PIERS 2007 Prague

Progress In Electromagnetics Research Symposium

Program

August 27–30, 2007
Prague, Czech Republic

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Progress in Electromagnetics Research Symposium
August 27–30, 2007
Prague, CZECH REPUBLIC

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- Czech Technical University in Prague
- Czechoslovakia Section of IEEE
- EMBS Chapter of Czechoslovakia Section of IEEE
- The Electromagnetics Academy at Zhejiang University
- MIT Center for Electromagnetic Theory and Applications/Research Laboratory of Electronics
- The Electromagnetics Academy

SYMPOSIUM SITE

The 2007 Progress in Electromagnetics Research Symposium will be held on August 27-30, 2007, at the Czech Technical University in Prague, Czech Republic - in the building of Faculty of Electrical Engineering. During the Symposium, the PIERS office will be at the main entrance to the conference venue.

REGISTRATION

The PIERS will begin on Monday August 27, 2007 at 13:00 by Opening Ceremony. Technical sessions will then start at 13:40. You may register in the PIERS OFFICE on Sunday, August 26, from 13:00 to 19:00, or during the Symposium from 8:00 through 17:00, August 27–30.

The on-site registration fee is US$500. The student registration fee is US$300; a valid student ID is required. If you have pre-registered, your name badge and symposium program will be ready for you to pick up at the registration desk during the symposium. Please wear your name badge throughout the meeting. Access will be prohibited to the break, interactive areas, and technical sessions if a name badge is not visible.

SPECIAL EVENTS

Opening Reception

On Monday, August 27, 2007, from 17:30 to 20:00, symposium reception will take place in the conference venue, Czech Technical University in Prague. For registered PIERS participant, the reception fee is free. For unregistered companions, the price is 10 EUR per person.

Symposium Banquet

On Wednesday evening, August 29, 2007, a symposium banquet/dinner is planned for PIERS participants and their guests. Please pay cash at PIERS check-in desk. The price is 40 EUR per person.

PIERS ONLINE

Information on PIERS 2007 Prague and future PIERS is posted at www.piers.org.

PIERS 2007 in Prague – Local Organizer

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Albertov 7/3a 128 01 Prague 2, Czech republic
Tel: +420 224 990 827
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GUIDELINES FOR PRESENTERS

Oral Presentations

Each session room is equipped with a stationary computer connected to a LCD projector (beamer). Presenters choosing to use electronic presentation must load their presentation files in advance onto the central PIERS computer in the PIERS office. The PIERS computer is equipped with a USB port and a CD-ROM drive. Please load your presentation files to the PIERS computer at PIERS OFFICE at least half-day before your session.

A technician personnel will be available to assist you and test your presentation at the PIERS office. Presenters can only use the session computer for their presentation and are not allowed to detach the session computer and attach their own notebook/laptop to the LCD projector. Presenters choosing to use overhead projector with transparencies, please inform PIERS OFFICE to prepare in advance.

Scheduled time slots for presentation are 20 minute each, including questions and discussions. Presenters are required to report to their session room and to their session Chair at least 10 minutes prior to the start of their session. The session chair must be presented in the session room at least 15 minutes before the start of the session and must strictly observe the starting time and time limit of each paper and refrain from changing paper presentation sequence.

Poster Presentations

One panel (about 100 x 200 cm) will be available for each poster. Scotch is provided to mount your posters on the board.

The poster session 1 will be 9:00 to 17:00 on Tuesday, August 28, 2007 and the poster session 2 will be 9:00 to 17:00 on Wednesday, August 29, 2007. All presenters are required to mount their papers at the beginning of the session and remove them at the end of their sessions.

Presenters should post time slots of their presence on the panel and be present for interactive questions within the posted time slots.

ACCOMMODATION

Participants are responsible for making their own housing arrangements. Please visit PIERS 2007 website for detailed information.

GENERAL INFORMATION

LANGUAGE

The official language for the Symposium is English. In shopping centers, restaurants and hotels in Prague you can speak English and/or some other European languages (like e.g. German, Italian, French, Spanish, etc.).

CURRENCY AND CREDIT CARDS

The local currency is the Czech Crown (CZK) and the exchange rate is approximately 1 USD = 21 CZK, or 1 EUR = 29 CZK. The credit cards and cash in either USD or EUR are acceptable on the PIERS registration desk. This is also the case in large shopping centers, restaurants and hotels in Prague or generally in the Czech Republic.

TAXI

Usually, a taxi is available along the roadsides, while you wave for it.

BUSINESS OPENING HOURS

- **Bank and Post Office**
  Opening hours: 9:00 – 17:00, from Monday to Sunday.
- **Government Office**
  Opening hours: 9:00 – 17:00, from Monday to Friday.
- **Store**
  Opening hours: usually 8:00 to 18:00, but the large shopping center serves till 22:00, from Monday to Sunday.

ELECTRICITY

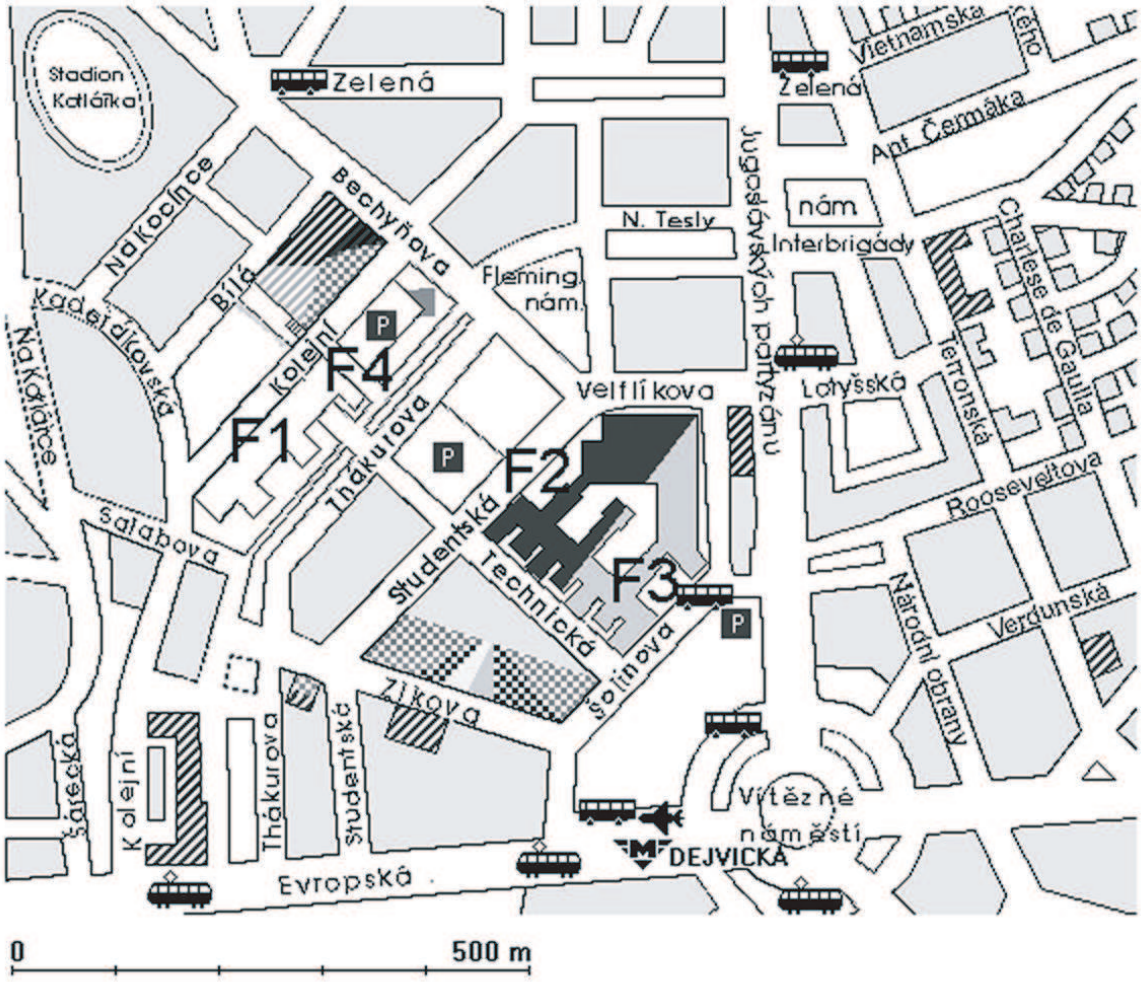
In the Czech Republic, the standard outlets provide AC of 220 V/50 Hz.

ARRIVAL GUIDE FOR PIERS 2007

Ruzyne - Prague Airport is located on the northwest edge of Prague. All international flights arrive at this airport. To travel from the airport either to the PIERS venue or to the recommended hotels, you have a choice of either taking a taxi or to go by bus No 119. At the airport you will be able to exchange your own currency and also to buy tickets for Prague public transport. The taxi fare from the airport to the ESHO Annual Meeting venue is about 500 CZK, or 25 USD and the trip takes about 15 minutes. The public transport from the airport is quite inexpensive and frequent. An adult ticket costs 20 CZK and it is valid for 75 minutes. To get to the PIERS venue take a bus No 119 and alight at the terminus: "Dejvicka station". The duration of the trip is about 25 minutes.

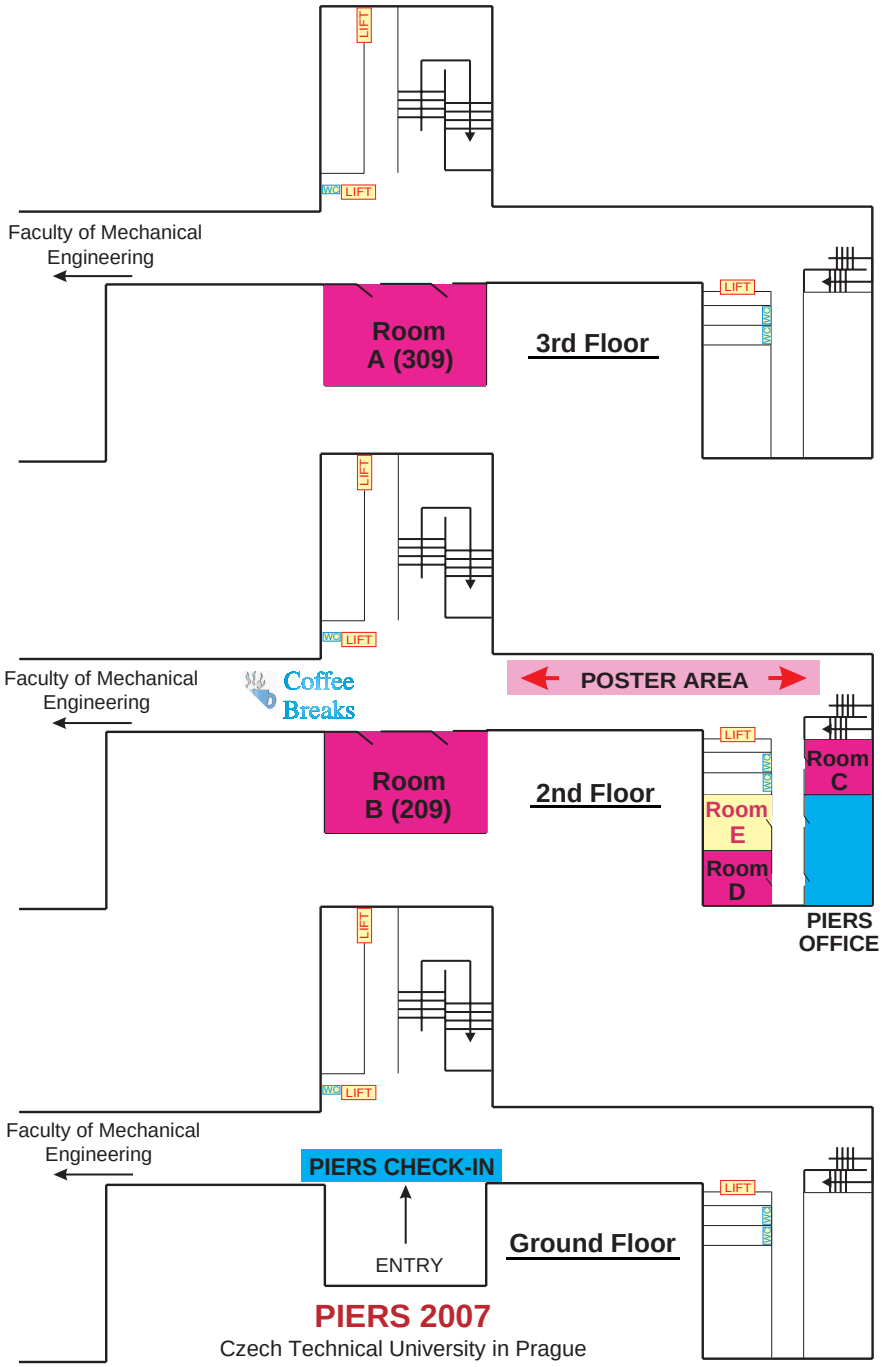
The PIERS 2007 is being held in the campus of the Czech Technical University. Please find more detailed information on PIERS website.

MAP OF CAMPUS



MAP OF PRAGUE METRO

MAP OF CONFERENCE SITE



PIERS 2007

Czech Technical University in Prague
Faculty of Electrical Engineering
Technicka 2, 166 27 Prague 6, Czech Republic

PIERS 2007 PRAGUE TECHNICAL PROGRAM

Session 1P1
Computer-Aided RF/Microwave Modeling and Design

Monday PM, August 27, 2007

Room A

Organized by Vijay K. Devabhaktuni

Chaired by Vijay K. Devabhaktuni

13:40 A New Computer Aided LNA Design Approach Targeting Constant Noise-figure and Maximum Gain
Niladri Roy (*Concordia University, Canada*); *Vijay K. Devabhaktuni* (*Concordia University, Canada*);

14:00 EDA Designs of RFIC Inductors
Tianquan Deng (*University of Electronic ScienceTechnology of China, China*);

14:20 Design of Microstrip Antenna with External Loading
Raj Kumar (*Defence Institute of Advanced Technology, India*); *P. Malathi* (*Defence Institute of Advanced Technology, India*); *J. P. Shinde* (*Defence Institute of Advanced Technology, India*); *D. T. Korade* (*Defence Institute of Advanced Technology, India*);

14:40 CAD Models for Estimating the Capacitance of a Microstrip Interconnect: Comparison and Improvisation
Sudarshan R. Nelatury (*Pennsylvania State University, USA*); *Matthew N. O. Sadiku* (*Prairie View A&M University, USA*); *Vijay K. Devabhaktuni* (*Concordia University, Canada*);

15:00 **Coffee Break**

15:20 Spacecraft Power Systems Design to Minimize Electro Magnetic Interference (EMI) Effects
Krishna Shenai (*Utah State University, USA*);

15:40 A Novel Neural Smith Chart for Using Transmission Line Impedance Transforming and Impedance Matching
M. Fatih Çağlar (*Süleyman Demirel University, Turkey*); *Filiz Güneş* (*Yıldız Technical University, Turkey*);

16:00 Intertwined Two-section Dual-polarized Log Periodic Dipole Antenna
A. Tran (*University of Ottawa, Canada*); *M. C. E. Yagoub* (*University of Ottawa, Canada*);

16:20 A Complete Simulation of a Radiated Emission Test according to IEC 61000-4-20
Xavier T. I. Ngu (*University of Nottingham, UK*); *Angela Nothofer* (*University of Nottingham, UK*); *David W. P. Thomas* (*University of Nottingham, UK*); *Christos Christopoulos* (*University of Nottingham, UK*);

16:40 Design and Modeling of Planar Power Switching Inductors for Monolithic and Single Chip DC-DC Power Converters
Mohamad Hamoui (*Utah State University Logan, USA*); *Krishna Shenai* (*Utah State University Logan, USA*);

Session 1P2
Negative Refraction and Metamaterials

Monday PM, August 27, 2007

Room B

Chaired by Ari Henrik Sihvola, Lixin Ran

14:00 Geometrically Caused Emergence and Metamaterials in Electromagnetics
Ari H. Sihvola (*Helsinki University of Technology, Finland*);

14:20 Electromagnetic Fields in the Presence of an Infinite Meta-material Wedge
Mohamed A. Salem (*New Jersey Institute of Technology, USA*); *Aladin H. Kamel* (*Advanced Industrial, Technological and Engineering Center, Egypt*); *Andrey V. Osipov* (*DLR Microwaves and Radar Institute, Germany*);

14:40 Metamaterials from Inherently Non-magnetic Materials for Deep Infrared to Terahertz Frequency Ranges
Vassilios Yannopapas (*University of Patras, Greece*); *Alexander Moroz* (*Wave-scattering.com, Germany*);

15:00 **Coffee Break**

15:20 Metamaterial Collaborated with Active Components
Dongxing Wang (*Zhejiang University, China*); *Lixin Ran* (*Zhejiang University, China*); *Jin Au Kong* (*Zhejiang University, China*);

15:40 Peculiar Radar Cross Section Properties of Metamaterials
Wanzhao Cui (*Xi'an Institute of Space Radio Technology, China*); *Wei Ma* (*Xi'an Institute of Space Radio Technology, China*); *Lede Qiu* (*Xi'an Institute of Space Radio Technology, China*);

16:00 Proper Leaky Modes in DNG Ridge Waveguides
António L. Topa (*Instituto Superior Técnico, Portugal*); *Carlos R. Paiva* (*Instituto Superior Técnico, Portugal*); *Afonso M. Barbosa* (*Instituto Superior Técnico, Portugal*);

16:20 Miniaturization of Resonant Particles Suitable for Metamaterial and Left Handed Media Design
Francisco Aznar (*Univeritat Autónoma de Barcelona, Spain*); *Marta Gil* (*Univeritat Autónoma de Barcelona, Spain*); *Ferran Martín* (*Univeritat Autónoma de Barcelona, Spain*); *Joan García-García* (*Univeritat Autónoma de Barcelona, Spain*);

Session 1P3
Electromagnetic Compatibility

Monday PM, August 27, 2007

Room C

Organized by Halina Aniolczyk

Chaired by Halina Aniolczyk, Roman Kubacki

14:00 Mobile Telecommunication Base Stations on Hospital Buildings — The Safety Aspect of Medical Equipment and Individuals
Halina Aniołczyk (*Nofer Institute of Occupatioanl Medicine, Poland*);

14:20 The Electromagnetic Compatibility of Cellular Telephony Devices and Medical Equipment
Marian Wnuk (*Military Academy of Technology, Poland*); *Roman Kubacki* (*Military Institute of Hygiene and Epidemiology, Poland*);

14:40 The Determination of Minimal Safety Requirements for Base Station Antennas Localizations on the Hospital Roofs
Roman Kubacki (*Military Institute of Hygiene and Epidemiology, Poland*); *Marian Wnuk* (*Military Academy of Technology, Poland*); *Aleksander Dackiewicz* (*PTC ERA, Poland*);

15:00 **Coffee Break**

15:20 Study of Magnetic Field Distribution in Infant Incubators
Halina Aniolczyk (*Nofer Institute of Occupatioanl Medicine, Poland*); *Pawel Bieńkowski* (*Wroclaw University of Technology, Poland*);

15:40 Development of Research Works Pertaining to Textile Shields
Joanna Koprowska (*Textile Research Institute, Poland*);

16:00 Scientific Thematic Network "Electromagnetic Compatibility of Devices, Systems and Installations for IT Community EMC-Net"
S. Lysiak (*Wrocław University of Technology, Poland*); *Tomasz Reczek* (*Wrocław University of Technology, Poland*); *T. W. Więckowski* (*Wrocław University of Technology, Poland*);

Session 1P4
Biomedical Applications of Electromagnetic Waves

Monday PM, August 27, 2007

Room D

Organized by Koichi Ito, Kazuyuki Saito

Chaired by Soichi Watanabe, Kazuyuki Saito

14:00 Planar Applications for Local Thermotherapy
J. Vrba (*Czech Technical University in Prague, Czech Republic*); *T. Drizdal* (*Czech Technical University in Prague, Czech Republic*); *P. Togni* (*Czech Technical University in Prague, Czech Republic*); *R. Zajíček* (*Czech Technical University in Prague, Czech Republic*); *L. Víšek* (*Czech Technical University in Prague, Czech Republic*); *K. Novotná* (*Czech Technical University in Prague, Czech Republic*); *J. Vedralova* (*Czech Technical University in Prague, Czech Republic*); *L. Pergl* (*Czech Technical University in Prague, Czech Republic*); *L. Oppl* (*Czech Technical University in Prague, Czech Republic*);

14:20 Shorted Microstrip Applicators for Local Hyperthermia
T. Drizdal (*Czech Technical University in Prague, Czech Republic*); *Paolo Togni* (*Czech Technical University in Prague, Czech Republic*); *Megela Alexandr* (*Czech Technical University in Prague, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*);

14:40 Evaluation on Heating Performances of Antennas for Interstitial Thermal Therapies by Use of Tissue-equivalent Solid Phantom with Capillary Blood Flow
Kazuyuki Saito (*Chiba University, Japan*); *Atsushi Hiroe* (*Chiba University, Japan*); *Satoru Kikuchi* (*Chiba University, Japan*); *Masaharu Takahashi* (*Chiba University, Japan*); *Koichi Ito* (*Chiba University, Japan*);

15:00 **Coffee Break**

15:20 Implementation of Active Antennas in Medical Microwave Radio-thermometry
Svein Jacobsen (*University of Tromsø, Norway*); *Ø. Klemetsen* (*University of Tromsø, Norway*);

15:40 Implanted Antenna for an Artificial Cardiac Pacemaker System
Tamotsu Houzen (*Chiba University, Japan*); *Masaharu Takahashi* (*Chiba University, Japan*); *Koichi Ito* (*Chiba University, Japan*);

16:00 Measurements of Dielectric Properties of Biological Tissues in Mm-wave Band by Free-space Reflection Method, Ellipsometry Method and Coaxial Probe Method
Taiji Sakai (*National Institute of Information and Communications, Japan*); *M. Hanazawa* (*National Institute of Information and Communications, Japan*); *H. Wakatsuchi* (*National Institute of Information and Communications, Japan*); *S. Watanabe* (*National Institute of Information and Communications Technology, Japan*); *A. Nishikata* (*Tokyo Institute of Technology,, Japan*); *Osamu Hashimoto* (*Aoyama Gakuin University, Japan*);

16:20 Effects of Parameters of a Dosimetric Human Model on Temperature Elevation Due to Millimeter-wave Exposure
Akio Kanezaki (*Chuo University, Japan*); *Taiji Sakai* (*National Institute of Information and Communications, Japan*); *S. Watanabe* (*National Institute of Information and Communications Technology, Japan*); *Hiroshi Shirai* (*Chuo University, Japan*);

16:40 Induced Current Density in Adults and Children Exposed to Homogeneous Magnetic Field in Intermediate Frequency Band
Kei Maruyama (*Aoyama Gakuin University, Japan*); *Y. Suzuki* (*Tokyo Metropolitan University, Japan*); *K. Wake* (*National Institute of Information and Communications Technology, Japan*); *Taiji Sakai* (*National Institute of Information and Communications, Japan*); *S. Watanabe* (*National Institute of Information and Communications Technology, Japan*); *M. Taki* (*Tokyo Metropolitan University, Japan*); *Osamu Hashimoto* (*Aoyama Gakuin University, Japan*);

Session 2A1
Novel Mathematical Methods in Electromagnetics 1

Tuesday AM, August 28, 2007

Room A

Organized by Yury Shestopalov, Kazuya Kobayashi

Chaired by Yury Shestopalov, Kazuya Kobayashi

08:00 Extension of the Finite Network Method to Magnetic Materials and Its Application to Eddy-current Testing
Abbas Farschtschi (*Chemnitz University of Technology, Germany*); *Tino Richter* (*Chemnitz University of Technology, Germany*);

08:20 On an Extension of the Layer and Bulk Photonic KKR Methods for Nonspherical and Noncylindrical Scatterers
Alexander Moroz (*Wave-scattering.com, Germany*);

08:40 A Study on Numerical Dispersion of CIP Method for EM Problems
Y. Ando (*The University of Electro-Communications, Japan*); *M. Hayakawa* (*The University of Electro-Communications, Japan*);

09:00 A Neural Network Model for Phased Antenna Arrays
Fikret Tokan (*Yıldız Technical University, Turkey*); *Filiz Gunes* (*Yıldız Technical University, Turkey*); *Burak Bardak* (*Yıldız Technical University, Turkey*);

09:20 Support Vector Machines for Use in the Device Modeling
Nurhan Turker Tokan (*Yıldız Technical University, Turkey*); *Filiz Gunes* (*Yıldız Technical University, Turkey*);

09:40 Radiation and Difraction Problems in Waveguides
A. L. Delitsyn (*Moscow State University, Russia*);

10:00 **Coffee Break**

10:20 Calculation of Electromagnetic Field with Integral Equation Based on Clifford Algebra
A. Chantaveerod (*Chulalongkorn University, Thailand*); *Andrew D. Seagar* (*Srivijaya University of Technology, Thailand*); *T. Angkaew* (*Chulalongkorn University, Thailand*);

10:40 Wiener-Hopf Analysis of the Diffraction by a Terminated, Semi-infinite Parallel-plate Waveguide with Four-layer Material Loading
Erhao H. Shang (*Chuo University, Japan*); *Kazuya Kobayashi* (*Chuo University, Japan*);

11:00 Combined Perturbation and Wiener-Hopf Analysis of the Diffraction by Two Parallel, Corrugated Half-planes
Jianping Zheng (*Chuo University, Japan*); *Kazuya Kobayashi* (*Chuo University, Japan*);

11:20 Polarization Evolution in Weakly Anisotropic Media: Quasi-Isotropic Approximation (QIA) of Geometrical Optics Method and Its Recent Generalizations
Yu. A. Kravtsov (*Space Research Institute, Russia*); *P. Berczynski* (*Szczecin University of Technology, Poland*); *B. Bieg* (*Maritime University of Szczecin, Poland*); *K. Yu. Bliokh* (*Institute of Radio Astronomy, Ukraine*); *Z. H. Czyz* (*Telecommunications Research Institute, Poland*);

11:40 Numerical Methods for the Solution of Volume Integral Equations of Electromagnetics
Alexander B. Samokhin (*Moscow Institute of Radio Engineering, Electronics and Automatics, Russia*); *A. S. Samokhina* (*Institute of Control Science of Russian Academy of Sciences, Russia*);

Session 2A2
Plasmonics, Nano-composites and Metamaterials, Extraordinary Light Transmission 1

Tuesday AM, August 28, 2007

Room B

Organized by Yakov Strelniker

Chaired by Yakov Strelniker, Stuart A. Solin

08:20 Field Propagation in Nanoporous Metal Waveguides
A. J. Viitanen (*TKK Helsinki University of Technology, Finland*); *I. S. Nefedov* (*TKK Helsinki University of Technology, Finland*); *S. A. Tretyakov* (*TKK Helsinki University of Technology, Finland*);

08:40 Eigenmode Analysis of the Plasmonic Modes in Periodic Metal Nanoparticle Arrays
Kin Hung Fung (*The Hong Kong University of Science and Technology, China*); *Yurong Zhen* (*The Hong Kong University of Science and Technology, China*); *Che Ting Chan* (*The Hong Kong University of Science and Technology, China*);

09:00 Role of Resonances in Amplification of Faraday Effect
Alexey P. Vinogradov (*Russian Academy of Sciences, Russia*); *Alexander M. Merzlikin* (*Russian Academy of Sciences, Russia*); *Alexander V. Dorofeenko* (*Russian Academy of Sciences, Russia*); *Alexander B. Granovsky* (*Moscow State University, Russia*); *Alexander A. Lisyansky* (*the City University of New York, USA*); *Mitsuteru Inoue* (*Toyohashi University of Technology, Japan*);

09:20 Metal Dielectric Constant Influence on Extraordinary Optical Transmission through Hole Arrays
Sergio G. Rodrigo (*Universidad de Zaragoza, Spain*); *F. J. García-Vidal* (*Universidad Autonoma de Madrid, Spain*); *Luis Martín-Moreno* (*Universidad de Zaragoza, Spain*);

09:40 Metamaterial Comprising Plasmonic Nanolasers
Andrey K. Sarychev (*Institute of Theoretical and Applied Electrodynamics RAS, Russia*); *Alexander A. Pukhov* (*Institute of Theoretical and Applied Electrodynamics RAS, Russia*); *Gennady Tartakovsky* (*Lockheed Martin Inc, USA*);

10:00 **Coffee Break**

10:20 Sequence-dependent Phase Transition of DNA-linked Gold Nanoparticle Assemblies
Ching-Hwa Kiang (*Rice University, USA*); *Nolan C. Harris* (*Rice University, USA*);

10:40 Extraordinary Phenomena in Metal-semiconductor Hybrid Structures
Stuart A. Solin (*Washington University in St. Louis, USA*); *Charles M. Hohenberg* (*Washington University in St. Louis, USA*); *K. A. Wieland* (*Washington University in St. Louis, USA*); *Y. Wang* (*Washington University in St. Louis, USA*); *A. K. M. S. Newaz* (*Washington University in St. Louis, USA*);

11:00 Spectroscopic Properties of a Two-level Atom Interacting with a Complex Spherical Nanoshell
Alexander Moroz (*Wave-scattering.com, Germany*);

11:20 Beam Splitter Using a One-dimensional Metal Photonic Crystal with a Parabola-like Equi-frequency Contour
Linfang Shen (*Zhejiang University, China*); *Tzong-Jer Yang* (*National Chiao Tung University, Taiwan*); *Yuan-Fong Chau* (*Chin Yun University, Taiwan*);

11:40 Wave Interaction with Double-negative and Double-positive Plates
F. Urbani (*University of Texas at Brownsville, USA*); *C. Sabah* (*University of Gaziantep, Turkey*); *S. Uckun* (*University of Gaziantep, Turkey*);

Session 2A3a
Medium Effects on Electromagnetic Wave Propagation and Applications

Tuesday AM, August 28, 2007

Room C

Organized by Rachid Talhi

Chaired by Rachid Talhi

08:20 Prediction of Some Ionospheric Effects on Radiowaves Propagation
Rachid Talhi (*C.N.R.S (National Center for Scientific Research), France*); *A. Lebrere* (*C.N.R.S (National Center for Scientific Research), France*); *F. Li* (*C.N.R.S (National Center for Scientific Research), France*); *Fumie Costen* (*University of Manchester, UK*);

08:40 Mutual Coupling Effects on the Mean Capacity of MIMO Antenna Systems
Andrea Farkasvolgyi (*Budapest University of Technology and Economics, Hungary*); *Lajos Nagy* (*Budapest University of Technology and Economics, Hungary*);

09:00 Ultrashort Electromagnetic Pulse Dynamics in the Singular and Weak Dispersion Limits
Kurt E. Oughstun (*University of Vermont, USA*); *Natalie A. Cartwright* (*University of Vermont, USA*);

09:20 Low Latitude Ionospheric Turbulence Observed by the Micro-satellite DEMETER
Feng Li (*C.N.R.S (National Center for Scientific Research), France*); *F. Lefeuvre* (*C.N.R.S (National Center for Scientific Research), France*); *M. Parrot* (*C.N.R.S (National Center for Scientific Research), France*); *Rachid Talhi* (*C.N.R.S (National Center for Scientific Research), France*);

Session 2A3b
Power Electronics

Tuesday AM, August 28, 2007

Room C

Organized by Jiri Lettl

Chaired by Jiri Lettl

10:20 Optimizing of System Partition and Software Architecture of Distributed Control Computer of Power Electronics Facility
Jiri Zdenek (*Czech Technical University in Prague, Czech Republic*);

10:40 EMI in Induction Motor Drive Fed from IGCT Voltage Source Inverter
S. Bartoš (*Academy of Sciences of the Czech Republic, Czech Republic*); *V. Jehlička* (*Academy of Sciences of the Czech Republic, Czech Republic*); *J. Škramlík* (*Academy of Sciences of the Czech Republic, Czech Republic*); *Viktor Valouch* (*Czech Technical University, Czech Republic*);

11:00 PWM Strategy Applied to Realized Matrix Converter System
Jiri Lettl (*Czech Technical University in Prague, Czech Republic*); *Stanislav Fligl* (*Czech Technical University in Prague, Czech Republic*);

11:20 Technological Aspects of Noise-suppressing Filter Design
K. Künzel (*Czech Technical University in Prague, Czech Republic*); *V. Papež* (*Czech Technical University in Prague, Czech Republic*);

11:40 Testing of Robust Control Characteristics for Traction PMSM
O. Černý (*University of Pardubice, Czech Republic*); *Jiri Šimánek* (*Univesity of Pardubice, Czech Republic*); *R. Doleček* (*Univesity of Pardubice, Czech Republic*); *J. Novák* (*Univesity of Pardubice, Czech Republic*);

Session 2A4
Remote Sensing & Scattering

Tuesday AM, August 28, 2007

Room D

Chaired by Gerard Berginc, Shigehisa Nakamura

08:20 Electromagnetic Wave Scattering from a Random Layer with Randomly Rough Interfaces
Gerard Berginc (*Thales Optronique, France*); *Claude Bourrely* (*Centre de Physique Therique, France*);

08:40 A Hybrid Analytical-numerical Algorithm of Scattering from a 3D Target above Randomly Rough Dielectric Surface
Ya-Qiu Jin (*Fudan University, China*); *Hongxia Ye* (*Fudan University, China*);

09:00 Propagation-Inside-Layer Expansion Method for Scattering by a Stack of Two Rough Surfaces: Acceleration with the Forward-backward Method Combined to the Novel Spectral Acceleration
Nicolas Déchamps (*Polytech'Nantes, France*); *Christophe Bourlier* (*Polytech'Nantes, France*);

09:20 An Effective Method for the Scattering of Electromagnetic Waves by Periodic Rough Surfaces
Selda Yildiz (*Istanbul Technical University, Turkey*); *Yasemin Altuncu* (*Istanbul Technical University, Turkey*); *Funda Akleman* (*Istanbul Technical University, Turkey*);

09:40 High Resolution Multispectral Photogrammetric Imagery: Enhancement, Interpretation and Evaluations
Arthur Roberts (*Simon Fraser University, Canada*); *Charles Bostater* (*Simon Fraser University, Canada*); *Thomas Becker* (*Simon Fraser University, Canada*);

10:00 **Coffee Break**

10:20 Computation of the Polarimetric Bistatic Signature of Trihedral Corner Reflector Arrays in High-frequency Domain
G. Kubické (*Université de Nantes, France*); *Christophe Bourlier* (*Université de Nantes, France*); *J. Saillard* (*Université de Nantes, France*);

10:40 A Hybrid Method for the Scattering of Electromagnetic Waves from Coatings of Variable Thickness
Birol Aslanyürek (*Yıldız Technical University, Turkey*); *Mehmet Çayören* (*Istanbul Technical University, Turkey*); *Hülya Şahintürk* (*Yıldız Technical University, Turkey*);

11:00 Monitoring of Satellite Thermal Basin in a Slope of Mountain Range
S. Nakamura (*Kyoto University, Japan*);

11:20 Automated Passive Ground Remote Surveillance of Critical Oil & Gas Transport Infrastructures
Karl Federico Kaspareck (*Entec, CTE, Italy*); *E. Poggiagliolmi* (*EnTec Integrated Tech., UK*);

Session 2AP
Poster Session 1

Tuesday AM, August 28, 2007
9:00 AM - 17:00 PM
Poster Area
Chaired by Ladislav Oppl, Radim Zajicek

1 Time Reversal Telecommunication in a Reflective Environment
G. Collin (*Universite Paris 7, France*); *Julien de Rosny* (*Universite Paris 7, France*); *Geoffroy Lerosey* (*Universite Paris 7, France*); *A. Tourin* (*Universite Paris 7, France*); *Mathias Fink* (*Universite Paris 7, France*);

2 Comparative Analysis of WLAN, WiMAX and UMTS Technologies
Aktül Kavas (*Yildiz Technical University, Turkey*);

3 WiMAX Cell Planning and Coverage Prediction
Aktul Kavas (*Yildiz Technical University, Turkey*);

4 Research on Asymmetric Characteristics of Mobile Communications System Based on Electromagnetic Radiation
Weidong Wang (*Beijing University of Posts and Telecommunications, China*); *Yinghai Zhang* (*Beijing University of Posts and Telecommunications, China*); *Kaijie Zhou* (*Beijing University of Posts and Telecommunications, China*); *Heng Zhang* (*Beijing University of Posts and Telecommunications, China*);

5 An Analytical Approach for Improving the Quality Factor of RFIC Spiral Inductors
Hao-Hui Chen (*Huafan University, Taiwan*); *Huai-Wen Zhang* (*United Microelectronics Corporation (UMC), Taiwan*); *Hui-Ching Sung* (*Huafan University, Taiwan*); *Shyh-Jong Chung* (*National Chiao Tung University, Taiwan*); *Jen-Tsai Kuo* (*National Chiao Tung University, Taiwan*);

6 Reflectarray with Variable-patch-and-slot Size
The-Nan Chang (*Tatung University, Taiwan*); *Bor-Tsong Chen* (*Tatung University, Taiwan*);

7 Design of an UWB Antenna with Band-rejection Characteristic
Hee Jun Lee (*Hanyang University, Korea*); *Yo Han Jang* (*Hanyang University, Korea*); *Jae-Hoon Choi* (*Hanyang University, Korea*);

8 A Novel Antenna Design for UHF RFID Tag on Metallic Objects
Youngman Um (*Hanyang University, Korea*); *Uisheon Kim* (*Hanyang University, Korea*); *Wonmo Seong* (*E.M.W. Antenna Co., Ltd., Korea*); *Jae-Hoon Choi* (*Hanyang University, Korea*);

9 A Neural Network Approach to the Prediction of the Propagation Path-loss for Mobile Communications Systems in Urban Environments
S. Sotiroudis (*Aristotle University of Thessaloniki, Greece*); *K. Siakavara* (*Aristotle University of Thessaloniki, Greece*); *J. N. Sahalos* (*Aristotle University of Thessaloniki, Greece*);

10 Calculation of EM Characteristics of a Cellular Phone Handset by Time-domain MoM
R. Sarraf (*Amirkabir University of Technology, Iran*); *R. Moini* (*Amirkabir University of Technology, Iran*); *S. H. H. Sadeghi* (*Amirkabir University of Technology, Iran*); *Abbas Farschtschi* (*Chemnitz University of Technology, Germany*);

11 Topology Finite Element Method for Field Calculation Problems
Shizuo Li (*Guangxi University, China*); *Yong Lu* (*Guangxi University, China*);

12 Effect of Radar Beam Pattern on Determination of Echo Center Using Coherent Radar Imaging
Jenn-Shyong Chen (*Chienkuo Technology University, Taiwan*); *Peter Hoffmann* (*Leibniz-Institut für Atmosphärenphysik, Germany*); *Marius Zecha* (*Leibniz-Institut für Atmosphärenphysik, Germany*);

13 Design of Conformal Tapered Leaky Wave Antenna
Onofrio Losito (*University of Salento, Italy*);

14 Analysis of the Gain and Linearity Characteristics in Bias Controlled Push Pull Power Amplifier
Young-Huang Chou (*HuaFan University, Taiwan*); *Chao-Yu Huang* (*HuaFan University, Taiwan*); *Chin-Chih Yeh* (*HuaFan University, Taiwan*); *Hao-Hui Chen* (*Huafan University, Taiwan*); *Rong-Chan Hsieh* (*HuaFan University, Taiwan*);

15 Design of an Internal Wideband Antenna for DTV Laptop Application
Seung-Gil Jeon (*Hanyang University, Korea*); *Dong-Hyun Seo* (*Hanyang University, Korea*); *Jae-Hoon Choi* (*Hanyang University, Korea*);

16 Development of Voltage Controlled Oscillators Using 2-µm GaAs HBT Monolithic Integrated Circuit Technology for Atacama Large Millimeter/Submillimeter Array Application
Hong-Yeh Chang (*National Central University, Taiwan*); *Yan-Liang Yeh* (*National Central University, Taiwan*); *Chi-Hsein Linand* (*National Central University, Taiwan*); *Kung-Hao Liang* (*National Central University, Taiwan*); *Chau-Ching Chiong* (*Academia Sinica, Institute of Astronomy and Astrophysics, Taiwan*); *Eric Bryerton* (*National Radio Astronomy Observatory, USA*);

17 A Modified Formulation for the Band Structure Calculation of Metallic Photonic Crystals
K.-H. Chi (*National Taiwan University, Taiwan*); *Y.-P. Chiou* (*National Taiwan University, Taiwan*);

18 Signal and Energy Velocity of EM-waves in Dispersive Media
Hiroyuki Hosono (*Nihon University, Japan*); *Toshio Hosono* (*Nihon University, Japan*);

19 Design of the Broadband Bandpass Filter Using Slow Wave Characteristics
Jin-Sup Kim (*Korea Electronics Technology Institute, Korea*); *Sang-Gi Byeon* (*Korea Electronics Technology Institute, Korea*);

20 Compact Representation of the Inductance Coefficients in Presence of Uncertain Parameters
Biagio De Vivo (*University of Salerno, Italy*); *L. Egiziano* (*University of Salerno, Italy*); *P. Lamberti* (*University of Salerno, Italy*); *V. Tucci* (*University of Salerno, Italy*);

21 Microstrip Patch Antenna Using an Aperture-coupled Waveguide
Se-Hwan Choi (*Korea Electronics Technology Institute, Korea*); *Jae-Young Lee* (*Korea Electronics Technology Institute, Korea*); *Jong-Kyu Kim* (*Korea Electronics Technology Institute, Korea*);

22 Balancing the Interference Probability between Systems for Sharing Frequency Spectrum
Taekjin Hwang (*ETRI, Korea*); *Sanggee Kang* (*Kunsan National University, Korea*); *Heon Jin Hong* (*Electronics and Telecommunications Research Institute (ETRI), Korea*);

23 Impulse Response of Seafloor Hydrocarbon Reservoir Model
Jingtian Tang (*Central South University, China*); *Weibin Luo* (*Central South University, China*);

24 Generalized Approach for Phase Interferometric Measurements of Electromagnetic Field
Jan Zela (*Czech Technical University, Czech Republic*); *Karel Hoffmann* (*Czech Technical University, Czech Republic*); *Premysl Hudec* (*Czech Technical University, Czech Republic*);

25 Artificial Neural Network Employment in the Design of Multilayered Microstrip Antenna with Specified Frequency Operation
Katherine Siakavara (*Aristotle University of Thessaloniki, Greece*);

26 Microwave Probes for Dielectric Measurements
R. Zajíček (*Czech Technical University, Czech Republic*); *Ladislav Oppl* (*Czech Technical University in Prague, Czech Republic*); *Jan Vrba* (*Czech Technical University, Czech Republic*);

27 Electrical Vibrations of Yeast Cell Membrane
Michal Cifra (*Czech Technical University, Czech Republic*); *J. Vaniš* (*Academy of Sciences of the Czech Republic, Czech Republic*); *O. Kučera* (*Czech Technical University, Czech Republic*); *Jiří Hašek* (*Academy of Sciences of the Czech Republic, Czech Republic*); *Ivana Frýdlová* (*Academy of Sciences of the Czech Republic, Czech Republic*); *František Jelínek* (*Academy of Sciences of the Czech Republic, Czech Republic*); *Jaroslav Šaroch* (*Academy of Sciences of the Czech Republic, Czech Republic*); *JiříPokorný* (*Academy of Sciences of the Czech Republic, Czech Republic*);

28 Effect of High-Q Ba4Ti13O30 Materials on the Dielectric Properties of (Bax, Sr(1-x))TiO3 Films for Microwave Communication
Hsiu-Fung Cheng (*Taiwan Normal University, Taiwan*); *Thomas Joseph Palathinkal* (*National Tsing-Hua University, Taiwan*); *Yen-Chih Lee* (*National Tsing-Hua University, Taiwan*); *I-Nan Lin* (*Tamkang University, Taiwan*);

29 Pulsed-laser Deposited Ferroelctric Thin Films with Nanostructure for Nano Device Applications
Hsiu-Fung Cheng (*National Taiwan Normal University, Taiwan*); *Thomas Joseph Palathinkal* (*National Tsing-Hua University, Taiwan*); *I-Nan Lin* (*Tamkang University, Taiwan*);

30 An Innovative Permanently Implanted Wireless Intracranial Pressure Monitor Using Microwave Frequencies: Long Term Durability under Pressure in Aqueous Environment
F. A. Kralick (*Hahnemann University Hospital, USA*); *Usmah Kawoos* (*Drexel University, USA*); *R. V. Warty* (*Drexel University, USA*); *M. R. Tofighi* (*Penn State University, USA*); *Arye Rosen* (*Drexel University, USA*);

Session 2P1
Novel Mathematical Methods in Electromagnetics 2

Tuesday PM, August 28, 2007

Room A

Organized by Yury Shestopalov, Kazuya Kobayashi

Chaired by Kazuya Kobayashi, Yury Shestopalov

13:00 Analysis of the Parallel Plate Waveguide with Finite Length Impedance Loading
Ayşegül Işıkyer (*Gebze Institute of Technology, Turkey*); *İ. Hakkı Tayyar* (*Gebze Institute of Technology, Turkey*); *A. Büyükaksoy* (*Gebze Institute of Technology, Turkey*);

13:20 A New Spectral Method for Scattering by Impedance Polygons
J. M. L. Bernard (*CEA-DIF, Département de physique théorique et appliquée, France*);

13:40 A Finite Difference Frequency Domain Study of Curvature Lifted Modes Degeneration
C. S. Lavranos (*Democritus University of Thrace, Greece*); *G. A. Kyriacou* (*Democritus University of Thrace, Greece*);

14:00 Three Dimensional Open Cavities Eigenanalysis, Employing Finite Elements in Conjunction with Spherical Harmonics
P. C. Allilomes (*Democritus University of Thrace, Greece*); *George A. Kyriacou* (*Democritus University of Thrace, Greece*);

14:20 On the Theory of TM Electromagnetic Guided Waves in a Nonlinear Three-layer Dielectric Structure
H. W. Schürmann (*University of Osnabruck, Germany*); *V. S. Serov* (*University of Oulu, Finland*); *Yury Shestopalov* (*Karlstad University, Sweden*); *Yury G. Smirnov* (*Penza State University, Russia*);

14:40 A Hybrid Offset Moment Method and Mode Matching Technique for Cylindrical Horn Antennas Analysis
S. G. Diamantis (*Democritus University of Thrace, Greece*); *A. P. Orfanidis* (*Democritus University of Thrace, Greece*); *George A. Kyriacou* (*Democritus University of Thrace, Greece*);

15:00 **Coffee Break**

15:20 Analysis of Electromagnetic Diffraction by a Dielectric Body in Several Domains Using the Volume Singular Integral Equations
Yury G. Smirnov (*Penza State University, Russia*); *A. Tsupak* (*Penza State University, Russia*);

15:40 Optimization of a Microwave Amplifier Using Neural Performance Data Sheets with a Memetic Algorithm
Y. Cengiz (*Süleyman Demirel University, Turkey*); *F. Güneş* (*Yildiz Technical University, Turkey*); *U. Kılıç* (*Suleyman Demirel University, Turkey*);

16:00 Gain Gradients Applied to Design of the Terminations of the (Noise, Gain, Input VSWR) Triplets for a Microwave Transistor
Salih Demirel (*Yıldız Technical University, Turkey*); *Filiz Gunes* (*Yıldız Technical University, Turkey*);

16:20 A Simple and Accurate Model for Wire Diagnosis Using Reflectometry
Fabrice Auzanneau (*CEA LIST, France*); *Marc Olivas* (*CEA LIST, France*); *Nicolas Ravot* (*CEA LIST, France*);

16:40 Propagation Characteristics of Multilayered Dielectric Gratings with the Air-hole Type Elliptic Cylinders
Ryosuke Ozaki (*Nihon University, Japan*); *Tsuneki Yamasaki* (*Nihon University, Japan*); *Takashi Hinata* (*Nihon University, Japan*);

17:00 Scattering of Electromagnetic Waves by Periodically Inhomogeneous Dielectric Gratings Consisting of Inhomogeneous Layer
Tsuneki Yamasaki (*Nihon University, Japan*); *Ryosuke Ozaki* (*Nihon University, Japan*); *Takashi Hinata* (*Nihon University, Japan*);

17:20 Comparative Studies on Amplitude and Phase Control Radiation Patterns
Y. V. Narayana (*ANITS, India*); *Gottumukkala Suryanarayana Raju* (*Andhra University, India*);

Session 2P2
Plasmonics, Nano-composites and Metamaterials, Extraordinary Light Transmission 2

Tuesday PM, August 28, 2007

Room B

Organized by Yakov Strelniker

Chaired by Andrey K. Sarychev, Mitsuteru Inoue

13:20 Effect of Motion of the Scatterers on Localization: Quasi Localization and Quasi Mobility Edge
E. Kogan (*Bar Ilan University, Israel*);

13:40 Magnetooptical Effects in Plasmonic Nanoscale Structures
Vladimir I. Belotelov (*A.M. Prokhorov General Physics Institute RAS, Russia*); *L. L. Doskolovich* (*Image Processing Systems Institute RAS, Russia*); *A. K. Zvezdin* (*A.M. Prokhorov General Physics Institute RAS, Russia*);

14:00 Extraordinary Light Transmission through Nanohole Arrays in Presence of Magnetic Field
Yakov Strelniker (*Bar-Ilan University, Israel*); *David J. Bergman* (*Tel-Aviv University, Israel*); *David G. Stroud* (*Ohio State University, USA*);

14:20 Nano-magnetophotonics: Control of Light and Spin Waves by Introducing Artificial Nano-scaled Structures
Mitsuteru Inoue (*Toyohashi University of Technology, Japan*); *R. Fujikawa* (*Toyohashi University of Technology, Japan*); *H. Uchida* (*Toyohashi University of Technology, Japan*); *K. H. Shin* (*Toyohashi University of Technology, Japan*); *A. Khanikaevv* (*Toyohashi University of Technology, Japan*); *A. Baryshev* (*Toyohashi University of Technology, Japan*); *A. Fedyanin* (*M. V. Lomonosov Moscow State University, Russia*); *A. Granovsky* (*M. V. Lomonosov Moscow State University, Russia*);

14:40 Imaging Characteristics of a Left-handed Metamaterial Lens
Pi-Gang Luan (*National Central University, Taiwan*); *Kao-Der Chang* (*National Central University, Taiwan*); *Hung-Da Chien* (*National Central University, Taiwan*); *Chii-Chang Chen* (*National Central University, Taiwan*); *Chi-Shung Tang* (*Academia Sinica, Taiwan*);

15:00 **Coffee Break**

15:20 Multi-layered Fe Films for Microwave Applications
Alexey V. Osipov (*Institute for Theoretical and Applied Electromagnetics, Russia*); *I. T. Iakubov* (*Institute for Theoretical and Applied Electromagnetics, Russia*); *A. N. Lagarkov* (*Institute for Theoretical and Applied Electromagnetics, Russia*); *S. A. Maklakov* (*Institute for Theoretical and Applied Electromagnetics, Russia*); *D. A. Petrov* (*Institute for Theoretical and Applied Electromagnetics, Russia*); *K. N. Rozanov* (*Institute for Theoretical and Applied Electromagnetics, Russia*); *I. A. Ryzhikov* (*Institute for Theoretical and Applied Electromagnetics, Russia*);

15:40 Two-dimensional Finite-difference Time-domain Study of Coupling Parameters in Different Nanoplasmonic Waveguides
Majid Rasouli Disfani (*K.N. Toosi University of Technology, Iran*); *Mohammad Sadegh Abrishamian* (*K.N. Toosi University of Technology, Iran*); *Mehdi Zahedi* (*K.N. Toosi University of Technology, Iran*);

16:00 Modal Analysis of Extraordinary Transmission through Subwavelength Slits in a Silver Plate
Galia Ghazi (*University of Tehran, Iran*); *Mahmoud Shahabadi* (*University of Tehran, Iran*);

16:20 Tunable Negative Index Metamaterial and Applications
Patanjali V. Parimi (*Northeastern University, USA*); *Peng He* (*Northeastern University, USA*); *Carmine Vittoria* (*Northeastern University, USA*); *Vincent G. Harris* (*Northeastern University, USA*);

16:40 Magnetic Coupling on Co-doped ZnO Films
Hsiung Chou (*National Sun Yat-Sen University, Taiwan*); *Cheng-Pang Lin* (*National Sun Yat-Sen University, Taiwan*); *Y. H. Ho* (*National Sun Yat-Sen University, Taiwan*); *J. C. A. Huang* (*National Cheng Kung University, Taiwan*); *H. S. Hsu* (*National Cheng Kung University, Taiwan*);

17:00 Low Frequency Relaxation Oscillations in a Capacitive Discharge Chamber Connected to a Peripheral Grounded Chamber
Zhuwen Zhou (*Guizhou Educational College, China*); *M. A. Lieberman* (*University of California, USA*); *Sungjin Kim* (*University of California, USA*); *Shiyin Ji* (*Guizhou Educational College, China*); *Guangyu Sun* (*Guizhou Educational College, China*); *Mingsen Deng* (*Guizhou Educational College, China*);

Session 2P3
Microwave and Millimeter-Wave Devices and Circuits

Tuesday PM, August 28, 2007

Room C

Organized by Subal Kar

Chaired by Subal Kar

13:20 Computer-analytical Characterization of Resonant-cap Circuit for Microwave Oscillators and Power Combiners
Subal Kar (*University of Calcutta, India*); *S. Bhanja* (*University of Calcutta, India*); *S. Sasmal* (*University of Calcutta, India*);

13:40 Modeling of Multi Post Waveguide Structure Useful for Ka Band Cavity Oscillator Design
S. Dutta (*SAMEER Kolkata Centre, India*); *A. Majumder* (*SAMEER Kolkata Centre, India*); *S. Kar* (*University College of Science & Technology, India*);

14:00 Modeling and Realization of a Ka Band GUNN Based Phase Locked Source
G. Arun Kumar (*SAMEER Kolkata Centre, India*); *Arijit Majumder* (*SAMEER Kolkata Centre, India*); *M. Kundu* (*SAMEER Kolkata Centre, India*); *S. Chatterjee* (*SAMEER Kolkata Centre, India*); *S. Kar* (*University College of Science & Technology, India*);

14:20 Computer-aided Design and Characterization of a Broad-band Millimeter-wave Source at 34 GHz
Subal Kar (*University of Calcutta, India*);

14:40 Linearized Distributed Amplifier by Self-adaptive Biasing Technique
Kwok Wai Lau (*City University of Hong Kong, China*); *K. Y. Chan* (*City University of Hong Kong, China*); *Q. Xue* (*City University of Hong Kong, China*); *C. H. Chan* (*City University of Hongkong, China*);

15:00 **Coffee Break**

15:20 A Study on Improvement of Transmission Characteristics near the Passband of BPFs Using Branch-stub Resonators
T. Yasuzumi (*Aoyama Gakuin University, Japan*); *T. Ohno* (*Kisarazu National College of Technology, Japan*); *O. Hashimoto* (*Aoyama Gakuin University, Japan*);

15:40 CAD of Broadband Mixer Design at Microwave and Millimeter Wave Frequencies
Arun Kumar (*SAMEER Kolkata Centre, India*);

16:00 RF-ID Tag Location Using RF-over-fibre Techniques
Paul Victor Brennan (*University College London, UK*); *A. J. Seeds* (*University College London, UK*); *Y. Huang* (*University College London, UK*);

16:20 A Cross-coupled Voltage-controlled Oscillator in 0.6 µm BiCMOS Process
T. Yang (*City University of Hong Kong, China*); *K. W. Lau* (*City University of Hong Kong, China*); *K. C. Wan* (*City University of Hong Kong, China*); *Q. Xue* (*City University of Hong Kong, China*); *C. H. Chan* (*City University of Hong Kong, China*);

16:40 Design of New DGS Hairpin Microstrip Bandpass Filter Using Coupling Matrix Method
Ahmed Boutejdar (*University of Magdeburg, Germany*); *A. Elsherbini* (*Ain Shams University, Egypt*); *A. Balalem* (*University of Magdeburg, Germany*); *J. Machac* (*Czech Technical University, Czech Republic*); *A. Omar* (*University of Magdeburg, Germany*);

Session 2P4
Microwave Imaging & Inverse Scattering Problem

Tuesday PM, August 28, 2007

Room D

Chaired by Mikael Persson, George A. Kyriacou

13:00 The Use of Inhomogeneous Surface Impedance Modeling in the Shape Reconstruction
Mehmet Cayoren (*Istanbul Technical University, Turkey*); *Ozgur Ozdemir* (*Istanbul Technical University, Turkey*); *Ibrahim Akduman* (*Istanbul Technical University, Turkey*);

13:20 A Profile Inversion Scheme for the Reconstruction of Dielectric Layers Having Rough Interfaces
Cagla Tasdemir (*Istanbul Technical University, Turkey*); *Evrim Tetik* (*Istanbul Technical University, Turkey*); *Ali Yapar* (*Istanbul Technical University, Turkey*);

13:40 A Fisher Information Based Gradient Scaling for Microwave Tomography
Andreas Fhager (*Chalmers University of Technology, Sweden*); *Mats Gustafsson* (*Lund University, Sweden*); *Sven Nordebo* (*Växjö University, Sweden*); *Mikael Persson* (*Chalmers University of Technology, Sweden*);

14:00 Electromagnetic Imaging of a Collection of Small Scatterers Using MUSIC
Xudong Chen (*National University of Singapore, Singapore*);

14:20 Imaging of Perfectly Conducting Objects Buried in a Dielectric Cylinder
Oğuz Semerci (*Istanbul Technical University, Turkey*); *Onur Mudanyalı* (*Istanbul Technical University, Turkey*); *Gül Seda Ünal* (*Istanbul Technical University, Turkey*);

14:40 Reconstruction Scheme for Polygonal Cylindrical Targets with Curved Surfaces
Hiroshi Shirai (*Chuo University, Japan*); *Yoshinori Hiramatsu* (*Chuo University, Japan*);

15:00 **Coffee Break**

15:20 Inverse Problem of ECG for Different Equivalent Cardiac Sources
C. G. Xanthis (*Democritus University of Thrace, Greece*); *P. M. Bonovas* (*Democritus University of Thrace, Greece*); *George A. Kyriacou* (*Democritus University of Thrace, Greece*);

15:40 A Sensitivity Matrix Based Microwave Tomography Exploiting an Adjoint Network Theorem
Dimitrios G. Drogoudis (*Democritus University of Thrace, Greece*); *George A. Kyriacou* (*Democritus University of Thrace, Greece*); *J. N. Sahalos* (*Aristotle University of Thessaloniki, Greece*);

16:00 Estimation of Ground Permittivity from a GPR Echo of a Cylindric Conducting Pipe
Yiwei He (*Osaka Electro-Communication University, Japan*); *Qinglian Guo* (*Kanazawa Institute of Technology, Japan*);

16:20 Identification of Multiple Cylindrical Targets Located above Perfectly Conducting Flat Surface by Artificial Neural Networks
A. Kızılay (*Yıldız Technical University, Turkey*); *S. Makal* (*Yıldız Technical University, Turkey*);

16:40 A Neural Network Model for Target Identification of Cylindrical Targets Located above Perfectly Conducting Flat Surface
A. Kızılay (*Yıldız Technical University, Turkey*); *S. Makal* (*Yıldız Technical University, Turkey*);

17:00 Shape Reconstruction of 3D PEC Objects via a PO Distributional Approach: Numerical Results
Raffaele Solimene (*Seconda Università di Napoli, Italy*); *Giovanni Spina* (*Seconda Università di Napoli, Italy*); *Aniello Buonanno* (*Seconda Università di Napoli, Italy*); *Rocco Pierri* (*Seconda Università di Napoli, Italy*);

Session 3A1
Electromagnetic Simulation and Applications

Wednesday AM, August 29, 2007

Room A

Chaired by P. Hazdra, Tino Richter

08:20 A Dynamic Simulation Approach for Electrostatic Force Microscopy on Inhomogeneous Sample Material
Michael Greiff (*Leibniz University of Hanover, Germany*); *Uzzal Binit Bala* (*Leibniz University of Hanover, Germany*); *W. Mathis* (*Leibniz University of Hanover, Germany*);

08:40 Controlled Approximation of the Coefficient Matrix of the Finite Network Method
André Eppler (*Chemnitz University of Technology, Germany*); *Abbas Farschtschi* (*Chemnitz University of Technology, Germany*); *Michael Pfefferkorn* (*Chemnitz University of Technology, Germany*);

09:00 Adaptive Meshing for Volterra Integral Equation
Ahmed Al-Jarro (*The University of Nottingham, UK*); *Phillip Sewell* (*Univeristy of Nottingham, UK*); *Trevor M. Benson* (*University of Nottingham, UK*); *Ana Vukovic* (*University of Nottingham, UK*);

09:20 SIRENA an External Electromagnetic Simulator for Radio Electric Systems in the Close Environment of an Airport Using Asymptotic Methods
Henri-Jose Mametsa (*ONERA, France*); *A. Bergès* (*ONERA, France*); *M. Crokaert* (*Airbus France, France*); *N. Douchin* (*OKTAL Synthetic Environment, France*); *P. Pitot* (*OKTAL Synthetic Environment, France*);

09:40 Magnetic Separation of Paramagnetic Particles Produced by Electrochemical Process with Magnetic Sphere
Ikko Ihara (*Kobe University, Japan*); *Tsuneo Watanabe* (*Tokyo Metropolitan University, Japan*);

10:00 **Coffee Break**

10:20 Numerical Analysis of Cylindrical Cavities Used for Microwave Heating, Employing the Mode Matching Technique
A. P. Orfanidis (*Democritus University of Thrace, Greece*); *George A. Kyriacou* (*Democritus University of Thrace, Greece*); *J. N. Sahalos* (*Aristotle University of Thessaloniki, Greece*);

10:40 Driving Characteristics for Hybrid Electric Drive with Super-capacitor as Energy Storage Unit
Dobri Cundev (*Czech Technical University, Czech Republic*); *P. Mindl* (*Czech Technical University, Czech Republic*);

11:00 Steady-state Analysis of Salient Poles Synchronous Motor with Damper Based on Determination of the Magnetic Field Distribution
D. Cundev (*Czech Technical University, Czech Republic*); *Z. Cerovsky* (*Czech Technical University, Czech Republic*);

11:20 On the Influence of Slot Width of Field Shapers in Electromagnetic Metal Forming of Aluminum Sheets
Abbas Farschtschi (*Chemnitz University of Technology, Germany*); *Tino Richter* (*Chemnitz University of Technology, Germany*); *Hans-Juergen Roscher* (*Fraunhofer Institute IWU, Germany*);

11:40 Amplification of Acoustic-electromagnetic Waves in GaN Films
A. García-B (*Universidad Politecnica de Pachuca (UPP), Mexico*); *V. Grimalsky* (*Autonomous State University of Morelos, Mexico*); *A. Silva* (*Universidad Politecnica de Pachuca (UPP), Mexico*); *P. Rivera* (*Universidad Politecnica de Pachuca (UPP), Mexico*); *A. Morales* (*Centro Nacional de Microelectronica (CNM), Spain*); *F. Marroquín Gutierrez* (*University Polytechnics of Pachuca (UPP), Mexico*);

Session 3A2a
Subwavelength Resolution and Near-field Effects of Wave Multiple Scattering by Dielectric and Magnetic Materials

Wednesday AM, August 29, 2007

Room B

Organized by Yurii Nicolaevich Barabanenkov

Chaired by Yurii Nicolaevich Barabanenkov, Vladimir Kuzmiak

08:00 Sub-wavelength Focusing with Far-field Time Reversal
Geoffroy Lerosey (*Universite Paris 7, France*); *Julien De Rosny* (*Universite Paris 7, France*); *A. Tourin* (*Universite Paris 7, France*); *Mathias Fink* (*Universite Paris 7, France*);

08:20 Energy Emission from Evanescent Wave and Interference of Opposite Wave Streams: Near Field Coherent Scattering by Random Medium
Yu. N. Barabanenkov (*Institute of Radio Engineering and Electronics, Russian Academy of Sciences (IRE RUS), Russia*); *M. Yu. Barabanenkov* (*Institute of Microelectronics Technology and Superpure Materials, Russian Academy of Sciences, Russia*);

08:40 The Characteristic Properties of Description of the Near Fields in the Wicinity of Wood Resonance
Valery L. Kuznetsov (*Moscow State Technical University of Civil Aviation (MSTUCA), Russia*);

09:00 Near Field Effect in Microwave Radiation of Periodically Heated Plane-like Thermal Source
Yury N. Barabanenkov (*Institute of Radio Engineering and Electronics, Russian Academy of Sciences (IRE RUS), Russia*); *M. Yu. Barabanenkov* (*Institute of Microelectronics Technology and Superpure Materials, Russian Academy of Sciences, Russia*);

09:20 Scattering Properties of a Cylinders Fabricated from Left-Handed Material
V. Kuzmiak (*Institute of Photonics and Electronics, Czech Academy of Sciences, Czech Republic*); *A. A. Maradudin* (*University of California, USA*);

09:40 Operation of Evanescent Wave Intensity Using Metamaterials of Negative Permittivity and Permeability
Yury N. Barabanenkov (*Russian Academy of Sciences (IRE RUS), Russia*); *M. Yu. Barabanenkov* (*Russian Academy of Sciences, Russia*); *S. A. Nikitov* (*Russian Academy of Sciences, Russia*);

10:00 **Coffee Break**

Session 3A2b
Printed Antenna and RFID Sensor Elements

Wednesday AM, August 29, 2007

Room B

Organized by Milan Polivka

Chaired by Milan Polivka

10:20 About Feasibility of Reducing Dimensions of Sectioned Microstrip Antennas
B. A. Mishoostin (*Sevastopol National Technical University, Ukraine*); *Vitaly G. Slyozkin* (*Sevastopol National Technical University, Ukraine*); *M. S. Sinkovsky* (*Sevastopol National Technical University, Ukraine*);

10:40 Performance of a Folded Dipole with a Closed Loop for RFID Applications
Sung-Lin Chen (*National Sun Yat-Sen University, Taiwan*); *Ken-Huang Lin* (*National Sun Yat-Sen University, Taiwan*);

11:00 Radiation Characteristics of Optimized Ultra Wideband Printed Dipoles for Different Impulse Excitations
Petr Černý (*Czech Technical University in Prague, Czech Republic*); *Miloš Mazánek* (*Czech Technical University in Prague, Czech Republic*);

11:20 Collinear and Coparallel Principles in Antenna Design
Milan Polívka (*Czech Technical University, Czech Republic*); *Alois Holub* (*Czech Technical University, Czech Republic*);

Session 3A3
Circuits and Devices, CAD 1

Wednesday AM, August 29, 2007

Room C

Chaired by Gordon P. Riblet, Dariush Mirshekar-Syahkal

08:20 An Expression for the Intrinsic Coupling Unbalance of a Symmetrical 4 Port Directional Coupler in Terms of the Cross Ratio of Its 4 Eigenadmittances or 4 Eigenimpedances
Gordon P. Riblet (*Microwave Development Laboratories, Inc., USA*);

08:40 Compact CPW Bandpass Filter Based on Three-line CPW Structure and Lumped-element K-inverter
Yo-Shen Lin (*National Central University, Taiwan*); *Tsung-Ping Kao* (*National Central University, Taiwan*);

09:00 The Duplexer for the Urban Cable Television 40 GHz Band Bi-directional Transmission System
Yozo Utsumi (*National Defense Academy, Japan*); *Toshihisa Kamei* (*National Defense Academy, Japan*); *Nguyen Thanh* (*National Defense Academy, Japan*); *Hirosuke Suzuki* (*Keycom Corporation, Japan*);

09:20 Coupled-resonator Design of Microstrip Shorted-stub Bandpass Filters with Quarter-wave Resonators
Shih-Cheng Lin (*National Taiwan University, Taiwan*); *Chun Hsiung Chen* (*National Taiwan University, Taiwan*);

09:40 Planar Filters Using High-Q Slotted Cylindrical Ring Resonators
Dariush Mirshekar-Syahkal (*University of Essex, UK*); *Y. C. Mark Lim* (*University of Essex, UK*);

10:00 **Coffee Break**

10:20 Wiener-Hopf Analysis of the Open Rectangular Asymmetrical Groove Guide
İ. H. Tayyar (*Gebze Institute of Technology, Turkey*); *A. Büyükaksoy* (*Gebze Institute of Technology, Turkey*); *A. Işıkyer* (*Gebze Institute of Technology, Turkey*); *G. Uzgören* (*Istanbul Kültür University, Turkey*);

10:40 Wide-band Coaxial-to-coplanar Transition
Y. Utsumi (*National Defense Academy, Japan*); *T. Kamei* (*National Defense Academy, Japan*); *N. Q. Dinh* (*National Defense Academy, Japan*); *N. Thanh* (*National Defense Academy, Japan*);

11:00 Coupling of Fourier Series and Orthogonality of Functions in Computing Currents Induced in a Cable Enclosed in an Electromagnetic Enclosure
Habib Rahman (*Saint Louis University, USA*);

11:20 A FEM Functional for Lossy Gyrotropic Phase Shift and Control Components
A. M. T. Abuelma'atti (*University of Manchester, UK*); *A. A. P. Gibson* (*University of Manchester, UK*);

11:40 Analysis of Non Uniform Transmission Lines Using the Direct Numerical Resolution of Hill's Equation
M. Boussalem (*ENSEEIHT, France*); *H. Gaha* (*ENSEEIHT, France*); *F. Choubani* (*ENSEEIHT, France*); *J. David* (*ENSEEIHT, France*); *R. Crampagne* (*ENSEEIHT, France*);

Session 3A4
Electromagnetic Modeling and Inversion and Applications

Wednesday AM, August 29, 2007

Room D

Organized by Ganquan Xie, Michael Oristaglio

Chaired by Chien-Jang Wu, Jianhua Li

08:20 Circuit Model of Two Bent Traces in Arbitrary Directions on a PCB
Sang Wook Park (*The University of Electro-Communications, Japan*); *Fengchao Xiao* (*University of Electro-Communications, Japan*); *Dong Chul Park* (*Chungnam National University, Korea*); *Yoshio Kami* (*The University of Electro-Communications, Japan*);

08:40 Physically Based Prediction of Multi-antenna Signal Properties for Propagation through and over Vegetation
Dmitry Chizhik (*Alcatel-Lucent, USA*);

09:00 Development of 60 GHz Band Fabry-Perot Resonator
Kazunari Shibahara (*Nippon Institute of Technology, Japan*); *Toshitatsu Suzuki* (*Nippon Institute of Technology, Japan*); *S. Theerawisitpong* (*Nippon Institute of Technology, Japan*); *Y. Takahashi* (*Nippon Institute of Technology, Japan*); *Yasuo Watanabe* (*Nippon Institute of Technology, Japan*);

09:20 Synthetic Image Generation of Line Targets and Submerged Features for Shallow Waters with Gravity and Capillary Waves Using a Monte Carlo and Analytical Radiative Transfer Model
Charles R. Bostater, Jr. (*Florida Institute of Technology, USA*);

09:40 Linear 3D Imaging of Small PEC Spheres
Raffaele Solimene (*Seconda Università di Napoli, Italy*); *Aniello Buonanno* (*Seconda Università di Napoli, Italy*); *Rocco Pierri* (*Seconda Università di Napoli, Italy*);

10:00 **Coffee Break**

10:20 The GPR Image by Using the GL Metro Carlo EM Inversion
Lee Xie (*GL Geophysical Laboratory, USA*); *Jianhua Li* (*GL Geophysical Laboratory, USA*); *Ganquan Xie* (*GL Geophysical Laboratory, USA*);

10:40 MUSIC-type Imaging of Dielectric Spheres from Single-Frequency, Asymptotic and Exact Array Data
S. Gdoura (*CNRS-SUPELEC-UPS 11, France*); *Dominique Lesselier* (*CNRS-SUPELEC-UPS 11, France*); *G. Perrusson* (*CNRS-SUPELEC-UPS 11, France*); *P. C. Chaumet* (*Université Aix-Marseille III, France*);

11:00 Propagation Characteristics of a Nonlinear TM Surface Wave in a Parallel Plate Superconductor/Antiferromagnet Waveguide
Chien-Jang Wu (*University of Kaohsiung, Taiwan*);

11:20 A New GL Method for Solving Differential Equation in Electromagnetic and Phys-Chemical and Financial Mathematics
Jianhua Li (*GL Geophysical Laboratory, USA*); *Ganquan Xie* (*GL Geophysical Laboratory, USA*); *Lee Xie* (*GL Geophysical Laboratory, USA*);

11:40 Uniform Equiconvergence of the Spectral Expansion Corresponding to a Nonself-adjoint Sturm-Liouville Operator for a Two-layer Medium with the Fourier Integral on the Entire Real Line
Evgeny Grigoryevich Saltykov (*Lomonosov Moscow State University, Russia*);

Session 3AP
Poster Session 2

Wednesday AM, August 29, 2007
9:00 AM - 17:00 PM
Poster Area
Chaired by Tomas Drizdal, Marika Pourova

1 A New Non-paraxial Time-domain Method for Modeling Ultra Short Optical Pulses
Husain M. Masoudi (*Emerging Communications Technology Institute, University of Toronto, Canada*);

2 A Novel Approach to Model Linear and Nonlinear Dispersion with ADE-FDTD
M. Ammann (*Foundation for Research on Information Technologies in Society (IT'IS), ETHZ, Switzerland*); *S. Schild* (*Foundation for Research on Information Technologies in Society (IT'IS), ETHZ, Switzerland*); *N. Chavannes* (*Schmid & Partner Engineering AG, Switzerland*); *Niels Kuster* (*Foundation for Research on Information Technologies in Society (IT'IS), ETHZ, Switzerland*);

3 Interference Calculation for ATSC System against Interference from ISDB-T System Using Computational Simulation
Sung Woong Choi (*Electronics and Telecommunications Research Institute (ETRI), Republic of Korea*); *Tae-Jin Jung* (*Chonnam National University, Korea*); *Wang Rok Oh* (*Chungnam National University, Korea*); *Heon Jin Hong* (*Electronics and Telecommunications Research Institute (ETRI), Republic of Korea*);

4 Feasibility of Defect Detection in Concrete Structures via Ultrasonic Investigation
Antonino Musolino (*Universita di Pisa, Italy*); *Marco Raugi* (*Universita di Pisa, Italy*); *M. Tucci* (*Universita di Pisa, Italy*); *F. Turcu* (*Universita di Pisa, Italy*);

5 Localisation of Defects in Concrete Structures via the Cross Power Spectrum Phase
Antonino Musolino (*Università di Pisa, Italy*); *Marco Raugi* (*Università di Pisa, Italy*); *F. Turcu* (*Università di Pisa, Italy*); *R. Parisi* (*University of Rome "La Sapienza", Italy*); *A. Uncini* (*University of Rome "La Sapienza", Italy*); *A. Cirillo* (*University of Rome "La Sapienza", Italy*);

6 Microwave Phase Interferometry for Nondestructive Testing in Industry
Ondřej Žák (*Czech Technical University in Prague, Czech Republic*); *Jan Vrba* (*Czech Technical University, Czech Republic*); *Marika Pourová* (*Czech Technical University, Czech Republic*);

7 A Signal Explanation for the Electromagnetic Induction Law
Sara Liyuba Vesely (*I.T.B. - C.N.R., Italy*); *A. A. Vesely* (*via L. Anelli 13, Italy*);

8 Analytical Solutions to the Applicators for Microwave Textile Drying by Means of Zigzag Method
Marika Pourová (*Czech Technical University, Czech Republic*); *Jan Vrba* (*Czech Technical University, Czech Republic*);

9 Broadband Leaky-wave Antenna Fed with Composite Right/Left Handed Transmission Line
Yoshihiro Miyama (*Ritsumeikan University, Japan*); *Toshio Nishikawa* (*Ritsumeikan University, Japan*); *Kikuo Wakino* (*Ritsumeikan University, Japan*); *Yu-De Lin* (*National Chial Tung University, Taiwan*); *Toshihide Kitazawa* (*Ritsumeikan University, Japan*);

10 Modeling and Simulation of UWB Signal for Indoor Radio Channels
Je-Sung Ahn (*Pukyong National University, Korea*); *Seo Yu Jung* (*Pukyong National University, Korea*); *Deock-Ho Ha* (*Pukyong National University, Korea*); *Young-Hwan Lee* (*Technical Regulation Research Team, ETRI, Korea*); *Dong-Won Jang* (*Technical Regulation Research Team, ETRI, Korea*);

11 Modal Analysis of Miniature Microstrip Patch Antennas Based on Fractal Geometry
P. Hazdra (*Czech Technical University in Prague, Czech Republic*); *M. Mazanek* (*Czech Technical University in Prague, Czech Republic*);

12 Algorithm for Noise Reduction in Output Signal of Race-track Core Fluxgate
M. Butta (*Czech Technical University, Czech Republic*); *P. Ripka* (*Czech Technical University, Czech Republic*); *J. Kubík* (*Czech Technical University, Czech Republic*);

13 Polarization-dependent Diffraction of Cholesteric Liquid Crystal Grating with Silver Nanoparticles
I.-Min Jiang (*National Sun Yat-sen University, Taiwan*); *Ming-Shan Tsai* (*National Chiayi University, Taiwan*); *Wen-Chi Hung* (*National Sun Yat-sen University, Taiwan*); *Wood-Hi Cheng* (*National Sun Yat-sen University, Taiwan*);

14 A Useful Approximation to Add up Contributions in Ray Based EM Propagation Algorithms
Marco Allegretti (*Politecnico di Torino, Italy*); *Luca Coppo* (*Politecnico di Torino, Italy*); *Giovanni Perona* (*Politecnico di Torino, Italy*);

15 Validation and Calibration of a 3D Ray Tracing Propagation Model for Urban Environment at UMTS Frequencies
Marco Allegretti (*Politecnico di Torino, Italy*); *Claudio Lucianaz* (*Politecnico di Torino, Italy*); *Riccardo Notarpietro* (*Politecnico di Torino, Italy*); *Giovanni Perona* (*Politecnico di Torino, Italy*);

16 Surface Wave Propagation above a One-dimensional Rough Sea Surface at Grazing Angles
Y. Brelet (*Universite de Nantes, France*); *N. Dechamps* (*Universite de Nantes, France*); *C. Bourlier* (*Universite de Nantes, France*); *J. Saillard* (*Universite de Nantes, France*);

17 Simulations of Magnetically Tunable Ferrite/Dielectric/Wire Negative Index Composites
Frederic J. Rachford (*Naval Research Laboratory, USA*); *D. N. Armstead* (*308 E. University, USA*); *Vincent Harris* (*Northeastern University, USA*); *Carmine Vittoria* (*Northeastern University, USA*);

18 Theoretical and Real Absorption of High-frequency Electromagnetic Energy in Mouse Animal Model
Jan Barcal (*Charles University in Prague, Czech Republic*); *Václav Žalud* (*Charles University in Prague, Czech Republic*); *František Vožeh* (*Charles University in Prague, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*);

19 Microwave Applicator for Treatment of Atherosclerosis
Kateřina Novotná (*Czech Technical University in Prague, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*);

20 A Fat Dipole Antenna for Spark Switched LC Oscillator
Sang Heun Lee (*Yonsei University, Korea*); *Young Joong Yoon* (*Yonsei University, Korea*); *Hoon Heo* (*Pohang Accelerator Laboratory, Korea*); *Woosang Lee* (*Agency for Defense Development, Korea*); *Dowon Choi* (*Agency for Defense Development, Korea*);

21 Frequency Responses of Reconfigurable Frequency Selective Surfaces Using Square Aperture with Loading
Kihun Chang (*Yonsei University, Korea*); *Young Joong Yoon* (*Yonsei University, Korea*);

22 2D Quasistatic TLM Field Solver for High Speed PCB Design
Caner Altınbaşak (*Institute of Informatics, Turkey*); *Lale Tukenmez Ergene* (*Istanbul Technical University, Turkey*);

23 An Hybrid Steepest Descent Fast Multipole Method for the Scattering of Electromagnetic Waves by Dielectric Rough Surfaces
Cihan Tuzcu (*Istanbul Technical University, Turkey*); *Lale Tükenmez Ergene* (*Istanbul Technical University, Turkey*); *Yasemin Altuncu* (*Istanbul Technical University, Turkey*);

24 Electromagnetic Fundamentals Revisited: An Overview
Subal Kar (*University of Calcutta, India*); *M. Nakajima* (*University of Kyoto, Japan*);

25 Calculation of GTD/UTD Reflection Points over Parametric Surfaces Using the Particle Swarm Optimizacion
Andres Rubio (*Universidad de Alcalá, Spain*); *Oscar Gutierrez* (*Universidad de Alcalá, Spain*); *F. Saez De Adana* (*Universidad de Alcalá, Spain*); *Manuel Felipe Cátedra* (*Universidad de Alcalá, Spain*);

26 Dielectric Properties of Ore Minerals in Microwave Range
Vasiliy V. Tikhonov (*Space Research Institute Russian Academy of Sciences, Russia*); *D. A. Boyarskii* (*Space Research Institute Russian Academy of Sciences, Russia*); *O. N. Polyakova* (*Moscow State Pedagogical University, Russia*);

27 Patch Antenna at Frequency $f = 2.35\,\mathrm{GHz}$ for Telecommunications Applications
K. ELkinani (*ESTM, Maroc*); *Seddik Bri* (*ESTM, Maroc*); *A. Nakheli* (*ESTM, Maroc*); *O. Benzaim* (*Institut d'Electronique, de la Microélectronique et de Nanotechnologie, France*); *Ahmed Mamouni* (*Institut d'Electronique, de la Microélectronique et de Nanotechnologie, France*);

28 Electroplating Uniformity Estimation Using Electromagnetic Analysis
Han Kim (*SAMSUNG Electro-Mechanics, Korea*);

29 Progress of Mobile Natural Gas Pipeline Leak Detector Based on Near-infrared Diode Laser Absorption Spectroscopy
Lei Wang (*Anhui Institute of Optics & Fine Mechanic, Chinese Academy of Sciences, China*); *Xiaoming Gao* (*Anhui Institute of Optics & Fine Mechanic, Chinese Academy of Sciences, China*); *Tu Tan* (*Anhui Institute of Optics & Fine Mechanic, Chinese Academy of Sciences, China*); *Baixiang Li* (*Anhui Institute of Optics & Fine Mechanic, Chinese Academy of Sciences, China*); *Weijun Zhang* (*Anhui Institute of Optics & Fine Mechanic, Chinese Academy of Sciences, China*);

30 Incoherent Broadband Cavity-enhanced Absorption Spectroscopy Based on Light-emitting Diodes
Tao Wu (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy Sciences, China*); *Weijun Zhang* (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences, China*); *Weidong Chen* (*MREID, Université du Littoral, France*); *Weixiong Zhao* (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy Sciences, China*); *Xiaoming Gao* (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences, China*);

Session 3P1a
Advances in Reverberation Chambers: Modelling and Applications

Wednesday PM, August 29, 2007

Room A

Organized by Roberto De Leo

Chaired by Roberto De Leo

13:00 Numerical Simulation of a Reverberation Chamber with a Stochastic Collocation Method
Fatou Diouf (*Université Blaise Pascal, France*); *P. Bonnet* (*Université Blaise Pascal, France*); *F. Paladian* (*Université Blaise Pascal, France*); *M. Fogli* (*Université Blaise Pascal, France*); *C. Chauvière* (*Université Blaise Pascal, France*);

13:20 The Use of Reverberating Chambers as Modern Telecommunications Simulating Tool
Paolo Corona (*University Parthenope, Italy*);

13:40 PEDs Emission Determination in a Reverberation Chamber
Roberto De Leo (*Università Politecnica delle Marche Ancona, Italy*); *Valter Mariani Primiani* (*Università Politecnica delle Marche, Italy*);

14:00 On the Generation of Reference Currents by Means of a Reverberation Chamber
Roberto De Leo (*Universita Politecnica delle Marche Ancona, Italy*); *Valter Mariani Primiani* (*Universita Politecnica delle Marche, Italy*); *F. Moglie* (*Universita Politecnica delle Marche, Italy*); *A. P. Pastore* (*Universita Politecnica delle Marche, Italy*);

14:20 Improvement of the Reverberation Chamber Performances below the Starting Frequency
S. Leman (*Université des Sciences et Technologies de Lille, France*); *L. Koné* (*Université des Sciences et Technologies de Lille, France*); *V. Deniau* (*Institut National sur la Recherche dans les Transports et leur Sécurité, France*); *Sylvie Baranowski* (*Université des Sciences et Technologies de Lille, France*); *Bernard Démoulin* (*University of Lille, France*);

14:40 Scattering Cross Section Measurement in Reverberation Chamber
Julien de Rosny (*Universite Paris 7, France*); *Geoffroy Lerosey* (*Universite Paris 7, France*);

15:00 **Coffee Break**

Session 3P1b
Advanced Optimization Techniques in Electromagnetics

Wednesday PM, August 29, 2007
Room A
Organized by Zbynek Raida
Chaired by Zbynek Raida

15:40 Antenna Rotation Aperture Synthesis for Short-range Personnel Scanning at mm-wavelengths
B. M. Lucotte (*Heriot-Watt University, UK*); *A. R. Harvey* (*Heriot-Watt University, UK*);

16:00 Non-conventional Optimization Techniques in Computational Electromagnetics
Zbyněk Raida (*Brno University of Technology, Czech Republic*);

16:20 Modified Standard Amplitude Distribution for the Generation of Low Sidelobe Patterns of Arrays for EMC Applications
R. Ramana Reddy (*Andhra University, India*); *Gottumukkala Suryanarayana Raju* (*Andhra University, India*);

Session 3P2
Antenna and Array System 1

Wednesday PM, August 29, 2007
Room B
Chaired by Milos Mazanek, Gottumukkala S. N. Raju

13:20 Printed Antennas Tuned by Transversely Magnetized Ferrite Operating at a Novel Resonant Mode
Anestis Mavridis (*Demokritos University of Thrace, Greece*); *George A. Kyriacou* (*Democritus University of Thrace, Greece*); *J. N. Sahalos* (*Aristotle University of Thessaloniki, Greece*);

13:40 Design and Implementation of Ultra Wideband Antenna for Improved Radiation
Sangbong Jeon (*Yeungnam University, Korea*); *Jaehyun Oh* (*Yeungnam University, Korea*); *Chang-Hoi Ahn* (*Yeungnam University, Korea*);

14:00 Design of a Small Aperture Coupled Patch Antenna on UC-PBG Structure
Abdelnasser A. Eldek (*Jackson State University, USA*);

14:20 Ultra Wideband Microstrip-Fed Planar Tap Monopole Antenna
Abdelnasser A. Eldek (*Jackson State University, USA*);

14:40 Neural Network — Based Design of EBG Surfaces for Effective Polarization Diversity of Wireless Communications Antenna Systems
T. Ganatsos (*Aristotle University of Thessaloniki, Greece*); *K. Siakavara* (*Aristotle University of Thessaloniki, Greece*); *J. N. Sahalos* (*Aristotle University of Thessaloniki, Greece*);

15:00 **Coffee Break**

15:20 A Surfaguide Fed Plasma Antenna
G. Cerri (*Università Politecnica delle Marche Ancona, Italy*); *R. De Leo* (*Università Politecnica delle Marche Ancona, Italy*); *V. Mariani* (*Università Politecnica delle Marche Ancona, Italy*); *P. Russo* (*Università Politecnica delle Marche Ancona, Italy*);

15:40 Multiple Signal Direction of Arrival (DoA) Estimation for a Switched-Beam System Using Neural Networks
K. A. Gotsis (*Aristotle University of Thessaloniki, Greece*); *E. G. Vaitsopoulos* (*Aristotle University of Thessaloniki, Greece*); *K. Siakavara* (*Aristotle University of Thessaloniki, Greece*); *J. N. Sahalos* (*Aristotle University of Thessaloniki, Greece*);

16:00 Design of Dual-band Reconfigurable Smart Antenna
Hamid Torpi (*Yıldız Technical University, Turkey*); *Yasin Damgacı* (*Yıldız Technical University, Turkey*);

16:20 A New MIMO Spatial Correlation Approximation of Large Angular Spread
Po-Chuan Hsieh (*National Chiao Tung University, Taiwan*); *Fu-Chiarng Chen* (*National Chiao Tung University, Taiwan*);

16:40 Analysis of Equivalence of Standing-wave Dipole Model and Traveling-wave Monopole Model
Shi-Wei Dong (*Xi'an Institute of Space Radio Technology, China*); *Wei Ma* (*Xi'an Institute of Space Radio Technology, China*); *Wanzhao Cui* (*Xi'an Institute of Space Radio Technology, China*); *She Shang* (*Xi'an Institute of Space Radio Technology, China*);

Session 3P3
Extended/Unconventionl Electromagnetic Theory, EHD (Elecrohydrodynamics)/EMHD (Electromagnetohydrodynamics), and Electrobiology

Wednesday PM, August 29, 2007

Room C

Organized by Hiroshi Kikuchi

Chaired by Hiroshi Kikuchi

13:00 Inversion Reconstruction of Signals Measured by the NMR Techniques
Pavel Fiala (*Brno University of Technology, Czech Republic*); *Eva Kroutilova* (*Brno University of Techonology, Czech Republic*); *Miloslav Steinbauer* (*Brno University of Technology, Czech Republic*); *Michal Hadinec* (*Brno University of Techonology, Czech Republic*); *Karel Bartušek* (*Institute of Scientific Instrumentsof the ASCR, v.v.i, Czech Republic*);

13:20 The Effect of Non-homogeneous Parts into Materials
Pavel Fiala (*Brno University of Technology, Czech Republic*); *Eva Kroutilova* (*Brno University of Techonology, Czech Republic*); *Miloslav Steinbauer* (*Brno University of Technology, Czech Republic*); *Michal Hadinec* (*Brno University of Techonology, Czech Republic*); *Karel Bartusek* (*Institute of Scientific Instrumentsof the ASCR, v.v.i, Czech Republic*);

13:40 Magnetic Field Approximation in MR Tomography
Michal Hadinec (*Brno University of Techonology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Eva Kroutilova* (*Brno University of Techonology, Czech Republic*); *Miloslav Steinbauer* (*Brno University of Technology, Czech Republic*); *Karel Bartusek* (*Institute of Scientific Instrumentsof the ASCR, v.v.i, Czech Republic*);

14:00 Progress in Gain Performance of Parametrically Amplifying Travelling-wave Antennas (PATA): PATA Analogous to Travelling-wave Tube Amplification and Negative Resistivity of Esaki Diodes
Hiroshi Kikuchi (*Institute for Environmental Electromagnetics, Japan*); *Sigeobu Tsuruoka* (*Takuwa Corporation, Japan*); *Tsunehiro Obata* (*Gunma National College of Technology, Japan*);

14:20 Debye Shielding in Chasmas
Dirk K. Callebaut (*University of Antwerp, Belgium*); *Hiroshi Kikuchi* (*Institute for Environmental Electromagnetics, Japan*);

14:40 Optimization of EMI Power Filters
J. Sedláček (*Brno University of Technology, Czech Republic*); *Zoltan Szabó* (*Brno University of Technology, Czech Republic*); *Michal Hadinec* (*Brno University of Techonology, Czech Republic*);

15:00 **Coffee Break**

15:20 Material Influence on Field Homogeneity in MR Tomograph
Karel Bartušek (*Institute of Scientific Instruments of the ASCR, v.v.i, Czech Republic*); *Miloslav Steinbauer* (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Michal Hadinec* (*Brno University of Techonology, Czech Republic*);

15:40 Design, Simulation and Realization the Specfic Source of Light
Eva Kroutilova (*Brno University of Techonology, Czech Republic*); *Miloslav Steinbauer* (*Brno University of Technology, Czech Republic*); *Zoltán Szabó* (*Brno University of Technology, Czech Republic*);

16:00 Preemphasis Coreection of Gradient Magnetic Field in MR Thomograph
Eva Gescheidtova (*Brno University of Technology, Czech Republic*); *Radek Kubasek* (*Brno University of Technology, Czech Republic*); *Zoltan Szabo* (*Brno University of Technology, Czech Republic*);

16:20 Optimization Method of EMI Power Filters
J. Sedláček (*Brno University of Technology, Czech Republic*); *Michal Hadinec* (*Brno University of Techonology, Czech Republic*); *Zoltan Szabó* (*Brno University of Technology, Czech Republic*);

16:40 T_1 Relaxation Time of the Xenon 129 Influenced by Magnetic Susceptibility of the Laboratory Glasses
Karel Bartusek (*Institute of Scientific Instruments of the ASCR, v.v.i, Czech Republic*); *J. Rychnovsky* (*Academy of Sciences of the Czech Republic, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*);

17:00 Experiments of Accuracy Air Ion Field Measurement
K. Bartušek (*Institute of Scientific Instruments of the ASCR, v.v.i, Czech Republic*); *P. Fiala* (*Brno University of Technology, Czech Republic*); *T. Jirků* (*Brno University of Technology, Czech Republic*); *E. Kadlecová* (*Brno University of Technology, Czech Republic*);

17:20 The Calculation of the V-shape Microstrip Line Impedance by the Conformal Mapping Method
Václav Šádek (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Michal Hadinec* (*Brno University of Techonology, Czech Republic*);

Session 3P4
Optics Devices, Nano Technology and Simulation

Wednesday PM, August 29, 2007

Room D

Chaired by Akira Komiyama, Toshiyuki Shiozawa

13:20 Analytic-numerical Approach to Solving Highly Irregular Problems in Special Fiber Optics
Hung-Chia Huang (*Shanghai University, China*);

13:40 Light Propagation in a Random Waveguide System and the Memory Kernel
Akira Komiyama (*Osaka Electro-Communication University, Japan*);

14:00 Experimental Results of a Wave Guide Using a Photorefractive Material SBN:Ce
Francisco Marroquín Gutierrez (*Universidad Politécnica de Pachuca (UPP), México*); *Nikolai Korneev* (*Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), México*); *A. Apolinar Iribe* (*Universidad de Sonora (UNISON), México*); *Abel García-Barrientos* (*Universidad Politecnica de Pachuca (UPP), México*);

14:20 How Much Can You Twist a Microstructured Optical Fibre?
A. Nicolet (*Universite Paul Cezanne, France*); *F. Zolla* (*Universite de Provence, France*); *Y. Ould Agha* (*Universite de Provence, France*);

14:40 Far-field Method for the Characterization of Three-dimensional Fields
Oscar Rodriguez (*National University of Ireland, Ireland*); *David Lara* (*National University of Ireland, Ireland*); *Chris Dainty* (*National University of Ireland, Ireland*);

15:00 **Coffee Break**

15:20 Generation of High-brightness Radiation in the Region of UV and X-Ray Wavelengths — Tutorial Review
Toshiyuki Shiozawa (*Chubu University, Japan*);

15:40 Three-dimensional Numerical Analysis of an Optical Near Field from a Nano-aperture of a Metallic Layer
Hiroki Ito (*Kansai University, Japan*); *Shinya Kagawa* (*Kansai University, Japan*); *Yiwei He* (*Osaka Electro-Communication University, Japan*); *Toshitaka Kojima* (*Kansai University, Japan*);

16:00 Three-dimensional Numerical Analysis of Light-beam Scattering from DWDD Disk Model with Rear Process
Akira Yokoyama (*Kansai University, Japan*); *Yoshiaki Irifune* (*Kansai University, Japan*); *Toshitaka Kojima* (*Kansai University, Japan*);

16:20 A Higher-order Accurate FDTD Solution to Scalar SHG Problems
Mohammad A. Alsunaidi (*King Fahd University of Petroleum and Minerals, Saudi Arabia*); *F. S. Al-Hajiri* (*King Faisal University, Saudi Arabia*);

16:40 Full-wave Solution of the Second Harmonic Generation Problem Using a Nonlinear FDTD Algorithm
H. M. Al-Mudhaffar (*King Fahd University of Petroleum and Minerals, Saudi Arabia*); *Mohammad A. Alsunaidi* (*King Fahd University of Petroleum and Minerals, Saudi Arabia*); *Husain M. Masoudi* (*King Fahd University of Petroleum and Minerals, Saudi Arabia*);

17:00 Spectral Monte-Carlo Simulations of Photon Penetration in Biotissue in Visible and Near Infrared
M. Hülsbusch (*RWTH Aachen University, Germany*); *D. Hölscher* (*RWTH Aachen University, Germany*); *V. Blažek* (*RWTH Aachen University, Germany*);

Session 4A1
Circuits and Devices, CAD 2

Thursday AM, August 30, 2007

Room A

Chaired by Josef Dobes, Giuseppe Di Massa

08:20 New Planar Technologies for Millimeter Waves
Giuseppe Di Massa (*Università della Calabria, Italy*); *Ignazio Venneri* (*Università della Calabria, Italy*);

08:40 Modeling and Analysis of Crosstalk between Differential Lines in High-speed Interconnects
Fengchao Xiao (*University of Electro-Communications, Japan*); *Yoshio Kami* (*University of Electro-Communications, Japan*);

09:00 A Novel Time-domain Approach Using TDR/TDT for Synthesizing SPICE-compatible Models of Power Delivery Networks with Resonance Effect
Chen-Chao Wang (*National Sun Yat-Sen University, Taiwan*); *Chih-Wen Kuo* (*National Sun Yat-Sen University, Taiwan*); *Alexcc Wang* (*Advanced Semiconductor Engineering Group, Taiwan*); *Hung-Hsiang Cheng* (*Advanced Semiconductor Engineering Group, Taiwan*);

09:20 A Study of Layout Strategies in RF CMOS Design
John Richard E. Hizon (*University of the Philippines, Philippines*); *Marc D. Rosales* (*University of the Philippines, Philippines*); *Honee Lynn B. Tan* (*University of the Philippines, Philippines*); *Maria Cecilia N. Gutierrez* (*University of the Philippines, Philippines*); *Louis P. Alarcon* (*University of the Philippines, Philippines*); *Delfin Jay Sabido IX* (*University of the Philippines, Philippines*);

09:40 A Fully Integrated CMOS RFIC Ultra-wideband Low Noise Amplifier with Transformer Feedback Matching Topology
Ming-Hsien Hsieh (*National Chiao Tung University, Taiwan*); *Fu-Chiarng Chen* (*National Chiao Tung University, Taiwan*);

10:00 **Coffee Break**

10:20 Ultra-wide Band Noise-signal Radar Utilizing Microwave Chaotic Signals and Chaos Synchronization
Shan Qiao (*Zhejiang University, China*); *Tao Jiang* (*Zhejiang University, China*); *Lixin Ran* (*Zhejiang University, China*); *Kangsheng Chen* (*Zhejiang University, China*);

10:40 High-dimensional Chaotic Regimes in Distributed Radiophysical Systems Operating near the Cutoff Frequency
A. A. Balyakin (*Saratov State University, Russia*); *E. V. Blokhina* (*Saratov State University, Russia*);

11:00 Improving the Accuracy of PHEMT Models Using Corrective Artificial Neural Networks
Josef Dobeš (*Czech Technical University in Prague, Czech Republic*); *Ladislav Pospíšil* (*Czech Technical University in Prague, Czech Republic*);

Session 4A2
Antenna and Array System 2

Thursday AM, August 30, 2007

Room B

Chaired by Premysl Hudec

08:20 Double Rhombus Antenna with 100% Bandwidth for Phased Arrays
Abdelnasser A. Eldek (*Jackson State University, USA*);

08:40 Slot-loaded Rectangular Microstrip Array Antenna for Triple-band Operation
R. B. Konda (*Gulbarga University, India*); *G. M. Pushpanjali* (*Gulbarga University, India*); *S. N. Mulgi* (*Gulbarga University, India*); *S. K. Satnoor* (*Gulbarga University, India*); *P. V. Hunagund* (*Gulbarga University, India*);

09:00 Integrated Microstrip Slotted Waveguide Antenna
S. K. Satnoor (*Gulbarga University, India*); *R. M. Vani* (*Gulbarga University, India*); *S. N. Mulgi* (*Gulbarga University, India*); *R. B. Konda* (*Gulbarga University, India*); *P. V. Hunagund* (*Gulbarga University, India*);

09:20 A Study of Compact Stacked Microstrip Antenna
R. M. Yadahalli (*Gulbarga University, India*); *K. U. Kiran* (*Gulbarga University, India*); *R. M. Vani* (*Gulbarga University, India*); *S. F. Farida* (*Saltlake Community College, USA*); *P. V. Hunagund* (*Gulbarga University, India*);

09:40 Compact 1B2T Microstrip Antenna with Meadered Slots
Ravi M. Yadahalli (*Gulbarga University, India*); *K. Usha Kiran* (*Gulbarga University, India*); *R. M. Vani* (*Gulbarga University, India*); *Sara F. Farida* (*Saltlake Community College, USA*); *Prabhakar V. Hunagund* (*Gulbarga University, India*);

10:00 **Coffee Break**

10:20 A Dual Resonance Three Segment Rectangular Dielectric Resonator Antenna
Saughar Jarchi (*University of Tehran, Iran*); *Jalil Rashed-Mohassel* (*University of Tehran, Iran*); *M. H. Neshati* (*University of Sistan and Baluchestan, Iran*); *C. Lucas* (*University of Tehran, Iran*);

10:40 Control Intelligent of Circular Arrays of Antennas Associated to Movable Equipaments
J. F. Z. Destro (*UTFPR at Cornélio Procópio, Brazil*); *E. R. Brinhole* (*UMP, Brazil*); *A. A. C. de Freitas* (*UTFPR at Cornélio Procópio, Brazil*); *N. P. de Alcantara Jr.* (*São Paulo State University - UNESP, Brazil*);

11:00 Triple Band Antenna for Wireless Network Systems
Gijo Augustin (*Cochin University of Science and Technology, India*); *S. V. Shynu* (*Cochin University of Science and Technology, India*); *C. K. Aanandan* (*Cochin University of Science and Technology, India*); *P. Mohanan* (*Cochin University of Science and Technology, India*); *K. Vasudevan* (*Cochin University of Science and Technology, India*);

Session 4A3
Medical Electromagnetics and Biological Effects

Thursday AM, August 30, 2007

Room C

Organized by Jan Vrba

Chaired by Jan Vrba, Frantisek Vozeh

08:00 Design and Evaluation of Microwave System for Drying of Textile
Jan Vrba (*Czech Technical University in Prague, Czech Republic*); *Marika Pourová* (*Czech Technical University, Czech Republic*); *Ondřej Žák* (*Czech Technical University in Prague, Czech Republic*);

08:20 Effect of Length of Line Source on the Overall Radiation Patterns
Varanasi Shiv Kausik (*Andhra University, India*); *Gottumukkala Suryanarayana Raju* (*Andhra University, India*); *R. Ramana Reddy* (*Andhra University, India*);

08:40 Basic Requirements on Applicators for Microwave Thermotherapy, Imaging and Diagnostics
J. Vrba (*Czech Technical University in Prague, Czech Republic*); *L. Oppl* (*Czech Technical University in Prague, Czech Republic*); *T. Drizdal* (*Czech Technical University in Prague, Czech Republic*); *R. Zajicek* (*Czech Technical University in Prague, Czech Republic*); *J. Vrba, Jr.* (*Institute of Theoretical Electrotechnic, Germany*); *P. Togni* (*Czech Technical University in Prague, Czech Republic*); *K. Novotna* (*Czech Technical University in Prague, Czech Republic*); *L. Visek* (*Czech Technical University in Prague, Czech Republic*); *D. Vrba* (*Czech Technical University in Prague, Czech Republic*);

09:00 Design and Comparison of Exposure Chambers for Verification of Microwave Influence on Biological Systems
Lukáš Visek (*Czech Technical University in Prague, Czech Republic*); *Paolo Togni* (*Czech Technical University in Prague, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*); *Ladislav Oppl* (*Czech Technical University in Prague, Czech Republic*);

09:20 Comparison between Two Slot-line Applicators for Microwave Hyperthermia
Paolo Togni (*Czech Technical University, Czech Republic*); *Tomáš Dříž'al* (*Czech Technical University, Czech Republic*); *Jan Vrba* (*Czech Technical University, Czech Republic*);

09:40 Microwave Time-reversal Hyperthermia
Hana Trefna (*Chalmers University of Technology, Sweden*); *Mikael Persson* (*Chalmers University of Technology, Sweden*);

10:00 **Coffee Break**

10:20 The Effects of 884 MHz GSM Wireless Communication Signals on Spatial Memory Performance: An Experimental Provocation Study
Clairy Wiholm (*Wayne State University, USA*); *Arne Lowden* (*National Institute for Psychosocial Medicine (IPM), Karolinska Institutet, Sweden*); *Niels Kuster* (*Swiss Federal Institute of Technology (ETH), Switzerland*); *Lena Hillert* (*Karolinska Institutet, Sweden*); *Bengt B. Arnetz* (*Wayne State University, USA*); *Torbjörn Åkerstedt* (*National Institute for Psychosocial Medicine (IPM), Karolinska Institute, Sweden*); *Scott D. Moffat* (*Wayne State University, USA*);

10:40 Modeling of Electromagnetic Sources with Huygens Principle
Markus Johansson (*Chalmers University of Technology, Sweden*); *Jesús Alonso Macías* (*Chalmers University of Technology, Sweden*); *Yngve Hamnerius* (*Chalmers University of Technology, Sweden*); *Mikael Persson* (*Chalmers University of Technology, Sweden*);

11:00 HFSS Evaluation of the SAR Distribution in Human Head Near Cellular Phone at 900 MHZ and 1800 MHZ
Seddik Bri (*ESTM, Maroc*); *Ousma Benzaem* (*Institut d'Electronique, de Microélectronique et de Nanotechnologie, France*); *Ahmed Mamouni* (*Institut d'Electronique, de la Microélectronique et de Nanotechnologie, France*);

11:20 Effects of Dielectric Properties on Radiofrequency Exposure Compliance Using an Alternative Human Head Model
Maia Sauren (*Australian Centre of Radiofrequency Bioeffects Research (ACRBR), Australia*); *Ray McKenzie* (*Australian Centre of Radiofrequency Bioeffects Research (ACRBR), Australia*); *Robert McIntosh* (*Australian Centre of Radiofrequency Bioeffects Research (ACRBR), Australia*);

Session 4A4
EBG, Electromagnetics Wave & Media

Thursday AM, August 30, 2007
Room D

Chaired by Humberto Cesar Chaves Fernandes, Ari J. Viitanen

08:20 Design and Development of Carbon-Nanotube EBG's and Sensors
T. Thai (*Georgia Institute of Technology, USA*); *A. Traille* (*Georgia Institute of Technology, USA*); *M. M. Tentzeris* (*Georgia Institute of Technology, USA*);

08:40 EBG Substrate in Unilateral Fin Line Resonator
H. C. C. Fernandes (*Universidade Federal do Rio Grande do Note, Brazil*); *D. B. Brito* (*Universidade Federal do Rio Grande do Note, Brasil*); *J. L. G. Medeiros* (*Universidade Federal do Rio Grande do Note, Brazil*);

09:00 Meta-material Multilayer Substrate Planar Resonators with Superconductive Patch
H. C. C. Fernandes (*Federal University of Rio Grande do Norte, Brazil*); *G. D. F. Alves* (*Federal University of Rio Grande do Norte, Brazil*);

09:20 Left Handed Effect in a Dielectric PBG-Prism at Microwave Frequencies
S. Massaoudi (*Université catholique de Louvain, Belgium*); *A. de Lustrac* (*Université pairs-Sud, France*); *I. Huynen* (*Université catholique de Louvain, Belgium*);

09:40 Formulation of Two-dimensional Electromagnetic Scattering from Dielectric Lamellar Grating with Finite Number of Grooves
Koki Watanabe (*Fukuoka Institute of Technology, Japan*); *Kenji Higa* (*Fukuoka Institute of Technology, Japan*);

10:00 **Coffee Break**

10:20 Wave Transport and Time Reversal in Random Structures with Anisotropic Disorder
Gregory Samelsohn (*Holon Institute of Technology, Israel*);

10:40 Time Reversal in Lossy Material: An Assessment
Ian Scott (*University of Nottingham, UK*); *Ana Vukovic* (*University of Nottingham, UK*); *Phillip Sewell* (*Univeristy of Nottingham, UK*);

11:00 Eigenfunction Expansions of Source-excited Electromagnetic Fields on Open Cylindrical Guiding Structures in Unbounded Gyrotropic Media
A. V. Kudrin (*University of Nizhny Novgorod, Russia*); *E. Yu. Petrov* (*University of Nizhny Novgorod, Russia*); *T. M. Zaboronkova* (*Technical University of Nizhny Novgorod, Russia*);

11:20 Reflection and Transmission in General Single Wire Medium Interface
A. J. Viitanen (*Helsinki University of Technology, Finland*); *I. S. Nefedov* (*Helsinki University of Technology, Finland*);

11:40 2D Complex Beam Representation in Terms of Cylindrical Harmonics
Raúl Mahillo-Isla (*ETSIT Universidad de Valladolid, Spain*); *María-Jesús González-Morales* (*ETSIT Universidad de Valladolid, Spain*); *Carlos Dehesa-Martínez* (*ETSIT Universidad de Valladolid, Spain*);

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7 Antenna theory and radiation
8 Microstrip and printed antennas, phase array antennas
9 RF and wireless communication, multipath
10 Mobile antennas, conformal and smart skin antennas
11 Power electronics, superconducting devices
12 Systems and components, electromagnetic compatibility
13 Nano scale electromagnetics, MEMS
14 Magnetic levitation, transportation and collision avoidance
15 Precision airport landing systems, GPS
16 Radar sounding of atmosphere, ionospheric propagation
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18 Subsurface imaging and detection technology, GPR
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26 Quantum well devices, microwave photonic systems, PBG
27 Medical electromagnetics, biological effects, MRI
28 Fiber optics, optical sensors, quantum computing
29 Biological media, composite and random media
30 Plasmas, nonlinear media, fractal, chiral media, LHM
31 Constitutive relations and bianisotropic media
32 Moving media, relativity, field quantization, and others

PAPER SUBMISSION MUST BE RECEIVED BY 7 SEPTEMBER 2007

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	POSTER AREA	ROOM A	ROOM B	ROOM C	ROOM D
MONDAY PM 13:00 August 27		1P1 - Computer-Aided RF/Microwave Modeling and Design	1P2 - Negative Refraction and Metamaterials	1P3 - Electromagnetic Compatibility	1P4 - Biomedical Applications of Electromagnetic Waves
TUESDAY AM 8:00 August 28	2AP - Poster Session 1	2A1 - Novel Mathematical Methods in Electromagnetics 1	2A2 - Plasmonics, Nano-composites and Metamaterials, Extraordinary Light Transmission 1	2A3a - Medium Effects on EM Wave Propagation and Applications / 2A3b - Power Electronics	2A4 - Remote Sensing & Scattering
TUESDAY PM 13:00 August 28		2P1 - Novel Mathematical Methods in Electromagnetics 2	2P2 - Plasmonics, Nano-composites and Metamaterials, Extraordinary Light Transmission 2	2P3 - Microwave and Millimeter-Wave Devices and Circuits	2P4 - Microwave Imaging & Inverse Scattering Problem
WEDNESDAY AM 8:00 August 29	3AP - Poster Session 2	3A1 - Electromagnetic Simulation and Applications	3A2a - Subwavelength Resolution and Near-field Effects of Wave Multiple Scattering / 3A2b - Printed Antenna and RFID Sensor Elements	3A3 - Circuits and Devices, CAD 1	3A4 - Electromagnetic Modeling and Inversion and Applications
WEDNESDAY PM 13:00 August 29		3P1a - Advances in Reverberation Chambers: Modelling and Applications / 3P1b - Advanced Optimization Techniques in EM	3P2 - Antenna and Array System 1	3P3 - Extended/Unconventionl Electromagnetic Theory, EHD/EMHD, and Electrobiology	3P4 - Optics Devices, Nano Technology and Simulation
THURSDAY AM 8:00 August 30		4A1 - Circuits and Devices, CAD 2	4A2 - Antenna and Array System 2	4A3 - Medical Electromagnetics and Biological Effects	4A4 - EBG, Electromagnetics Wave & Media