kim**
**Hanbat National University, Korea*

PS2.15 **A study on design of LSM for thrust force ripple reduction**
Gwang Hyeon Ryu, Su Yeon Cho, Han Woong Ahn, Hyung Woo Lee, Ju Lee*
**Dept. Of Electrical Engineering, Hanyang University, Seoul, South Korea*

PS2.16 **Analysis Asymmetric Magnetic Field and Improvement Efficiency in Surfaced Permanent Magnet Spherical Motor**
Ho Joon Lee, Dong Woo Kang, Hyun Jong Park, Sung Hong Won, Ju Lee*
**Hanyang Univiersity, Seoul, South Korea*

PS2.17 **Analysis on Wide speed range of In-Wheel Type IPMSM for Traction Motor of Electric Motorcycle**
Ki-Doek Lee, Ik-Sang Jang, Mi-Jung Kim, Jung-Ho Han, Ju Lee*
**Hanyang University, Seoul, R. Korea*

PS2.18 **Reduction of Inrush Current by Demagnetization of Magnetic Core**
Jacek Horiszny
**Gdansk University of Technology, Poland*

PS2.19 **A rotor shape design of interior PM motor for reducing cogging torque in electric air-conditioning system of HEV**
Dae-Kyong Kim, Ju-Hee Cho, Man-Seung Han*
**Korea Electronics Technology Institute, Korea*

PS2.20 Design Parameters and Characteristics of Aluminium and Copper Die casting Induction Motor for high efficiency
Pil-Wan Han, Yon-Do Chun, Jae-Hak Choi, Un-Jae Seo, Dae-Hyun Koo, Ju Lee*
**Korea Electrotechnology Research Institute, Korea*

PS2.21 Minimization of the cogging torque in permanent-magnet machines by incorporating the topological gradient and adjoint sensitivity in multi-objective design
Piotr Putek, Piotr Paplicki, Marian Slodička, Ryszard Pałka*
**University of Ghent, Belgium*

PS2.22 A study on Oscillatory and Effective Torques of an Line-start PM Motor in Start-up Operation
Myoung-Hyun Choi, Se-Hyun Rhyu, Byung-Taek Kim*
**Kunsan National University, S. Korea*

PS2.23 Novel Position Sensorless Starting Method of BLDC Motor for Reciprocating Compressor
*Sang-Taek Lee, Duck-Shik Shin, Dae-Kyong Kim**
**Korea Electronics Technology Institute, Korea*

PS2.24 A Study on Thermal Analysis of Interior PM Synchronous Motor for Electric Vehicle propulsion system
*Ju-Hee Cho, Daesuk Joo, Dae-Kyong Kim**
**Korea Electronics Technology Institute, Korea*

PS2.25 Torque Ripple Analysis of Permanent Magnet Assisted Synchronous Reluctance Motor by using Load Angle Curves
Ki-Chan Kim
**Hanbat National University, S. Korea*

PS2.26 An Effective Method of design inductance profile of Switched Reluctance Generator
Dawoon Choi, Jian LI, Ning Sun and Yunhyun CHO*
**Power Electronic Applications Lab., Dong-A University, South Korea*

PS2.27 Novel Calculation of Winding Inductance for Single-Phase Brushless DC Motor
Daesuk Joo, Ju-Hee Cho, Dae-Kyong Kim, Kyungil Woo*
**Korea Electronics Technology Institute, Korea*

PS2.28 A modified Minkowski monopole
Lívia C. Barbosa, Lidiane S. Araújo, Crislane P.N. Silva, Antonio J. B. De Oliveira*
**Federal University of Pernambuco, Brazil*

PS2.29 Three Dimensional Optimization Using the Voxel Based Finite Element Method with Homogenization
Takahiro Sato, Kota Watanabe, Hajime Igarashi, Yosuke Iijima, Kenji Kawano*
**Hokkaido University, Japan*

PS2.30 Electromagnetic Interferences between HV Power Lines and Nearby Metallic Structures
Denisa Stet, Dan Doru Micu, Laura Darabant, Andrei Ceclan, Levente Czumbil*
**Technical University of Cluj-Napoca, Romania*

PS2.31 Improved framework of Monte Carlo numerical evaluations of electromagnetic field interference problems
Dan Doru Micu, Anca Simon, Andrei Ceclan, Laura Dărăbant, Levente Czumbil , Denisa Ştеţ, Octavian Creţ*
**Technical University of Cluj-Napoca, Romania*

PS2.32 Non-conforming Finite Element Method with Tetrahedral Elements
Yasuhisa Ito, Hajime Igarashi, Kota Watanabe, Yosuke Iijima, Kenji Kawano*
**Hokkaido University, Japan*

PS2.33 MRI Signal Computing by Integral and Finite Element Methods
Zakia Abidi, Bernard Bandelier, Mohamed Djennah , Françoise Rioux-Damidau*
**IR4M Paris Sud University, France*

PS2.34 Improvement of Starting Levitation by Switching Phase Advance Capacitors Connected to an AC Induction Type Magnetic Levitation System
Takahisa Ohji, Zhen Miao, Koji Matsushima, Kenji Amei, Masaaki Sakui*
**University of Toyama, Japan*

PS2.35 Basic Research on Linear Drive of Levitated Diamagnetic Graphite by Using Electrostatic Force
Takahisa Ohji, Farah Hanim Mukhtar, Kenji Amei, Maasaki Sakui*
**University of Toyama, Japan*

PS2.36 Combined Electro-Thermal Analysis of Li-Ion Batteries applying the Finite Element Method
W. Renhart, C. Magele, H. Brandstaetter, K. Koplenig, G. Scharrer, T. Heubrandtner*
**Institute for Fundamentals and Theory in Electrical Engineering, Graz University of Technology, Graz, Austria*

PS2.37 Solution to the inverse problem as a way of possible compensation for the lift-off value impact in residual magnetic field measurements
Maciej Roskosz, Iwona Nowak*
**Silesian University of Technology, Poland*

PS2.38 Construction of System for Visualizing Internal Defects by Wave Motion Inversion Analysis
Yoshihiro Nishimura, Takayuki Suzuki, Katsumi Fukuda, Naoya Saito, Takuya Okabe*
**Tokyo National College of Technology, Japan*

PS2.39 Identification of the position of objects in three dimensions using an extended radiography system
Wojciech Chlewicki, Piotr Baniukiewicz, Tomasz Chady, Andrzej Brykalski*
**Department of Electrical Engineering, Westpomeranian University of Technology, Poland*

PS2.40 Analysis of the boundaries of coal and gangue based on characteristics of human auditory spectral
Dandan Liu, Chunrui Tang, Yunfei Guan*
**Heilongjiang Institute of Science and Technology, China*

PS2.41 Estimation of a Surface Current Distribution from Two-Dimensional Magnetic Field Measurements
T.A. Nguyen, P.Y. Joubert, S. Lefebvre, G. Chaplier*
**SATIE, ENS Cachan, France*

PS2.42 Noisy Signal Pattern Recognition using Wavelet Transform and Threshold Method
Yoichi Midorikawa, Yuta Muraoka, Masanori Akita*
**Oita University, Japan*

PS2.43 Analysis of magnetic field distribution inside ferromagnetic thin shells during degaussing process
*K. Jakubiuk, P. Zimny, M. Woloszyn**
**Gdansk University of Technology, Poland*

PS2.44 Locating and Identifying Ferromagnetic Objects
Miroslaw Woloszyn
**Gdansk University of Technology, Poland*

PS2.45 Analysis of airplane magnetic interference
Miroslaw Woloszyn
**Gdansk University of Technology, Poland*

PS2.46 Multidipoles model of ship's magnetic field
*Kazimierz Jakubiuk, Paweł Zimny, Miroslaw Woloszyn**
**Gdansk University of Technology, Poland*

PS2.47 Radio-frequency power coupled to high-density tokamak plasma for driving current in thermonuclear reactors
R. Cesario, L. Amicucci, C. Castaldo, F. Napoli , The Ftu Group*
**Association EURATOM-ENEA-Frascati, Italy*

PS2.48 Analysis of Error Field Sources in TOKAMAK Devices
Alessandro Bonito Oliva, Alfredo Portone, Pietro Testoni, Alessandro Formisano, Raffaele Martone*
**Seconda Università di Napoli, Italy*

PS2.49 Modelling and control for plasma disruption avoidance and mitigation
Raffaele Albanese, Giuseppe Ambrosino, Barbara Cannas, Alessandra Fanni, Alfredo Pironti, Guglielmo Rubinacci, Giuliana Sias, Salvatore Ventre, Fabio Villone*
**Università di Napoli Federico II, Italy*

PS2.50 GPU-acceleration of low-frequency electromagnetic computations in fusion devices
A. G. Chiariello, S. Mastrostefano, S. Ventre, F. Villone, M. Nicolazzo, G. Rubinacci*
**DAEIMI, Università di Cassino, Italy*

PS2.51 MHD, FHD and PHD Fluid Flow in Microchannels in Dependence of Temperature and Electromagnetic Field
Jurij Avsec
**University of Maribor, Faculty of Energy Technology, Slovenia*

PS2.52 On the measurement of plasma power in atmospheric pressure DBD plasma reactors
Marcin Hotub
**West Pomeranian University of Technology, Poland*

PS2.53 MHD flow in a circular duct of rectangular profile
Alexandros Iatridis, John Sarris, Nickolas Vlachos*
**Laboratory of Fluid Mechanics &Turbomachines Department of Mechanical Engineering,University of Thessaly, Volos, Greece*

PS2.54 Development of magnetic levitation synchronous motor with Hi-Tc superconducting bearing
I. Murakami, Y. Kobayashi, M. Gyoda, Y. Ando, K. Yamada*
**Gunma University, Japan*

PS2.55 Design of a Magnetic Refrigeration System Based on Superconductors
Houssem R.E.H. Bouchekara, Mohammed T. Simsim, Allag Hicham*
**Electrical Engineering Department, Umm Al-Qura University, Makkah, Saudi Arabia*

PS2.56 Field profile computation of an undulator with bulk HTS
M. Tsuchimoto
**Hokkaido Institute of Technology, Japan*

PS2.57 Electromagnetic Design for Performance Improvement of a MR Valve
Hyung-Don Lee, Yun-Joo Nam, Myeong-Kwan Park*
**Pusan National University, Korea*

PS2.58 Research on Chatter Suppression Based on MRF in Turning
Chunrui Tang, Can Zhao, Zhong Ren*
**Heilongjiang Institute of Science and Technology, China*

PS2.59 Research on Integral Impeller Multi-Axis Milled Time-varying Modal Adaptive Dynamic Compensation based on Magnetorheological Elastomers
Chunrui Tang, Can Zhao, Xin Li*
**Heilongjiang Institute of Science and Technology, China*

PS2.60 Cutting control of roadheader based on tactile force feedback of magneto-rheological fluid
Chunrui Tang, Dandan Liu , Xianqing Shen*
**Heilongjiang Institute of Science and Technology, China*

PS2.61 **Labyrinth Structure of Magnetic Fluid Seals for Shallow Water Vehicle System**
Jae-Hak Lee, Dae-Young Kim, Ryuichiro Yamane , Myeong-Kwan Park*
**Pusan National University, Korea*

PS2.62 **Cluster structures formed by paramagneteic particles subjected to a dc magneteic field**
Kota Hoshino, Tomofumi Ukai, Toru Maekawa , Hisao Morimoto*
**Toyo University, Japan*

PS2.63 **Non-invasive detection of the artificial heart valve outlet strut fracture using sweep frequency eddy current testing**
Tatiana Strapacova, Klara Capova*
**University of Zilina, Slovakia*

PS2.64 **Numerical methods for evaluation of electromagnetic fields in biomedical context**
L. Zappulli, S. Cristina*
**Biomedical Engineering UCBM, Italy*

PS2.65 **Using Artificial Neural Networks to Identify Aedes Aegypti Eggs in Ovitraps**
Fátima Elpídio, Lourdes Brasil, Ana Silva, Alexandre Romariz*
**University of Brasília, UnB-FGA, Brazil*

PS2.66 **Magnetic Separation Study of Rock Lichen and Water Phytoplankton Particles**
Svetlana Norina, Yegor Norin, Alexander Shalygin*
**Lomonosov Moscow State University, Russia*

PS2.67 **The Use of Computational Tools in Storing and Recovering Therapeutic Data for Making a Decision**
Guilherme C. Peron, Pablo. S. De Lima, Rita. C. Silva, Joaô Paulo, L. Da Silva, Carlos H.f. Oliveira, Fellype Do Nascimento, Lourdes M. Brasil, Lídia Isabel B. Dos Santos, Tatiana. B. Pontes, Fábio Bombonato*
**Engineering, University of Brasilia, Gama College, Gama, Brasil*

PS2.68 **Contribution to Human Rehabilitation through Study of an Active Prosthetic**
José A. A. Andrade, Rita C. Silva, Eraldo Araujo, Suélia Rodrigues, Lourdes M. Brasil*
**University of Brasilia, Brazil*

PS2.69 **Magnetic Stimulation of the Spinal Cord: Experimental Results and Simulations**
Laura Darabant, Radu V. Ciupa, Dan D. Micu, Denisa Stet, Andrei Ceclan*
**Technical University of Cluj-Napoca, Romania*

PS2.70 **3D Anatomical Atlas Applied to Breast**
*Alysson Leite, Kéterin Dourado, Lourdes Brasil, Marina Gasparini, Marina Parente**
**Post-Graduation Course in Biomedical Engineering, University of Brasília, Brazil*

Poster session 3

September 9th, 2011
2:00 pm - 4:20 pm
Gazebo

Chairs:

Z. Chen, Xi'an Jiaotong University, China
H. Kikuchi, Iwate University, Japan
C. Reboud, CEA, LIST, France

PS3.01 **Impact of Partially Conductive Cracks on Perturbation Field in Eddy Current Non-destructive Inspection**
Ladislav Janousek, Marcel Alman, Milan Smetana*
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PS3.02 Shape Design of EMAT Coil for Pipe Wall Thickness Measurements
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PS3.03 Multi-Frequencies ECT Algorithms for ISI of Ferromagnetic SG Tubes of FBR using FEM Simulations
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PS3.04 FEM Comparisons between RF-ECT Signals in Quasi-Static or Transient and Linear or Nonlinear Regimes. ECT Probe Speed Effect for In-service Inspection of Ferromagnetic SG tubes in FBR
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PS3.05 Thickness Evaluation of Ni-based Spray Coating on Boiler Tubes by Eddy Current Testing
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PS3.06 Modeling of Thin Conducting Domain in Eddy Current Testing by Overlapping Finite Elements
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PS3.07 Thresholding Algorithms for Nondestructive Radiographic Inspection of Welds
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PS3.08 Novel image processing methods for eddy current data analysis
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PS3.09 ECT Simulation of Ferromagnetic Planar Pieces in Harmonic Regime
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PS3.10 Multi-frequency Eddy Current Testing using a GMR based Instrument
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PS3.11 A New Version of Coaxial Holder with Continuous Conductor for Tests on Planar Films
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PS3.12 Detection of Subharmonics in Ultrasonic Inspection of Contact Surfaces under Compression
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PS3.13 Non destructive sizing method for ball bearing flaking
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PS3.14 Investigation on the Performance of the Single-phase LSPM Motor for Variable Capacity type Compressor
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PS3.15 Design and Comparative Analysis of Single and Multi-stack Axial Flux Permanent Magnet Synchronous Generator
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PS3.16 Approximate Optimization for Minimum Torque ripple of Three Phase Switched Reluctance Motor Using Response Surface Modeling
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PS3.17 Hall Effect Sensor Based Space Vector PWM Control of Permanent Magnet Synchronous Machine
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PS3.18 Induced Current Magnetic Coupling
Ariff Zaini, Noboru Niguchi, Katsuhiro Hirata*
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PS3.19 Analysis and Design of Slotless Tubular Linear Actuator for High Performance on the Eco Pedal System of a Vehicle
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PS3.20 Optimal Design of Novel Concentrated Flux IPM Type Brushless DC Motor
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PS3.21 Optimum Design of Single-Sided Linear Induction motor for Magnetically Levitated Rail Guided Vehicle
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PS3.22 Design of Line-Start Permanent Magnet Motor with Cost Reduction and Performance Improvements
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PS3.23 Minimization of Cogging torque in Axial Flux Permanent Magnet Machines by Choosing an Optimal Slot Opening and Pole Arc Ratio Combination
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PS3.24 Design of Rotor Shape for Reducing Torque Ripple in Interior Permanent Magnet Motor
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PS3.25 Optimum Design of Outer Rotor and Spoke type Direct-Drive Machine for Turret Application with Large Diameter
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PS3.26 Design and Analysis of High-Speed Slotless PM Machine for Micro Turbine
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PS3.27 Impact Of Turn-on Angle For Switched Reluctance Generator
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PS3.28 Structure Design of Axial Flux Permanent Magnet Synchronous Machine for Wind Generators
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PS3.29 The research on the experiment system for the inductive displacement sensor in the optical synthesis telescope
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PS3.30 A Small Minkowski Microstrip Antenna with EBG-GP
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PS3.31 A Compact Nickel-Ferrite Resonator Antenna
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PS3.32 Automatic Determination of Acceleration Factor in Shifted ICCG Method for Edge-Based Finite Element Analysis
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PS3.33 Solution of Axisymmetric Electrostatic Problems by means of a Non-Standard FEM-BEM
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PS3.34 Vibration Control Simulation based on Electromagnetic FEM
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PS3.35 Association of Electromagnetic T-Method and Finite Volume Method for CFCM material modelling
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PS3.36 A new Sierpinski carpet fractal dipole
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PS3.38 Microstrip Antenna Analysis by an Iterative Integral Method
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PS3.39 Reconstruction of a conductive crack from ECT signals
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PS3.40 An Improved Normal Boundary Intersection Method for Multiobjective Inverse Problems
*Siguang An, Shiyou Yang**
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PS3.41 Efficient Robust Optimization based on Polynomial Chaos and Tabu Search Algorithm
*Lie Wu, Shiyou Yang**
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PS3.42 Optimization of the Induction Heating Cooker by Using the Inverse Problem Methodology
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PS3.43 Estimation of a Hidden Crack Position Using the FVM Skin Effect Analysis
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PS3.44 Polynomial Chaos forward models in Bayesian inference to solve inverse problems
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PS3.45 Lock in Thermography: Lamp versus Induction heating
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PS3.46 Experimental Design Study of GMR Sensor Arrangements for 3D Defect Recognition
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PS3.47 Identification of solid/liquid silicon interface inside a directional solidification furnace for poly-Silicon production
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PS3.48 Adaptive Estimation Strategy for Coupled EEG-MEG Analysis
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PS3.49 Online Detection of Inter-Turn Short Circuit Faults in dry-type air-core reactor
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PS3.50 Fault Analysis of Variable Reluctance Resolver for Electric Vehicle
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PS3.51 A Distributed Non-Iterative Approach for Soft-Fault Location in Complex Wire Networks
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PS3.52 Time Domain Reflectometry for Fault Localization in Transformer Windings
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PS3.53 Fast Diagnosis of Transmission Lines using Neural Networks and Principal Component Analysis
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PS3.54 Study of Fringing Effects in Multi-Cantilever HEMT-Based Resonant MEMS
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PS3.55 Development of a Cutting Edge 9-axis Wireless Inertial Measurement Unit
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PS3.56 Effectiveness of Using a Magnetic Compound Fluid with a Pulsed Magnetic Field for Flat Surface Polishing
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PS3.57 Design and Optimization of Uniplanar EBG Structures
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PS3.58 The Magnetocaloric Effect in Heusler Ni2MnIn Alloy: Experiment and Theory
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PS3.59 Algorithm Improvements for a Self-Consistent Computation of Multi-Quantum Well Structures
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PS3.60 Design of Frequency Selective Sensor with Metamaterial Structure for Dielectric Properties Determination
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PS3.61 Hysteretic Nonlinear Model of Magnetic Shape Memory Alloy Actuator
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PS3.62 Modelling of the Blood Flow Reflections in Vessels
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PS3.63 Development of a cell separation chip utilizing antigen-antibody reaction
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PS3.64 Halbach-like Array Design for Magnetic Drug Targeting Application
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PS3.65 A Novel Artificial Sphincter for Functional Assist to Human Puborectalis
*Yue Wu, Minghui Wang , Yun Luo **
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PS3.66 Preliminary Study of a Magnetically Driven Muscle-like Actuator
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PS3.67 Influence of work hardening on the performance of stents
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PS3.68 Encouragement of biochemical reactions by rotating chain clusters in a rotational magnetic field
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PS3.69 Evaluation of Contact Stimuli by Diapers for Infants-Relationship between contact stimuli and walking motion-
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PS3.70 Design and Fabrication of a Microactuator for a Hearing Aid
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