PIERS 2009 Beijing

Progress In Electromagnetics Research Symposium

Program

March 23–27, 2009
Beijing, China

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Progress In Electromagnetics Research Symposium
March 23–27, 2009
Beijing, China

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PIERS 2009 BEIJING EXHIBITOR

- FEKO (www.feko.info)
- ATK National Capital Region (www.magictoolsuite.com / www.lspsuite.com)
- Beijing Land High Tech Co., Ltd. (www.landhightech.com)

PIERS 2009 BEIJING SPONSORSHIP

- Beijing Jiaotong University
- Zhejiang University
- National Natural Science Foundation of China
- The Electromagnetics Academy at Zhejiang University
- MIT Center for Electromagnetic Theory and Applications/Research Laboratory of Electronics
- The Electromagnetics Academy

SYMPOSIUM SITE

The 2009 Progress in Electromagnetics Research Symposium will be held on March 23–27, 2009, at the Central Garden Hotel, Beijing, China. During the symposium, the PIERS OFFICE will be located in the Central Garden Hotel. PIERS OFFICE will open at 8:00 AM on Monday, March 23, 2009.

REGISTRATION

The PIERS technical sessions will start at 13:00 after the Reception on March 23, 2009. You may register in the PIERS OFFICE from 8:00 to 18:00 during the Symposium, March 23–27, 2009.

The on-site registration fee is US$500 or CNY3800. The student registration fee is US$300 or CNY2300; 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 coffee break, interactive areas, and technical sessions if a name badge is not visible.

SPECIAL EVENTS

Opening Reception

On Monday, March 23, 2009, from 11:00 to 13:00, symposium reception with buffet lunch will take place at the Central Garden Hotel. For registered PIERS participant, the reception fee is free. For unregistered companions, the price is CNY100 per person. Please make online reservation in advance at PIERS website.

Symposium Banquet

On Wednesday evening, March 25, 2009, a symposium banquet is planned for PIERS participants and their guests. A limited number of banquet tickets will be available. For all participants, the price is CNY300 per person. Please online make reservation in advance and pay cash at PIERS check-in desk.

PIERS ONLINE

Information on PIERS 2009 Beijing and future PIERS is posted at www.piers.org.

GUIDELINES FOR PRESENTERS

Oral Presentations

- **Load and TEST presentation files in advance:**
  All Oral Presenters must load and test presentation files in the PIERS OFFICE no later than 12 hours before the scheduled talk. Presenters are not allowed to detach the session computer and attach their own notebook/laptop to the LCD projector in session rooms. Presenting Authors are highly suggested to upload the presentation files via PIERS webpage before the conference.

- **Presentation files format:**
  PDFs and Powerpoint files are recommended. Movies or animations in MPEG, Windows Media, and etc, should be tested in PIERS computer in PIERS OFFICE no later than half-day before the session. Presentation files in USB disk, CD-ROM, DVD are acceptable by PIERS Computer.

- **Report to Session Chair:**
  Presenters are required to report to their session chairs at least 10 minutes prior to the start of their session.

- **20 mins time limit:**
  All oral presentations, including questions and answers, should be less than 20 minutes.

- **DO NOT change presentation sequence:**
  Session Chair, please be present 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 talk and refrain from changing paper presentation sequence.

Presenters choosing to use overhead projectors with transparencies, please inform PIERS OFFICE to prepare in advance.

Poster Presentations

One panel (about 100(W) x 200(H) cm) will be available for each poster.

Poster Session 1 will be from 13:00 to 17:00 on Monday, March 23, 2009, Poster Session 2 will be from 8:00 to 12:00 on Tuesday, March 24, 2009, Poster Session 3 will be from 13:00 to 17:00 on Tuesday, March 24, 2009, and Poster Session 4 will be from 8:00 to 12:00 on Wednesday, March 25, 2009. All presenters are required to mount their papers at the beginning of the session and remove them at the end of their sessions.

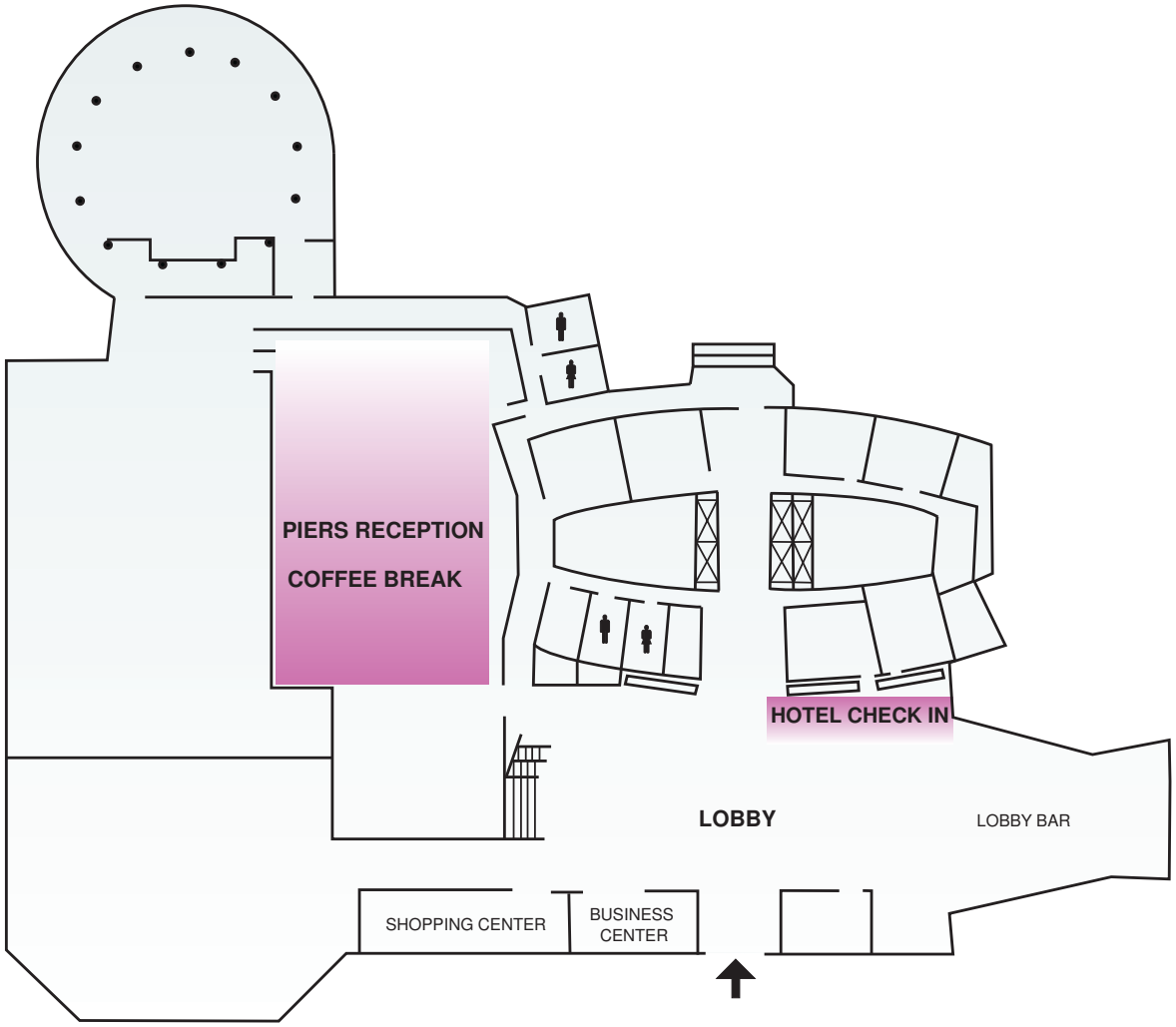
Presenters should post time slots of their presence on the panel and be present for interactive questions within the posted time slots. All Presenters are suggested to be present during 10:00–10:20 and 15:00–15:20.

ACCOMMODATION

Participants are responsible for making their own housing arrangements. The PIERS Host Hotel is Central Garden Hotel Beijing. Online Reservation is available. Please visit PIERS 2009 website for detailed information. The information below is provided for your convenience.

Central Garden Hotel
www.centralgardenhotel.com Phone: 86-10-51568888
ADD: No. 18, Gaoliangqiao Xie Street, Haidian District, Beijing, China, Fax: 86-10-51566789

MAP OF CONFERENCE SITE



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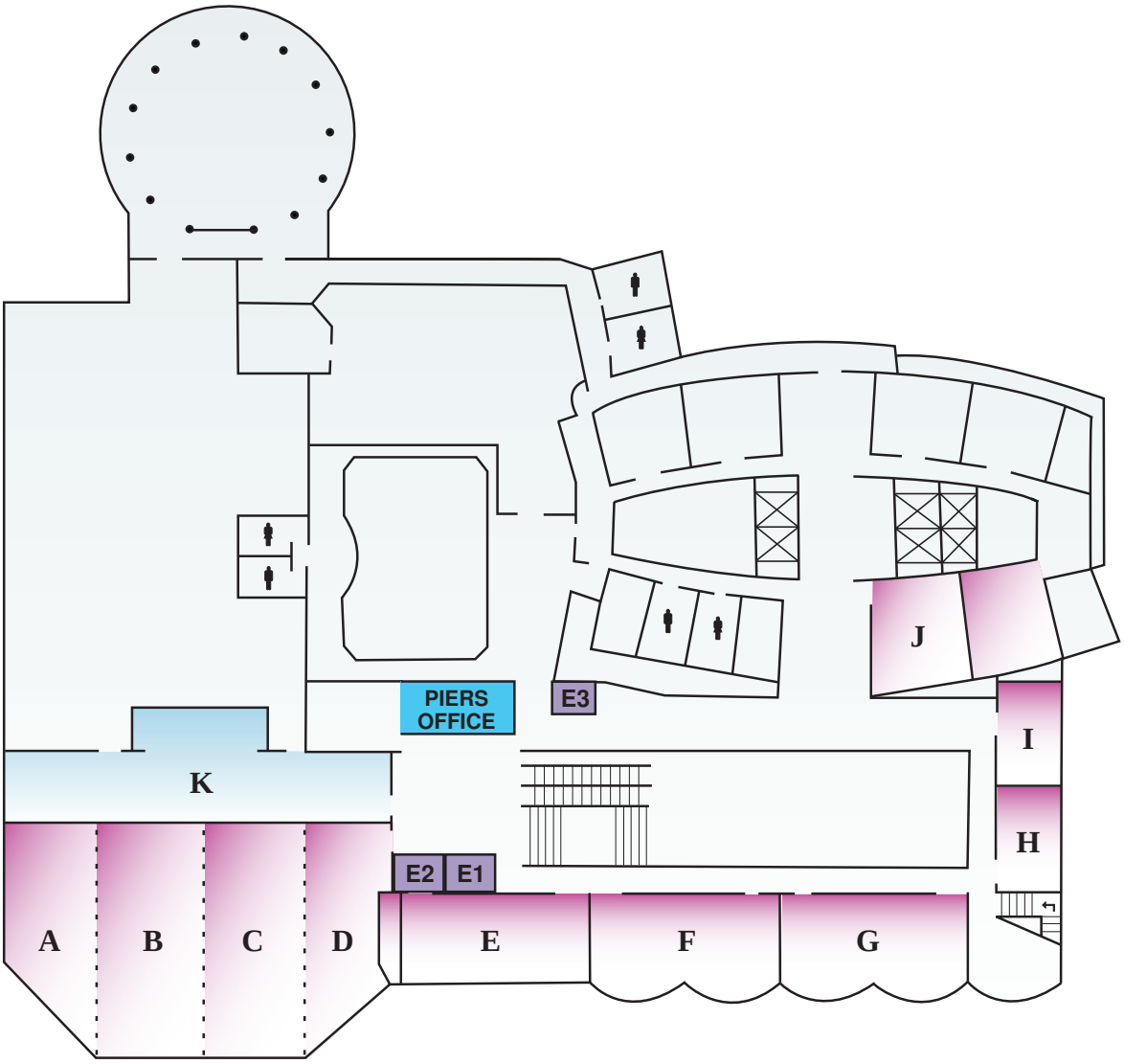

2nd Floor

GENERAL INFORMATION

LANGUAGE

The official language for the Symposium is English. However, in the public society, Chinese mandarin is commonly spoken.

CURRENCY AND CREDIT CARDS

Chinese currency is CNY with its monetary unit CNY *Yuan*. The exchange rate is 1 USD for about 6.8 CNY. The credit cards and cash in US dollars are acceptable on the hotel registration desk in PIERS Host Hotel. This is also the case in most large shopping centers and other hotels.

TAX AND TIP

Tipping is by no means a traditional Chinese custom. Please help keep the good custom and do not tip a waiter/waitress or a taxi driver and other persons who provides regular service. Take back any change that is rightfully yours. All the shopping is free of tax. Bargaining is necessary on buying merchandise especially from Street Markets.

TAXI

Usually, a taxi is available along the roadsides, while you wave for it. However, on main streets it is only available at taxi stops or in front of a hotel.

BUSINESS OPENING HOURS

- **Bank and Post Office**
  Opening hours: 9:00 – 17:00, from Monday to Sunday.
- **Government Office**
  Opening hours: 8:00 – 17:00, from Monday to Friday.
- **Store**
  Opening hours: usually 10:00 to 21:00, but the large shopping center serves till 22:00, from Monday to Sunday.

ELECTRICITY

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

PIERS 2009 BEIJING TECHNICAL PROGRAM

Session 1P1
Microwave/Terahertz Photonics Technologies and Their Applications

Monday PM, March 23, 2009

Room A

Organized by Katsumi Iwatsuki

Chaired by Katsumi Iwatsuki

13:20 Plasmon-resonant Microchip Emitters and Their Applications to Terahertz Spectroscopy
Taiichi Otsuji, *Yuki Tsuda*, *Tsuneyoshi Komori*, *Takuya Nishimura*, *Abdelouahad El Fatimy*, *Yahya Moubarak Meziani*, *Tetsuya Suemitsu*, *Eiichi Sano*,

13:40 Terahertz Quantum-cascade Laser and Its Applicability to Ultra-high Bit-rate Wireless Access System
Iwao Hosako,

14:00 High-power RF Photodiodes and Their Applications
Tadao Nagatsuma,

14:20 High-speed and Precise Lightwave Modulation for Millimeter- or Micro-wave Generation
Tetsuya Kawanishi, *Takahide Sakamoto*, *Akito Chiba*, *Daiki Nanbu*, *Hiroyuki Toda*, *Hiroshi Murata*, *Akira Enokihara*,

14:40 Photonic Integration with Si-wire Waveguides for Photonic Networks
Hirohito Yamada, *Tao Chu*,

15:00 **Coffee Break**

15:20 Technical Trends in Millimeter-wave Band Radio-On-Fiber Access System
Tomohiro Taniguchi, *Naoya Sakurai*, *Hideaki Kimura*, *Kiyomi Kumozaki*,

15:40 Radio on Fiber Technologies and Their Application toward Universal Platform for Heterogeneous Wireless Services
Katsutoshi Tsukamoto, *Takuya Yamagami*, *Takeshi Higashino*, *Shozo Komaki*,

16:00 Experimental Demonstration of a Radio on Free Space Optics System for Ubiquitous Wireless
Kamugisha Kazaura, *Toshiji Suzuki*, *Kazuhiko Wakamori*, *Mitsuji Matsumoto*, *Takeshi Higashino*, *Katsutoshi Tsukamoto*, *Shozo Komaki*,

16:20 Radio on Leaky Coaxial Cable (RoLCX) System and Its Applications
Takeshi Higashino, *Katsutoshi Tsukamoto*, *Shozo Komaki*,

16:40 Exploring Sub-THz Waves for Communications, Imaging, and Gas Sensing
Yuichi Kado, *Tadao Nagatsuma*,

17:00 Real-time Visualization of W-band Millimeter Wave by Live Electro-optic Imaging
Kiyotaka Sasagawa, *Atsushi Kanno*, *Masahiro Tsuchiya*,

Session 1P2a
Tunable and Nonlinear Metamaterials

Monday PM, March 23, 2009

Room B

Organized by Ilya V. Shadrivov, Tie Jun Cui

Chaired by Ilya V. Shadrivov, Tie Jun Cui

13:20 New Guided Nonlinear Waves in Tuneable Gyrotropic Metamaterial Structures
Allan Dawson Boardman, *P. Egan*, *R. C. Mitchell-Thomas*, *Y. G. Rapoport*,

13:40 Dissipative Breathers in rf SQUID Metamaterials
George P. Tsironis, *N. Lazarides*, *M. Eleftheriou*,

14:00 Tunable Dynamic Capacitance Arising from Coulomb Blockade in a 2D Nanoclusters Assembly
Frédéric Peschaud, *Denis Crété*, *Pierre Seneor*, *Frédéric Nguyen Van Dau*,

14:20 Continuously Tunable Effective Properties of Metamaterials Controlled by Varactor Diodes
Lie Liu, *Serguei Matitsine*, *Peng Khiang Tan*, *C. B. Tang*,

14:40 Ultra-thin Strip Line Metamaterial Absorber
Ruifeng Huang, *Zheng-Wen Li*, *Ling Bing Kong*, *Serguei Matitsine*,

15:00 **Coffee Break**

15:20 Tunable Effective Permittivity of Carbon Nanotube Composites and Applications as EM Smart Materials
Lie Liu, *Ling Bing Kong*, *Serguei Matitsine*,

Session 1P2b
Backward Emitted Cherenkov Radiation in Left-Handed Material

Monday PM, March 23, 2009

Room B

Organized by Min Chen

Chaired by Hongsheng Chen, Bae-Ian Wu

15:40 Cherenkov Radiation in a Waveguide Partially Loaded with Anisotropic Double-negative Metamaterials
Zhaoyun Duan, *Bae-Ian Wu*, *Jie Lu*, *Min Chen*,

16:00 Experimental Verification of Negative Index Metamaterial for Cerenkov Radiation
Sheng Xi, *Hongsheng Chen*, *Tao Jiang*, *Lixin Ran*, *Jiangtao Huangfu*, *Bae-Ian Wu*, *Jin Au Kong*, *Min Chen*,

16:20 Review of Cherenkov Radiation in Double-negative Metamaterials
Zhaoyun Duan, *Bae-Ian Wu*, *Min Chen*,

Session 1P3
Radar Investigation of the Atmosphere from the Ground to 110 km

Monday PM, March 23, 2009

Room C

Organized by Iain M. Reid, Takuji Nakamura

Chaired by Iain M. Reid, Takuji Nakamura

13:20 Introduction to the Re-locatable Atmospheric Observatory in China
Xiong Hu, *Jiancun Gong*,

13:40 Gravity Wave Observations in the Tropical Mesosphere
Robert A. Vincent, *Sujata Kovalam*, *Iain M. Reid*,

14:00 Ground Based Radar for Observations of the Atmosphere
Iain M. Reid,

14:20 Meteor Radar Observations at Adelaide, Darwin and Davis Station
Daniel McIntosh, *Iain M. Reid*, *Robert A. Vincent*, *Andrew Klekociuk*, *Damian Murphy*,

14:40 Meteor Radar Observations at Hainan Island
Jiankui Shi, *Iain M. Reid*,

15:00 **Coffee Break**

15:20 On the Diffusion of Meteor Trails
Joel Younger, *Iain M. Reid*, *Robert A. Vincent*, *Damian Murphy*,

15:40 An Investigation on Properties of Ionospheric Es in Hainan Region
Jiankui Shi, *Guojun Wang*,

16:00 Observation of Dynamics in the Mesosphere and Lower Thermosphere with the MU Radar Ultra-multichannel Meteor Observation and Optical Instruments
Takuji Nakamura, *Masaki Tsutsumi*, *Takuya D. Kawahara*, *Kazuo Shiokawa*, *William E. Ward*,

16:20 Study of Ionospheric Irregularity in the Midlatitude E-region with Portable Radar and Other Instruments
Mamoru Yamamoto,

16:40 Comparison of Simultaneous Wind Measurements Using Colocated All-sky Meteor Radar and MF Spaced Antenna Radar Systems
Jinsong Chen, *Lei Zhao*, *Zhenwei Zhao*, *Jian Wu*,

Session 1P4a
Wave Propagation in Random Media

Monday PM, March 23, 2009

Room D

Organized by George Vakhtang Jandieri

Chaired by George Vakhtang Jandieri

13:20 Imaging and Communication through Random Multiple Scattering Media
Akira Ishimaru, *Sermsak Jaruwatanadilok*, *Yasuo Kuga*,

13:40 Peculiarities of the Spatial Spectrum of Scattered Electromagnetic Waves by Anisotropic Collisional Magnetized Turbulent Plasma Layer
George Vakhtang Jandieri, *Akira Ishimaru*, *Vakhtang G. Jandieri*, *A. G. Khantadze*, *N. Kh. Gomidze*, *K. V. Kotetishvili*, *T. N. Bzhalava*, *Sh. V. Dekanosidze*, *I. S. Surmanidze*,

14:00 Propagation and Localization of Random Cylindrical Waves in Two-dimensional Random Medium
Rui Ding, Ya-Qiu Jin,

14:20 Effect of Rainfall on Millimeter Wavelength Radio in Gough and Marion Islands
P. A. Owolawi, Thomas J. Afullo, S. B. Malinga,

14:40 Comparison between Mixing and Pure Walfisch-Ikegami Path Loss Models for Cellular Mobile Communication Network
Supachai Phaiboon, Pisit Phokharatkul,

15:00 **Coffee Break**

Session 1P4b
EM Theory, Moving Media, Relativity, Field Quantization

Monday PM, March 23, 2009

Room D

Chaired by Ari Henrik Sihvola, Hui Huang

15:20 Variation of Gravitational Mass in Electromagnetic Field
Zi-Hua Weng, Y. Weng,

15:40 Observation of a Non-conventional Influence of Earth's Motion on the Velocity of Photons, and Calculation of the Velocity of Our Galaxy
Héctor A. Múnera, Daniel Hernández-Deckers, Germán Arenas, Edgar Alfonso, Iván López,

16:00 Determination of Speeds of Light in Vacuum for Different Galilean Reference Systems
Namik Yener,

16:20 Tunable TE/TM Wave Splitter Using Symmetric Gyrotropic Slab
Hui Huang, Yu Fan, Bae-Ian Wu, Jin Au Kong,

Session 1P5
Extended/Unconventionl Electromagnetic Theory, EHD (Elecrohydrodynamics)/EMHD (Electromagnetohydrodynamics), Electrobiology

Monday PM, March 23, 2009

Room E

Organized by Eva Gescheidtová

Chaired by Hiroshi Kikuchi, Eva Gescheidtová

13:20 A New Algorithm for Electrical Impedance Tomography Inverse Problem
Tomáš Kříž, Jarmila Dědková,

13:40 FEM Analysis of HF Magnetic Field Deformation Near Conductive Samples
Jarmila Dědková, Tomáš Kříž, Miloslav Steinbauer,

14:00 Utilization of Faraday Mirror in Fiber Optic Current Sensors and Experiments
Petr Drexler, Pavel Fiala, Radim Kadlec,

14:20 Change Detection in the Video Sequences with Small Density of Information
Pavel Fiala, Tomáš Jirků, Radek Kubasek,

15:00 **Coffee Break**

15:20 A Numerical Model of Relativistic Pulsed Power Generator
Pavel Fiala, Tomáš Jirků,

15:40 Tuned Structures for Special THz Applications
Pavel Fiala, Eva Gescheidtová, Tomáš Jirků,

16:00 Improving of Ray-tracing Method for Numerical Modeling of Lighting Systems
Radim Kadlec, Eva Kroutilova, Pavel Fiala,

16:20 Segmentation of NMR Slices and 3D Modeling of Temporomandibular Joint
Jan Mikulka, Eva Gescheidtová, Karel Bartušek,

Session 1P6
Electromagnetic Wave Applications in Material Processing and Characterization

Monday PM, March 23, 2009

Room F

Organized by Juh Tzeng Lue

Chaired by Shangjr Gwo, Ru-Shi Liu

13:00 Absorbing Properties of Frequency Selective Surface Absorbers on a Lossy Dielectric Slab
Huiling Zhao, Guobing Wan, Wei Wan,

13:20 Direct Measurements of the *c*-axis Polarization in Orthorhombic $HoMnO_3$ Multiferroic Thin Films
T. H. Lin, C. C. Hsieh, C. W. Luo, K. H. Wu, T. M. Uen, Jenh-Yih Juang, J.-Y. Lin,

13:40 On Measurements of Reflection Coefficient of RF Absorbing Materials for Anechoic Chambers
Nikolay Pavlovich Balabukha, Vladimir Sergeevich Solosin, Alexander Sergeevich Zubov,

14:00 Multiple-scale Patterning of Self-assembled Monolayers via Controlled RF-plasma Flow
Meng-Hsien Lin, Shangjr Gwo,

14:20 A Scanning Quasi-optical Microwave Applicator for Advanced Materials Processing
Tsun-Hun Chang, *W. Y. Chiang*, *L. R. Barnett*, *H. Y. Chang*, *S. Y. Cheng*, *K. R. Chu*,

14:40 Waveform Parameter Estimation and Dispersive Material Characterization
Qingsheng Zeng, *Gilles Y. Delisle*,

15:00 **Coffee Break**

15:20 The Fabrication of Bucky-Paper and It's Dielectric Constants Measurement Study in Microwave Frequency
Hsin-Yuan Miao, *Juh Tzeng Lue*,

15:40 The Electro-magnetic Properties of Co and Fe Films Percept from the Coexistence of Ferromagnetic and Microstrip Resonance for a T-type Microstrip
Yi-Chen Yeh, *Juh Tzeng Lue*,

16:00 A Versatile Route to the Controlled Synthesis of Gold Nanostructures
Ru-Shi Liu, *H. M. Chen*, *Din Ping Tsai*,

16:20 Biomagnetic Applications Using High-transition-temperature Superconducting Quantum Interference Devices: Status and Perspectives
Hong-Chang Yang, *Herng-Er Horng*,

16:40 Silicon Quantum Dots Solar Cells
Shu-Fen Hu, *Chung-Chi Huang*, *Chang Hsueh Li*, *Ting-Wei Liao*, *Chao-Yuan Huang*,

17:00 Wave Fields in X-ray Fabry-Perot Resonators
S.-Y. Chen, *M.-S. Chiu*, *Y.-Y. Chang*, *M.-T. Tang*, *Yu. P. Stetsko*, *H.-H. Wu*, *Y.-R. Lee*, *M. Yabashi*, *B. Y. Shew*, *Shih-Lin Chang*,

Session 1P7
Electromagnetic Field in Materials and EM Field Dispersion in Cloaks and Photonic Crystals

Monday PM, March 23, 2009

Room G

Organized by Ganquan Xie, Tzong-Jer Yang, Chien-Jang Wu

Chaired by Herng-Er Horng, Chien-Jang Wu

13:00 Global and Local Field EM Modeling for PHC Dispersion and Metamaterial Cloak Design
Ganquan Xie, *Jianhua Li*, *Feng Xie*, *Lee Xie*,

13:20 Highly Birefringent Bragg Fiber with a Fiber Core of 2-dimension Elliptical-hole Photonic Crystal Structure
Jin-Jei Wu, *Tzong-Jer Yang*, *Kun-Lin Liao*, *Daru Chen*, *Linfang Shen*,

13:40 Tunable Y-shaped Waveguides in Two-dimensional Photonic Crystals
Chung-Jen Hsu, *Chin-Ping Yu*,

14:00 A Novel Fiber Sensor Based on a Bragg Fiber with a Defect Layer
Kun-Lin Liao, *Jin-Jei Wu*, *Tzong-Jer Yang*, *Daru Chen*, *Linfang Shen*,

14:20 Embedded 3-D Integrated Inductor for Voltage-controlled SAW Oscillator
Yao-Huang Kao, *Way-Yu Chen*,

14:40 A Novel Band-rejection Filter Based on a Bragg Fiber of Transversal Resonant Structure
Daru Chen, *Tzong-Jer Yang*, *Jin-Jei Wu*, *Linfang Shen*,

15:00 **Coffee Break**

15:20 Calculation of Effective Microwave Surface Impedance in the Superconducting Film Layered Structure
Chien-Jang Wu, *C.-C. Liu*, *Yang-Hua Chang*,

15:40 Higher Order Finite-difference Frequency-domain Analysis of Two-dimensional Photonic Crystals with Arbitrary Shapes
Yen-Chung Chiang,

16:00 Band Structure Analysis of Liquid-crystal Photonic Crystal Fibers
Chia-Lung Kao, *Chin-Ping Yu*,

16:20 Poled Thick-film Polymer Electro-optic Modulation Using Rotational Deformation Configuration
Wen-Kai Kuo, *Yu-Chuan Tung*,

16:40 Wave Propagation in General Bi-isotropic Media
Heng-Tung Hsu, *Song-Tsuen Peng*,

17:00 Design and Implementation of High-speed Laser Diode Driver Circuitry for High-speed Data Recording
Heng-Shou Hsu,

Session 1P8
Poster Session 1

Monday PM, March 23, 2009

1:00 PM - 5:00 PM

Room K

1 Aspects Regarding the Adapting and Optimization of Mixed Drying Systems Microwave-hot Air for the Processing of Agricultural Seeds
Vasile Darie Soproni, F. I. Hathazi, M. N. Arion, C. O. Molnar, L. Bandici,

2 A Passive Optical Location Implemented on the One-board Computer
Pavel Fiala, Tomáš Jirku, Radek Kubasek,

3 The Meaning of the Lightspeed on the Basis of Its Determinations
Sara Liyuba Vesely, A. A. Vesely,

4 Lateral Displacements of an Electromagnetic Beam Transmitted and Reflected from a Gyrotropic Slab
Hui Huang, Yu Fan, Bae-Ian Wu, Jin Au Kong,

5 Electromagnetic Interference Modeling Research on the Electrical Machine and Converter Systems
Lingyun Wang, Ruifang Liu, Hui Huang,

6 Transient Field Distribution in a Transformer Affected by Variably Loaded Secondaries
Gerd Mrozynski, Eckhard Baum, Otto Erb,

7 Research on Arch Method for Testing the Absorbing Capability of Absorbing Materials
Gai Tao, Qun Wang,

8 Progress in Studies of Transients Analysis Method of Multiconductor Transmission Lines
Chaoqun Jiao, Yi Sun,

9 Efficient Calculation of Vehicular Antennas' Radiation Patterns
Xiao-Fei Xu, Xiang-Yu Cao, Jia-Jun Ma,

10 Analysis of Vehicular Wire Antennas Using MoM
Xiao-Fei Xu, Xiang-Yu Cao, Tao Liu,

11 Inverse Problem of Multiple Objects Buried in a Half-space
Wei Chien, Chi-Hsien Sun, Chien-Ching Chiu, W. C. Chuang,

12 Simulations on the Whole Structure of Microwave Radiometer Calibration Load by FDTD Method
Ming Jin, Ming Bai, Jungang Miao,

13 Convergence Analysis of Electric/Magnetic Current Sampling for Antenna Design in the Presence of Electrically Large and Complex Structures
Heng-Tung Hsu, Fang-Yao Kuo, Hsi-Tseng Chou,

14 Forward Modeling of High Frequency Magnetotelluric Using Finite Element Method
Jing-Tian Tang, Xiao Xiao, Ye Wang, Ji-Feng Zhang, Chaozhuang Xi,

15 A Three Dimensional FEM-BEM Approach for the Simulation of Magnetic Force Microscopes
Thomas Preisner, Wolfgang Mathis,

16 A General ADE-FDTD Algorithm for the Simulation of Different Dispersive Materials
A. A. Al-Jabr, Mohammad A. Alsunaidi,

17 Analysis of Antennas and Scatterers with Nonlinear Loads: A MoM-AOM Approach
S. M. Azimi, Hamid Reza Karami, S. Rajabi, A. Kalantarnia, S. M. M. Moosavi,

18 A New Broadband Triangular Microstrip Antenna Using Slots and Integrated Reactive Loading Optimized by Genetic Algorithm and Method of Moment (GA/MOM)
M. Kiani, A. Keshtkar, A. Kalantarnia, Hamid Reza Karami,

19 FDTD Analysis of a Nonlinear Transmission Line
Jarmila Dědková, Tomáš Kříž,

20 Combined RKDG and LDG Method for the Simulation of the Bipolar Charge Transport in Solid Dielectrics
Jihuan Tian, Jun Zou, Jiansheng Yuan,

21 Continuous Tabu Search for the Corona Loss Calculation of the Double-circuit High Voltage dc Transmission Lines
Jihuan Tian, Yafei Ji, Jun Zou, Jiansheng Yuan,

22 Measurement and Interpretation of Radar Cross Section Data in an Educational Setting: A Comparison between Simulations and Experiments
Mauro Angelo Alves, Inácio M. Martin, Alexandre C. Coelho, Luiza de C. Folgueras, Mirabel C. Rezende,

23 Single- and Multi-layer Microwave Absorbing Material Based on Conducting Polyaniline and Polyurethane Polymers for Operation in the X-band
Luiza de C. Folgueras, Mauro Angelo Alves, Inácio M. Martin, Mirabel C. Rezende,

24 Identification for Wiener Model Based on Improved PSO
Yan-Hai Chen, Wei-Xing Lin,

25 A Circular Multi-conductor Transmission Line Model for Simulation of Very Fast Transient in Circular Windings
Yu Yang, Zan Ji Wang,

26 A New Wideband Vertical Transition between Coplanar Waveguide and Coplanar Stripline
Daqun Yu, Ruiping Zhu,

27 A Novel Configuration of Temperature Compensation in Rectangular Waveguide Resonant Cavities
Xiao-Dan Pan, Qiang Sui,

28 Universal Electronically Tunable Current-mode Filter Using CCCIIs
Hua-Pin Chen, Pao-Lung Chu,

29 Planar Fresnel Zone Lens Antenna
Cheng-Hung Lin, Guan-Yu Chen, Jwo-Shiun Sun, Kwong-Kau Tiong, Yu-Hsiang Chen, Tsan-Hsuan Peng, Y. D. Chen,

30 Cylindrical DR Antenna Design
Cheng-Hung Lin, Guan-Yu Chen, Jwo-Shiun Sun, Kwong-Kau Tiong, Tsan-Hsuan Peng, Yu-Hsiang Chen, Y. D. Chen,

31 Antenna Pattern Measurement
Guan-Yu Chen, Jwo-Shiun Sun, Kekun Chang, Y. D. Chen,

32 Simulation of Induction Cookers with Different Structure and Material Parameters by the Finite Element Software
Li Hao, Yueqin Dun, Jiansheng Yuan,

33 Measurement and Analysis of Radiated Electromagnetic Fields around the Pulsed Power Supplies
Ronggang Cao, Jihuan Tian, Peizhu Liu, Jun Li, Jiansheng Yuan,

34 Numerical Study of IEEE 802.15.4 Performance
Shuai Fang, Lu Rong, Qiang Xu, Yang Du,

35 Analysis of Performance of Unsaturated Slotted IEEE 802.15.4 Medium Access Layer
Shuai Fang, Lu Rong, Qiang Xu, Yang Du,

36 Energy-efficient Scheme for IEEE 802.15.4 Compliant Device
Qiang Xu, Lu Rong, Shuai Fang, Yang Du,

37 Throughput Analysis of Delayed Acknowledgement over 802.15.3 WPAN with Hybrid ARQ Retransmission
Rufeng Lin, Lu Rong, Qiang Xu, Yang Du,

38 Comparative Study of MAC Scheduling Schemes for IEEE 802.15.3
Guangdi Yang, Lu Rong, Dingyuan Tu, Rufeng Lin, Yang Du,

39 On the Convergency Properties of Translational Addition Theorems
Wenzhe Yan, Hao Wu, Yang Du, Qin Wen Xiao, Dawei Liu, Jin Au Kong,

40 SIP-based Mobility Management in HDR System
Bing Zhao, Lu Rong, Peng Qiao, Yang Du,

41 Diffraction Grating of Azo Dye Doped Liquid Crystals
Shuan-Yu Huang, Chie-Tong Kuo,

42 EM Inverse Scattering Versus Compressive Sensing: A New Perspective to an Old Discussion
Lianlin Li, Wenji Zhang, Xiang Yin, Fang Li,

Session 2A1
Plasmonics Nanophotonics: Theory

Tuesday AM, March 24, 2009

Room A

Organized by Din Ping Tsai, Yung-Chiang Lan

Chaired by Din Ping Tsai, Yung-Chiang Lan

08:20 Dirac Spactra in Plamonic Systems: Honeycomb and Triangular Lattices
Dezhuan Han, C. T. Chan,

08:40 Hybrid Plasmonic Excitation Induced Optical Rotation at Near-IR Wavelength
Tao Li, Hui Liu, Shu-Ming Wang, Shi-Ning Zhu,

09:00 Tunable Plasmonic Metamaterials for Subwavelength Focusing
Xueqin Huang, Shiyi Xiao, Lei Zhou,

09:20 Local Transmission Amplification for Resonant Tunneling Effects Caused by Surface Plasmon Excitations
Peng-Hsiao Lee, Yung-Chiang Lan,

09:40 Enhanced Spontaneous Emission by Gold Nanodimer
Mao-Kuen Kuo, J.-H. Chen, Jiunn-Woei Liaw,

10:00 **Coffee Break**

10:20 Optical Force Modeling by the Boundary Element Method
Jun Jun Xiao, C. T. Chan,

10:40 Surface Plasmon Waves of Curved Metal-dielectric Interfaces
Po-Tsang Wu, Jiunn-Woei Liaw,

11:00 Subwavelength Photonics beyond the Diffraction Limit and Photolithography Application
Kuan-Ren Chen, W. H. Chu, H. C. Fang, C. P. Liu, C. H. Huang, H. C. Chui, C. H. Chuang, Y. L. Lo, C. Y. Lin, S. J. Chang, F. Y. Hung, K. J. Chen, Z. S. Hu, H. H. Hwuang, Andy Yonggui Fuh, J. S. Hong, H. Y. Lin, C. C. Liao, Y. C. Chen,

11:20 Survey the Absorption of Plasmonic Energy in Metal Nanostructures
Sheng Chung Chen, Din Ping Tsai,

11:40 Electromagnetic Field Enhancement and Magnetooptical Effects in Plasmonic Heterostructures
Vladimir I. Belotelov, D. A. Bykov, L. L. Doskolovich, A. N. Kalish, A. K. Zvezdin,

Session 2A2
Modeling, Characterization and Measurement for Microwave and Millimeter Wave Applications

Tuesday AM, March 24, 2009

Room B

Organized by George W. Pan, Jungang Miao

Chaired by George W. Pan, Jungang Miao

08:00 Fast Algorithms of Full Vector Wave Propagation between Parallel and Tilted Planes
Ming Bai, Ming Jin, Shan Yang, Jungang Miao,

08:20 Design of Quasi-optical Multiplexer and Calibration System for FY-4 Microwave Meteorological Satellite
Jungang Miao, Zheng Lou, Ming Bai, Chongbin Yao, Shili Yu, Gaofeng Liu,

08:40 General Dispersion for Conditional and Unconditional FDTD Algorithms
George W. Pan,

09:00 Perfect Plane Wave Injection for Crank-Nicholson Time Domain Method
Zhenyu Huang, George W. Pan, Rodolfo E. Diaz,

09:20 Multi-reflector Antenna System Analysis by Multiresolution MoM and Diffracted Gaussian Beams
Le Wang, Jungang Miao, George W. Pan,

09:40 High Precision Characterization of Complex Permittivity in Broadband
Zhonghai Guo, George W. Pan, Rodolfo E. Diaz,

10:00 **Coffee Break**

Session 2A3
Synthetic Aperture Radar and Its Applications 1

Tuesday AM, March 24, 2009

Room C

Organized by Kazuo Ouchi, Tat-Soon Yeo

Chaired by Kazuo Ouchi, Tat-Soon Yeo

08:20 MIMO Radar Wide Band Array Range-Angle Imaging
Changzheng Ma, Tat Soon Yeo, Junjie Feng, Hwee Siang Tan,

08:40 Development of Circularly Polarized Synthetic Aperture Radar Onboard Microsatellite (μSAT CP-SAR)
Josaphat Tetuko Sri Sumantyo, H. Wakabayashi, A. Iwasaki, F. Takahashi, H. Ohmae, H. Watanabe, R. Tateishi, F. Nishio, M. Baharuddin, P. Rizki Akbar,

09:00 Efficient Interpolation for Range-cell Migration Correction of RADARSAT-1 Data
Chinmoy Bhattacharya,

09:20 A Novel Three-Dimensional Microwave Imaging Mode and Experiment: Bistatic Circular Synthetic Aperture Radar
Weixian Tan, Yanping Wang, Wen Hong, Yun Lin, Yirong Wu,

09:40 Non Stationary Bistatic Synthetic Aperture Radar Processing: Assessment of Frequency Domain Processing from Simulated and Real Signals
Hubert M. J. Cantalloube,

10:00 **Coffee Break**

10:20 Coded Frequency Shifting Transponder Observation and Identification in Imaging SAR Signal
Hubert M. J. Cantalloube,

10:40 Study on Absolute Calibration Coefficient Improvement for ALOS PALSAR Data after Initial Calibration Check
Kazuki Nakamura, Shinsuke Kodama, Yuko Takeyama, Masashi Matsuoka,

11:00 New Approach to Extraction of Linear Features in a SAR Image
Si Chen, Weijie Zhang, Jian Yang,

Session 2A4
Signal Processing for Communication Systems & Cognitive Radar 1

Tuesday AM, March 24, 2009

Room D

Organized by Jinkuan Wang, Xin Song

Chaired by Jinkuan Wang, Xin Song

08:00 Robust Adaptive Beamforming under Quadratic Constraint
Xin Song, Jinkuan Wang, Yinghua Han,

08:20 User Selection for the Capacity Maximum in Multiuser MIMO System
Zhibin Xie, Jinkuan Wang, Xin Song, Jing Gao,

08:40 Peak-to-average Power Ratio Reduction Based on Cyclic Iteration Partial Transmit Sequence
Jing Gao, *Jinkuan Wang*, *Zhibin Xie*,

09:00 A Simple DOA Estimation Employing Second-order Statistics for Distributed Source
Yinghua Han, *Jinkuan Wang*, *Qiang Zhao*, *Xin Song*,

09:20 Bragg Grating Vibration Sensor Array Based on Wavelet Filtering
Zhaoxia Wu, *Dongmei Yan*, *Lina Fan*, *Lina Fan*, *Jinkuan Wang*,

09:40 Distributed Sensor Positioning System Using Virtual Trajectories
Zhigang Liu, *Jinkuan Wang*,

10:00 **Coffee Break**

10:20 Dynamic Load Balancing Based-on Packet Loss Rate Prediction
Cai Ling, *Jinkuan Wang*, *Cuirong Wang*,

10:40 Detection of a Dim Point Target Using Dynamic Programming Approach
Lina Fan, *Jinkuan Wang*, *Dongmei Shu*,

11:00 A Concurrent Ant Colony Optimization Multipath Forwarding Algorithm in IP Networks
Laiquan Han, *Jinkuan Wang*, *Cuirong Wang*,

11:20 On Nonlinear Iterative Partial Transmit Sequence for PAPR Reduction in OFDM Systems
Jing Gao, *Jinkuan Wang*, *Zhibin Xie*,

11:40 A Concentric Data Aggregation Model in Wireless Sensor Network
Cong Wang, *Cuirong Wang*,

Session 2A5
RF Exposure Safety Issues

Tuesday AM, March 24, 2009

Room E

Organized by Chung-Kwang Chou

Chaired by Chung-Kwang Chou, Michael R. Murphy

08:20 Measurement of the Dielectric Properties of Thin Disks Using a Resonant Cavity at Microwave Frequencies
Quirino Balzano, *V. Hodzic*, *R. W. Gammon*, *C. C. Davis*,

08:40 Coaxial Artefact Standard for Specific Absorption Rate 100 kHz to 400 MHz
Benjamin G. Loader, *Andrew G. Gregory*, *Daniel Bownds*,

09:00 Can Magnetic rf-fields Effect Biochemical Reactions?
Joergen Boiden Pedersen, *N. N. Lukzen*,

09:20 Effect of Passive RF-exposure from Mobile Phones on the SAR and Absorbed Power of Passengers in an Elevator at 900 MHz
Ally Y. Simba, *Takashi Hikage*, *Soichi Watanabe*, *Toshio Nojima*,

09:40 Effects of Losses Due to Human Phantoms on 3-dimensional Electromagnetic Field Distribution in Elevators
Y. Kawamaura, *Takashi Hikage*, *Toshio Nojima*, *Ally Y. Simba*, *Soichi Watanabe*,

10:00 **Coffee Break**

10:20 Temperature Rise in the MRI Head Models Exposed to Commercial Mobile Phones
Jafar Keshvari,

10:40 Mobile Phone Base Stations and Sleep Quality — Results from an Experimental Study
Heidi Danker-Hopfe, *Cornelia Sauter*, *Christian Bornkessel*, *Hans Dorn*,

11:00 "Non-Thermal" RF Bioeffects: Real or Artifact?
Chung-Kwang Chou, *Joe A. Elder*, *A. W. Guy*,

11:20 Why Do People Still Worry about Radiofrequency Safety in 2008?
David Black,

Session 2A6
Novel Computation Techniques in Microwaves

Tuesday AM, March 24, 2009

Room F

Organized by Filiz Günes

Chaired by Filiz Günes

08:20 Particle Swarm Intelligence Applied to Design Microwave Amplifier for the Maximum Gain Constrained by the Minimum Noise over the Available Bandwidth
Salih Demirel, *Filiz Günes*, *Ufuk Özkaya*,

08:40 Support Vector Synthesis Formulation of RF/Microwave Transmission Lines
Nurhan Türker Tokan, *Filiz Günes*,

09:00 Particle Swarm Intelligence Applied to Determination of the Feasible Design Target for Low-noise Amplifier
Ufuk Özkaya, *Filiz Günes*, *Salih Demirel*,

09:20 Synthesis of Multi-beam Uniform Linear Antenna Arrays Using Psearch Algorithm
Fikret Tokan, *Filiz Güneş*,

09:40 Design of a Broadband Microwave Amplifier Using Fuzzy Logic Performance Data Sheets with a Artificial Immune System
Yavuz Cengiz, Fırat Yücel, Filiz Güneş,

10:00 **Coffee Break**

10:20 Design of a Patch Antenna with Integration Cellular Automata and Genetic Algorithm
Yavuz Cengiz, Hatice Tokat,

10:40 Neural Network Based Target Recognition
Senem Makal, Ahmet Kizilay,

11:00 A 5 GHz LNA Design Using Neural Smith Chart
M. Fatih Caglar, Filiz Güneş,

Session 2A7
Electromagnetic Field Modeling and Inversion and Applications 1

Tuesday AM, March 24, 2009

Room G

Organized by Ganquan Xie, Michael Oristaglio, Jianhua Li
Chaired by Jianhua Li, Xueben Wang

08:20 Effect of Edge-preserving Parameters on GPR Reconstruction
Hui Zhou, Zhaolei Wang, Dongling Qiu, Guofa Li,

08:40 Use GL TM Model Inversion to Detect the Dielectric Parameter
Jianhua Li, Ganquan Xie, Lee Xie, Chien-Chuang Lin, Michael Oristaglio,

09:00 A Model for the Lower Atmospheric Electric Field Due to Thunder Cloud Charge Distribution
S. S. De, B. Bandyopadhyay, Suman Paul, M. De, D. K. Haldar,

09:20 Loss Mapped Perfectly Matched Layer (LMPML) Absorbing Boundary Conditions for Truncation of FDTD Lattices
Roman Trogan, Carey M. Rappaport,

09:40 Retrieval of Atmospheric Temperature and Moisture Profiles from Combined High Spatial Imager and Hyperspectral Infrared Sounder Measurements
Jun Li, Jinlong Li, Elisabeth Weisz, Chian-Yi Liu,

10:00 **Coffee Break**

10:20 Improvements in a Boundary Element Model for Eddy Current Nondestructive Testing of Cracks
Theodoros Theodoulidis,

10:40 Multi-parameter Inversion of Electrical Array Lateral-logging by Using the Neural Networks
Yueqin Dun, Jihuan Tian, Jiansheng Yuan,

11:00 A Pore-scale Network Flow Model for Two Phase Flow
Koukung Alex Chang,

11:20 A Pore-scale Network Flow and DC GILD Coupled Modeling for Prediction of the Earthquake
Koukung Alex Chang, Ganquan Xie,

11:40 Experimental Study on the Role of Water in the TIR Anomaly before Earthquake
Shanjun Liu, Qunlong Chen, Guoliang Li, Lixin Wu,

Session 2A8
Poster Session 2

Tuesday AM, March 24, 2009

8:00 AM - 12:00 AM

Room K

1 A Novel RSW Antenna
Kai Ma, Di Wu, Seo Kazuyuki,

2 An Improvement to Decrease the Effect of Handset Internal Components on a Dual Band PIFA Performance
M. Pasandehmanesh, D. Arefan, Mohammad Ali Ebrahimi-Ganjeh,

3 Low-profile Array Antenna for UHF RFID Tag on Metallic Objects
Horng-Dean Chen, Yu-Hung Tsao,

4 Design of Thin-membrane Printed Dipole
Daqun Yu, Ruiping Zhu,

5 CPW-fed Compact Planar UWB Antenna with Circular Disc and Spiral Split Ring Resonators
Li-Ming Si, Hou-Jun Sun, Yong Yuan, Xin Lv,

6 Design and Fabrication of Wide Band Printed Multi-ring Fractal Antenna for Commercial Applications
Morteza Kazerooni, Ahmad Cheldavi,

7 Analysis of the Multi Surface Current Distributed within in a Broadband Printed Monopole Antenna
Sung-Keun Jeon, Nam Kim, Seung Woo Lee, Liu Yu Lin,

8 Divided Two-arms Spiral Slot Antenna fed by Coplanar Waveguide Using the Different Magnetic Phase Different
Sung-Wu Park, Nam Kim, Seung-Yeup Rhee, Seung Woo Lee,

9 Design of Multi-Band Dual-Polarized Two-Port E-shape Microstrip Antenna
Ayman M. El-Tager, *Adel Mohamed Abdin*,

10 A Circularly Polarized Dual-frequency Square Patch Antenna for TT&C Satellite Applications
Ayman M. El-Tager, *Mohamed A. Eleiwa*, *Mohamed I. Salama*,

11 Design and Experiment of a Loop Rectenna for RFID Wireless Power Transmission and Data Communication Applications
Ren-Hao Chen, *Yi-Chieh Lee*, *Jwo-Shiun Sun*,

12 Design of a Compact Dual-Band Loop-Slot Antenna
Ren-Hao Chen, *Yi-Chieh Lee*, *Jwo-Shiun Sun*,

13 Power Feeding to RFID Tags Within Specific Distance and Transponder Control Signal
Kengo Ueyama, *Akitoshi Ito*, *Yukio Iida*, *Noriaki Muranaka*,

14 Coupling of Transmitting/Receiving Antennas and Super Regenerative Transponder (SRGT) for RFID Tags
Akitoshi Ito, *Kengo Ueyama*, *Yukio Iida*,

15 Calculation of Electromagnetic Wave Attenuation Due to Rain for Various Percentages of Time
Mindaugas Zilinskas, *Milda Tamosiunaite*, *Stasys Tamosiunas*, *Milda Tamosiuniene*,

16 A 2.4 GHz Low Phase Noise Voltage Controlled Oscillator
Ro-Min Weng, *Jing-Yi Lin*,

17 Novel Super Regenerative Transponder (SRGT) for RFID Tags and ASK signals
Yukio Iida,

18 A Low Cost 1 Watt Doherty Power Amplifier for WLAN and WiMAX Applications
Shilei Jin, *Jianyi Zhou*, *Lei Zhang*, *Wei Hong*,

19 Planar Antennas for UMPC Integration
Cheng-Hung Lin, *Guan-Yu Chen*, *Jwo-Shiun Sun*, *Kwong-Kau Tiong*, *Yu-Hsiang Chen*, *Tsan-Hsuan Peng*, *Y. D. Chen*,

20 WLAN and Bluetooth Antenna Design
Kekun Chang, *Guan-Yu Chen*, *Jwo-Shiun Sun*, *Y. D. Chen*,

21 UMTS and DVB-H Antenna Co-integration
Kekun Chang, *Guan-Yu Chen*, *Jwo-Shiun Sun*, *Y. D. Chen*,

22 Design of Trapezoidal Ring Antenna Using Conductor-backed CPW Structure
Seung-Woo Lee, *Nam Kim*, *Sung-Wu Park*, *S. K. Jeon*, *Seung-Yeup Rhee*,

23 Design and Implementation of a Smart Antenna Using Butler Matrix for ISM-band
Ayman M. El-Tager, *Mohamed A. Eleiwa*,

24 The Current Status of Automotive Electromagnetic Compatibility Research
Yi Sun, *Chaoqun Jiao*,

25 Transient High-energy Surge Protection Circuits for RF Transceivers
Liann-Be Chang, *Shen-Yio Liao*, *Ming-Jer Jeng*,

26 Built-In-Self-Test (BIST) Circuitry for LVDS-type off-chip Transmission with Speed up to 640 Mb/s
Heng-Shou Hsu,

27 A Novel Electromagnetic Bandgap (EBG) Structure for Electromagnetic Compatibility (EMC) Application
Cheng-Chi Yu, *Meng-Hsiang Haung*, *Yao-Tien Chang*, *Luen-Kang Lin*, *Tsung-Han Weng*,

28 Antenna Effect Analysis of Laptop Platform Noise on WLAN Performance
Han-Nien Lin, *Ching-Hsien Lin*, *Tai-Jung Cheng*, *Min-Chih Liao*,

29 Application of EBG Structure to Suppress Digital Noise in the Integrated Module of 2.4 GHz CPW-fed Antenna and PCB
Han-Nien Lin, *Tai-Jung Cheng*, *Ching-Hsien Lin*, *Jhih-Min Liao*,

30 Optimized ARC Filters Using Goal-lossy GIC
Jiří Sedláček, *Zoltán Szabó*, *Radim Kadlec*,

31 Investigation into New Type Piezomagnetic Materials and Acoustical Transducers Exhibiting Piezoelectricity and Piezomagnetic Effect
Quanlu Li, *Yuan Li*, *Zhaohui Huang*,

32 Modal Analysis of an Antenna Feed System for a Multimode Monopulse Radar
Ayman M. El-Tager,

33 Calculation of Electromagnetic Wave Logging Response by Using the Numerical Mode Matching Method
Yuan Zhao, *Yueqin Dun*, *Jiansheng Yuan*,

34 Analysis of Ridge Waveguide with Claddings of Metamaterials with Zero Index of Refraction
Wan-Zhao Cui, *Jia Chen*, *Tiancun Hu*, *Hongtai Zhang*, *Enrang Zheng*,

35 A Simple Method to Measure the Unloaded Q of a Transmission-type Resonator
Tiancun Hu, *Wan-Zhao Cui*,

36 Symmetric Unit Cell Models for Composite Right/Left-handed Transmission Lines (CRLH-TL) Metamaterials
Jia Chen, *Enrang Zheng*, *Wan-Zhao Cui*,

37 Analysis and Simulation of Superresolution Image Restoration
Yi Zhang, *Quan Zhou*, *Minqi Li*, *Wan-Zhao Cui*,

38 THz Rectangular Microstrip Patch Antenna on Multilayered Substrate for Advance Wireless Communication Systems
Aditi Sharma, *Vivek K. Dwivedi*, *Ghanshyam Singh*,

39 Theoretically and Experimentally Investigation of Sparking of Metal Objects inside a Microwave Oven
Gholamreza Shayeganrad, *Leila Mashhadi*,

40 3D Joint Inversion of CSEM and MT Data with and without Anisotropy
Chuanjian Shen, *Rene-Edouard Plessix*,

41 A Congestion Control Algorithm Based on Onboard IP Switching
Yi Zhang, *Quan Zhou*, *Jun Li*, *Jie Li*, *Wan-Zhao Cui*,

42 A Broadband Two-stage MMIC Medium-power Amplifier
Yuanyuan Li, *Long Jin*,

Session 2P1a
Plasmonics Nanophotonics: Experimental

Tuesday PM, March 24, 2009

Room A

Organized by Din Ping Tsai, Yung-Chiang Lan

Chaired by Din Ping Tsai, Yung-Chiang Lan

13:20 Plasmonic Dipole Antennas, Simulation, Characterization and Applications
Weihua Zhang, *Holger Fischer*, *Olivier J. F. Martin*,

13:40 Analysis of Lightwave Propagation through Nanowires and Plasmonic Waveguides for Nano-Photonic Circuit Application
El-Hang Lee, *S. H. Song*,

14:00 Two-photon-induced Nano-scale Fabrication Technique of Three-dimensional Metallic Structures for Plasmonic Metamaterials
Takuo Tanaka,

14:20 High Density Optical Data Storage
Peter Török, *Carlos Macías Romero*, *Matthew Foreman*, *Gung-Hsuan Ho*, *Peter Munro*, *Arthur Van de Nes*,

14:40 Fabrication of Functional Optical Devices Using Highly Ordered Anodic Porous Alumina
Hideki Masuda, *Kazuyuki Nishio*, *Toshiaki Kondo*,

15:00 **Coffee Break**

Session 2P1b
Radio-Over-Fiber Communication System

Tuesday PM, March 24, 2009

Room A

Organized by Weiwei Hu

Chaired by Weiwei Hu

15:20 Implementation of a Radio over Fiber System in a Geographically-distributed Optical Network
Sodré Arismar Cerqueira, Jr., *D. C. Valente e Silva*, *M. A. Q. R. Fortes*, *L. F. da Silva*, *O. C. Branquinho*, *M. L. F. Abbade*,

15:40 60 GHz Radio over Fiber Transmission System Based on Integrative Cascade MZM
Cheng Hong, *Siyu Liu*, *Cheng Zhang*, *Zhangyuan Chen*, *Weiwei Hu*,

16:00 Single-mode Modulation Using Injection-locked Fabry-Perot Laser in Radio-over-Fiber System
Cheng Zhang, *Mingjin Li*, *Siyu Liu*, *Cheng Hong*, *Weiwei Hu*, *Zhangyuan Chen*,

16:20 A Scheme of Photonic Notch Filter Using DGD Method for Radio-over-Fiber Communication Systems
Hanhong Gao, *Jinxuan Wu*, *Zhao Tu*, *Cheng Zhang*, *Dandan Wu*, *Weiwei Hu*, *Zhangyuan Chen*,

16:40 A Scheme of Microwave Photonic Filter Based on Hi-Bi Fiber
Dandan Wu, *Weiwei Hu*, *Zhangyuan Chen*,

17:00 The Trend of Designing Rotation Sensors Based on Highly Dispersive Resonating Structures
Zinan Wang, *Xiaomu Wu*, *Chao Peng*, *Rui Hui*, *Xuefeng Luo*, *Zhengbin Li*, *Anshi Xu*,

Session 2P2
Metamaterial Technologies from Microwave to Optics

Tuesday PM, March 24, 2009

Room B

Organized by Didier Lippens, Ji Zhou

Chaired by Didier Lippens, Ji Zhou

13:00 Metamaterial Technologies at Terahertz Frequencies
Fuli Zhang, *Charles Croënne*, *Gregory Houzet*, *Davy P. Gaillot*, *Xavier Mélique*, *Eric Lheurette*, *Didier Lippens*,

13:20 Theoretical and Numerical Study of Surface Waves in a Grounded Slab Waveguide of Biaxially Anisotropic Metamaterial
Salma Mirhadi, *Manoochehr Kamyab Hessari*,

13:40 All-dielectric Isotropic Metamaterial and Its Tunable Behavior
Qian Zhao, *Lei Kang*, *Bo Du*, *Hongjie Zhao*, *Bo Li*, *Ji Zhou*,

14:00 Ambient-permeability-controlling Based Magnetically Tunable Metamaterials
Lei Kang, *Qian Zhao*, *Hongjie Zhao*, *Rui Wang*, *Jingbo Sun*, *Ji Zhou*,

14:20 Recent Developments in Free-standing Large-area S-string THz Metamaterials
Herbert O. Moser, *L. K. Jian*, *M. Bahou*, *S. P. Heussler*, *S. M. P. Kalaiselvi*, *S. M. Maniam*, *Shahrain bin Mahmood*, *S. Virasawmy*, *Hongsheng Chen*, *Xiangxiang Cheng*, *Bae-Ian Wu*,

14:40 Resonance-induced Extraordinary Transparencies of Waveguides at Cutoff: A Tight Binding Study
Hao Xu, *Jiaming Hao*, *Lei Zhou*,

15:00 **Coffee Break**

15:20 Effective-medium Properties of Meta-materials Studied by the Quasi-mode Method
Shulin Sun, *Lei Zhou*,

15:40 Nanocluster Metamaterial
Qi Wu, *Jin-Hyoung Lee*, *Won Park*,

16:00 The Left-handed Property of the Composite with Metallic Wires Embedded in Mu-negative Medium
Yang Bai, *Fang Xu*, *Lijie Qiao*, *Ji Zhou*,

16:20 Two Types of Planar Chiral Metamaterials for Polarization Conversion
Benfeng Bai, *Jari Turunen*,

16:40 Anisotropy and Extreme Parameters: Waveguiding and DB Media
Ari Henrik Sihvola, *Ismo V. Lindell*,

Session 2P3
Synthetic Aperture Radar and Its Applications 2

Tuesday PM, March 24, 2009

Room C

Organized by Kazuo Ouchi, Tat-Soon Yeo

Chaired by Kazuo Ouchi, Tat-Soon Yeo

13:20 A New Method for Imaging Avian Based on Frequency-stepped Chirp Signal
Feng Zhu, *Yong Wu*, *You-Qian Feng*, *You-Qing Bai*, *Qun Zhang*,

13:40 Dependency Analysis of Backscattering from Ocean Surface on Ocean Winds Using Airborne Dual-frequency Polarimetric Synthetic Aperture Radar
Akitsugu Nadai, *Toshihiko Umehara*, *Tatsuharu Kobayashi*, *Takeshi Matsuoka*, *Seiho Uratsuka*,

14:00 Wind Direction Extraction from Coastal SAR Images Using Cross-spectral Method
Hiroyuki Saito, *Yoshiharu Yamamoto*,

14:20 Analyses of Synthetic Aperture Radar Images of Ocean Surface under Influence of Typhoons
Chan-Su Yang, *S. Taniguchi*, *Seong In Hwang*, *Kazuo Ouchi*,

14:40 A Hybrid Approach Using MLCC and CFAR for the Improvement of Ship Detection by Synthetic Aperture Radar
Seong-In Hwang, *Kazuo Ouchi*,

15:00 **Coffee Break**

15:20 Estimation of Coniferous Tree Biomass by Second Intensity Moment from High-resolution Cross-polarization SAR Images
Kazuo Ouchi, *Haipeng Wang*,

15:40 Investigation on Volume Scattering for Vegetation Parameter Estimation of Polarimetric SAR Interferometry
Yongsheng Zhou, *Wen Hong*, *Fang Cao*,

16:00 An Improvement of Vegetation Height Estimation Using Multi-baseline Polarimetric Interferometric SAR Data
Yongsheng Zhou, *Wen Hong*, *Fang Cao*,

16:20 Analysis on SAR Optimization of Polarimetric Contrast Enhancement
Qiong Zhang, *Fang Cao*, *Wen Hong*,

16:40 On the Need of Developing Multi-Band Differential POLinSAR Theory and Algorithms for Remote Sensing and Monitoring of Natural Environments and Severe Environmental Stress Changes
Wolfgang-Martin Boerner, *Kun-Shan Chen*,

Session 2P4
Signal Processing for Communication Systems & Cognitive Radar 2

Tuesday PM, March 24, 2009

Room D

Organized by Jinkuan Wang, Xin Song

Chaired by Jinkuan Wang, Xin Song

13:20 BGP Security Configuration in ISP Networks
Hexing Wang, *Cuirong Wang*, *Ge Yu*,

14:20 An Iterative QRD-M Detection Algorithm for MIMO Communication System
Li Liu, *Jinkuan Wang*, *Dongmei Yan*, *Jing Gao*, *Zhibin Xie*,

14:40 Reconstruction of Multi-component Signals Based on Quasi Fourier Transform
Gang Bi, *Yu Zeng*,

15:00 **Coffee Break**

15:20 Optimal Adaptive Waveform Selection for Target Tracking
Bin Wang, *Jinkuan Wang*, *Xin Song*, *Fulai Liu*,

15:40 Adaptive Cooperative Coding in Fast Rayleigh Fading Channel
Li Li, *Tinghuai Wang*, *Yang Du*, *Honglin Hu*,

16:00 MAC Scheduling Schemes and Cross Layer Optimization for IEEE 802.15.3
Guangdi Yang, *Lu Rong*, *Rufeng Lin*, *Yang Du*,

16:20 A Robust Beamforming Method Based on Space-time Averaging Techniques
Ruiyan Du, *Jinkuan Wang*,

16:40 An Optimal ADP Algorithm for Waveform Selection in Cognitive Radar Systems
Fulai Liu, *Jinkuan Wang*,

17:00 Reflection Cancellation from High Speed Transmission Line
Salahuddin Raju, *S. M. Salahuddin*, *Ishfaqur Raza*,

17:20 Special Approach for Estimation Ground Target Position in Passive Location
Elena P. Voroshilina, *Vladimir I. Tislenko*,

Session 2P5a
Bioeffects and Exposure Standards for RF Pulses

Tuesday PM, March 24, 2009

Room E

Organized by Michael R. Murphy

Chaired by Michael R. Murphy, Chung-Kwang Chou

13:00 Exposure Standards for Radio Frequency Pulses
Michael R. Murphy,

13:20 Low-level Pulsed Microwave Auditory Effect
Chung-Kwang Chou,

13:40 Studies on Effects of High Power Microwaves in Cell Cultures
Mårten Risling, *E. Malm*, *M. Angeria*, *Lars Malmgren*,

14:00 Effects of Localised Pulsed Heating on Electrophysiological Responses in Brain Slices
John E. H. Tattersall, *N. C. D. Mifsud*, *I. R. Scott*, *A. C. G. Green*,

14:20 Biological Effects of High Power Microwaves
René De Seze, *I. Guimiot*, *M. Ammari*, *C. Hernandez*, *E. Bourrel*, *C. Gamez*, *E. Maillot-Maréchal*, *J. F. Fontaine*, *C. Fonta*,

14:40 Effect of Electromagnetic Pulse on Embryo and Littles of Mice
Guozheng Guo,

15:00 **Coffee Break**

Session 2P5b
Medical Electromagnetics, RF biological Effect, MRI 1

Tuesday PM, March 24, 2009

Room E

Chaired by Chung-Kwang Chou, Herng-Er Horng

15:20 Ultra-high-sensitivity and Wash-free Assays on Biomolecules Using Magnetic Nanoparticles and Superconducting Quantum Interference Devices
Herng-Er Horng, *Jen-Jie Chieh*, *Shieh-Yueh Yang*, *Chin-Yih Hong*, *Hong-Chang Yang*, *Chau-Chung Wu*,

15:40 Wavelet Analysis of Alterations of the Subcutaneous Microvasculature Signal Induced by Low Frequency-electromagnetic Fields Action in Vivo
Lubomir L. Traikov, *I. Antonov*, *Akira Ushiyama*, *G. F. Lawlor*, *C. Ohkubo*,

16:00 The Role of Endogenous and Exogenous E-fields in Metaphase
A. H. J. Fleming,

16:20 Electromagnetic Pulses Radiation on Morphous and Gene Expression during Limb Development in Mice
Lihua Zeng, *Yongbin Chen*, *Jie Zhang*, *Xia Miao*, *Xiaowu Wang*, *Yurong Li*, *Dongqing Ren*, *Guozhen Guo*,

17:00 A Thermal Noise Analysis in the Biological Matter
Massimo Scalia, *Massimo Sperini*, *Fabrizio Guidi*,

Session 2P6
Elecromagnetic Field in Bio Magnetism Materials and Instrument and Dispersion in Cloaks and Metamaterials

Tuesday PM, March 24, 2009

Room F

Organized by Ganquan Xie, Jianhua Li, Xianwei Zhou

Chaired by Hong-Chang Yang, Xianwei Zhou

13:00 3D GL Transform EM Modeling for Simulation of Cylindrical Cloaking
Jianhua Li, *Feng Xie*, *Lee Xie*, *Ganquan Xie*,

13:20 Analysis of Scattering from a Finite Linear Array of Dielectric Cylinders Using the Method of Auxiliary Sources
Naamen Hichem, *Taoufik Aguili*,

13:40 Light Localization in Quasiperiodic Dielectric Media
Kang Wang,

14:00 A Deformation-space Method for the Design of Spiral Longitudinal Biplanar Gradient Coils for Open MRI Systems
Minhua Zhu, *Ling Xia*, *Guofa Shou*, *Feng Liu*, *Stuart Crozier*,

14:40 Theory for the Detection of a Single Nuclear Spin in Magnetic Resonance Force Microscopy
Srinivasa Chemudupati, *Vladimir Tsifrinovich*,

15:00 **Coffee Break**

15:20 Asymptotic Analysis of Modes of Composite Defects in Photonic Crystals
Lindsay C. Botten, *Kokou B. Dossou*, *Christopher G. Poulton*, *Ara. A. Asatryan*, *Sahand Mahmoodian*, *Ross C. McPhedran*, *C. Martijn de Sterke*,

15:40 Antireflection Coatings for 2D Photonic Crystals: A Rigorous Impedance Based Treatment
Lindsay C. Botten, *Felix Lawrence*, *Kokou B. Dossou*, *C. Martijn de Sterke*,

Session 2P7
Electromagnetic Field Modeling and Inversion and Applications 2

Tuesday PM, March 24, 2009

Room G

Organized by Ganquan Xie, Michael Oristaglio, Jianhua Li

Chaired by Michael Oristaglio, Tong Kang

13:20 A Method of Aperture Coupling Analysis and Computing Based on the BLT Equation
Jianshu Luo, *Wanjin Wang*, *Xufeng Zhang*,

13:40 GL TM Dielectric Parameter Inversion
Ganquan Xie, *Jianhua Li*, *Lee Xie*, *Feng Xie*,

14:00 Electromagnetic Modeling of Plasma Etch Chamber for Semiconductor Microchip Fabrication
Zhigang Chen, *Shahid Rauf*, *Kartik Ramaswamy*, *Ken Collins*,

14:40 Analysis of Electric Field on Liquid Zoom Lens Based on Electrowetting
Shunan Shi,

15:00 **Coffee Break**

15:20 Nanosecond Pulsed Electric Field Treatment Proves Long-Term Effectiveness on Melanoma Metastasis Animal Model
Xinhua Chen, *Richard Nuccitelli*, *R. James Swanson*, *Stephen J. Beebe*, *Karl H. Schoenbach*, *Shengyong Yin*, *Jinjun Li*, *Shusen Zheng*,

15:40 The Use of Ray-tracing and Genetic Algorithms to Optimize a Tapered Anechoic Chamber
Sayed Mohammad Javad Razavi, *Mohammad Khalaj-Amirhosseini*,

16:00 An Improved Method of Determining Permittivity and Permeability by S Parameters
Hao Zhou, *Guizhen Lu*, *Yanfei Li*, *Song Wang*, *Yue Wang*,

16:20 Features and Mechanism of Satellite Infrared Anomaly before Ocean Earthquakes
Shanjun Liu, *Lixin Wu*, *Qunlong Chen*, *Guoliang Li*,

16:40 Sumudu Applications to Maxwell's Equations
Fethi Bin Muhammad Belgacem,

17:00 Inverse Scattering of Two-dimensional Dielectric Objects in Attenuating Media without Phase Information
Yanli Liu, *Lianlin Li*, *Fang Li*,

Session 2P8
Poster Session 3

Tuesday PM, March 24, 2009
1:00 PM - 5:00 PM
Room K

1 Geometrical Effect of aperture on Shielding Effectiveness for Conductive Enclosures
Asghar Keshtkar, A. Kalantarnia, Hamid Reza Karami,

2 Dyadic Electromagnetic Green's Function for a Graphene Bilayer
Norman J. Morgenstern Horing, S. Y. Liu,

3 Open-ended MEMS Probes for Dielectric Spectroscopy of Biological Cells at Radio Frequencies
Hsin-Hung Li, Jen-Yu Jao, Ming-Kun Chen, Ling-Sheng Jang, Yi-Chu Hsu,

4 Ferromagnetism in Substitutionally Mn Doped Ge Nanowires and Their Gate Potential Responsibility
Ungkil Kim, Han-Kyu Seong, Myoung-Ha Kim, Il-Su Kim, Ryong Ha, Jae-Gwan Park, Heon-Jin Choi,

5 Azimuth Ambiguity Removal for Multiple Channel SAR
Wei Jing, Mengdao Xing, Cheng-Wei Qiu, Zheng Bao, Tat-Soon Yeo,

6 Analysis of Compact Polarimetry and Its Classification Capability
Lin Chen, Wen Hong, Fang Cao,

7 C- and L-Band Radar Observations Acquired during the Corn Growth Cycle for Soil Moisture Retrieval Purposes
Alicia T. Joseph, R. Van der Velde, Peggy Elizabeth O'Neill, Roger H. Lang, T. Gish,

8 SPECAN Azimuth Pre-processing for Bistatic Spotlight SAR Imaging
Lei Zhang, Mengdao Xing, Cheng-Wei Qiu, Zheng Bao, Wei Jing,

9 Developing Polarimetric GPR System
Xuan Feng, Li-Li Li, Li-Min Liu, Cai Liu,

10 Review of GPR Rebar Detection
Xian-Qi He, Zi-Qiang Zhu, Qun-Yi Liu, Guang-Yin Lu,

11 Magnetic Properties Co, Ni, Fe Nano-wires Electrodeposited into AAO Nano-templates
Insoo Kim, Bobomurod Hamrakulov, Su Kwon Nam,

12 Emissivity Estimation of Microwave Radiometer Calibration Load from Bistatic Measurements
Zhiping Li, Ming Bai, Jungang Miao, George W. Pan,

13 The Application of FDTD Method to UHF Electromagnetic Wave Analysis in Gas Insulated Switchgear
Xianglong Zhang, Yi Wang,

14 Detection of Pseudo-singularities by Wavelet Technique for Extracting Leaky and Bulk Waves in Piezoelectric Material
Djamel Benatia, Tarek Fortaki, Malek Benslama,

15 Surface Latent Heat Flux (SLHF) Prior to Major Coastal and Terrestrial Earthquakes in China
Jinping Li, Lixin Wu, Huanping Wu, Shanjun Liu, Jieqing Yu,

16 Temperature Dependable Microwave Dielectric Model for Moist Soils
V. L. Mironov, Sergey V. Fomin,

17 Investigation on Rolled Dipole Antenna Footprint for Ground Penetrating Radar (GPR)
Sugihartono, Yuyu Wahyu, Adit Kurniawan, Andaya A. Lestari,

18 Monioring of Satellite Thermal Pattern in the Azores Current Area
Shigehisa Nakamura,

19 Radiometric Measurements of Maximum Bound Water Fraction in Soil
V. L. Mironov, P. P. Bobrov, A. S. Yascheko,

20 New Method of Permanent Scatterers Selection for Changing City
Shibo Qu, Yanping Wang, Wen Hong, Fang Cao,

21 Simulation System Development of Infrared Remote Sensing Images: HJ-1B Case
Gui-Jun Yang, Qin-Huo Liu, Qiang Liu, Xing-Fa Gu,

22 Time-domain Double Diffraction for UWB Signals
Peng Liu, Jianying Wang, Yunliang Long,

23 Forward Scattering Indicatrix of Aircrafts In L and S Frequency Bands
V. A. Gromov, German Sergeevich Sharygin,

24 Coherent Terahertz Smith-Purcell Radiation from a Two-section Model
Zongjun Shi, Ziqiang Yang, Feng Lan, Xi Gao, Zheng Liang, D. Li,

25 Modeling the Electromagnetic Scattering from a Dielectrically Filled Groove Using the Method of Auxiliary Sources
Naamen Hichem, Taoufik Aguili,

26 Analysis of Two-dimensional Scattering by a Finite Periodic Array of Conducting Cylinders Using the Method of Auxiliary Sources
Naamen Hichem, Taoufik Aguili,

27 Single Scattering Properties of Ice Particles in mm/sub-mm Waveband: Effects of Refractive Index and Shapes
Xinxin Xie, Jungang Miao,

28 Radio-frequency Characteristics of a Printed Rectangular Helix Slow-wave Structure
Chengfang Fu, Yanyu Wei, Wen-Xiang Wang, Yu-Bin Gong,

29 Investigation of the Dielectric-loaded Folded Waveguide Traveling-wave Tube Amplifier
Chang-Qing Zhang, Yubin Gong, Hua-Rong Gong, Yanyu Wei, Wen-Xiang Wang,

30 Analysis of the Varying-period Folded Waveguide
Ao Xu, Wen-Xiang Wang, Yan-Yu Wei, Yu-Bin Gong,

31 The Anisotropy of Dielectric Losses in Single Crystal of Al_2O_3 and SiO_2
Victor N. Egorov, Vladimir L. Masalov, Ivan B. Ozhogov,

32 The Sensor for Local Dielectric Measurements on Non-flat Surfaces
Boris A. Vtorushin, Victor N. Egorov, Elena Yu. Tokareva,

33 Investigation on Wideband Filters Using Parallel Coupled Microstrip Resonators
Shinya Kohma, Toshiaki Kitamura, Yasushi Horii, Toshitaka Kojima,

34 24 GHz Power Amplifier Design in 0.13 µm CMOS Technology
Se-Hwan Choi, Jin-Sup Kim, Kyu-Bok Lee, Kyu-Ho Park,

35 Design of K-band CMOS VCO
Jin-Sup Kim, Se-Hwan Choi, Kyu-Ho Park,

36 Analytical Calculation for DC Inductances of Octagonal and Circular RFIC Spiral Inductors
Chin-Chih Yeh, Hao-Hui Chen, Jen-Tsai Kuo, Shyh-Jong Chung, Ming-Huei Chen,

37 Behavior Study of Simultaneously Defected Microstrip and Ground Structure (DMGS) in Planar Circuits
Morteza Kazerooni, G. Rezai Rad, Ahmad Cheldavi,

38 Design of 3.1 to 10.6 GHz Ultra-wideband Low Noise Amplifier with Current Reuse Techniques and Low Power Consumption
Pou-Tou Sun, Shry-Sann Liao, Hung-Liang Lin, Chung-Fong Yang, Yu-Hsuan Hsiao,

39 The Design of Low Noise Amplifier with Gain-controlled and Low Power Consumption for WLAN Applications
Pou-Tou Sun, Shry-Sann Liao, Hung-Liang Lin, Chung-Fong Yang, Tzu-Wei Yang,

40 Design of a SiGe BiCMOS Power Amplifier for WiMAX Application
Cheng-Chi Yu, Yao-Tien Chang, Meng-Hsiang Huang, Luen-Kang Lin, Hsiao-Hua Yeh,

41 Chiral Amino Alcohol Catalyzed Asymmetric Addition of Diethylzinc to Aldehyde
Ying-Chuan Wang, Hsien-Cheng Cheng,

42 Analysis of Performances of a Floquet Mode Preconditioner for Electromagnetic Scattering Computation by Rough Surfaces
S. Tournier, J.-R. Poirier, Pierre Borderies,

Session 3A1a
Piezoelectric Devices and Systems

Wednesday AM, March 25, 2009

Room A

Organized by Junhui Hu

Chaired by Junhui Hu

08:00 A Nut-type Ultrasonic Motor and Its Application on Focus System
Tieying Zhou, Jun Zhang, Yu Chen, Cunyue Lu, Deyong Fu, Yi Li, Xiaoping Hu,

08:20 R&D of a New Type Piezoelectric Transformer with a Composite Structure
Weige Zhou, Jinlong Du, Bin Wu,

08:40 Matrix Algorithms for Modeling Acoustic Waves in Piezoelectric Multilayered Media
Eng Leong Tan,

09:00 Heavy Particle Collection by Ultrasonic Actuator
Junhui Hu, Yanyan Liu, Tzehau Lam, Huizhong Xu,

Session 3A1b
Photonics Sensors

Wednesday AM, March 25, 2009

Room A

Organized by Gaozhi (George) Xiao

Chaired by Gaozhi (George) Xiao

09:20 Optofluidic Cell Sorter by Integrating a Tapered Optical Fiber with Microfluidic Channel
Honglei Guo, Gaozhi (George) Xiao, Ping Zhao, Jianping Yao,

09:40 Stacked Color Sensor with a Distributed Bragg Reflector
Noriyuki Kakimoto, Takahiro Numai,

10:00 **Coffee Break**

10:20 High Resolution Micro Spectrometers Based on Tunable Planar Lightwave Circuits
Gaozhi (George) Xiao, Nezih Mrad, Zhiyi Zhang,

10:40 Modeling of the Potential Profile for the Annealed Polycrystalline PbSe Film
Gang Bi, Fanghai Zhao, Jiangang Ma, Shaibal Mukherjee, Donghui Li, Zhisheng Shi,

11:00 Interrogation of Tilted Fiber Bragg Grating Sensors by Mechanical Scanning an Arrayed Waveguide Grating
Honglei Guo, Gaozhi (George) Xiao, Nezih Mrad, Jianping Yao,

11:20 Interrogation of Optical Fiber Sensors Using a Mechanically Scannable Arrayed Waveguide Gratings Demultiplexer
Gaozhi (George) Xiao, Nezih Mrad, Zhiyi Zhang, Honglei Guo, Jianping Yao,

11:40 Fiber Optic Distributed Strain and Temperature Sensors
Lufan Zou, Omur Sezerman,

Session 3A2a
Metamaterial Applications: from Antennas to Cloaking

Wednesday AM, March 25, 2009

Room B

Organized by Sailing He, Le-Wei Li

Chaired by Sailing He, Le-Wei Li

08:00 Quantifying Localization Characteristics of Plasmonic Waves
Ari Henrik Sihvola,

08:20 Negative Permeability Derived from Resonance in Ceramic Dielectrics
Ji Zhou, Qian Zhao, Hongjie Zhao, Lei Kang,

08:40 Design of a Three-dimensional Metamaterial Exhibiting Isotropic Properties in the Near Infrared Range
Andrei V. Andryieuski, Radu Malureanu, Andrei V. Lavrinenko,

09:00 Design of High-gain Antenna by Discrete Optical Transformation
Wei Xiang Jiang, Tie Jun Cui,

09:20 Planar Resonant Metamaterial Absorbers for All Polarizations at Microwave Band
Bo Zhu, Zhengbin Wang, Ziying Yu, Qi Zhang, Yijun Feng,

09:40 Leaky Coplanar Waveguide Antenna with Tunable Beamwidth and Radiation Angle Using Composite Right/Left-handed Materials
Abdelaziz Hamdi, Ammar B. Kouki, Abdelaziz Samet,

10:00 **Coffee Break**

10:20 Directive Emissions of Antennas on Metamaterial Ground Planes: Role of Anomalous Reflection Phases
Kun Ding, Tao Jiang, Jiaming Hao, Lixin Ran, Lei Zhou,

Session 3A2b
Mathematical and Numerical Tools for Metamaterials 1

Wednesday AM, March 25, 2009

Room B

Organized by Didier Felbacq

Chaired by Didier Felbacq

10:40 Transformation Optics for Cloaking and Hyperlensing with Metamaterials
Charles Croënne, Davy P. Gaillot, Fuli Zhang, Wounjhang Park, Didier Lippens,

11:00 Determination of the Effective Constitutive Parameters of Bianisotropic Metamaterials from Reflection and Transmission Coefficients
Zhaofeng Li, Ekmel Ozbay,

11:20 Homogenization of Finite Metallic Fibers and 3D-effective Permittivity Tensor
Guy Bouchitte, Cristophe Bourel,

11:40 Homogenization of 3D-dielectric Photonic Crystals and Artificial Magnetism
Guy Bouchitte, Cristophe Bourel, Didier Felbacq,

Session 3A3
Microwave Remote Sensing of Soil Moisture

Wednesday AM, March 25, 2009

Room C

Organized by Jiancheng Shi, Thomas J. Jackson

Chaired by Jiancheng Shi, Thomas J. Jackson

08:20 The Soil Moisture Active and Passive (SMAP) Mission
Dara Entekhabi, *Eni Gerald Njoku*, *Peggy O'Neill*, *Michael Spencer*, *Kent Kellogg*, *Jared Entin*,

08:40 Estimation of Soil Moisture with the Two Repeat-pass Radar Measurements
Jiancheng Shi,

09:00 A Combined Use of ASAR and PALSAR Data for Soil Moisture Retrieval
Francesco Mattia, *Giuseppe Satalino*, *Anna Balenzano*,

09:20 Retrieval Algorithm Development Based on SMEX02 Field Campaign Data for the Soil Moisture Active and Passive (SMAP) Mission
Steven K. Chan, *Eni Gerald Njoku*,

09:40 Development of an AMSR-E Soil Moisture Retrieval Algorithm through Field Experiments and Data Assimilation
Hui Lu, *Toshio Koike*, *Hideyuki Fujii*, *Tetsu Ohta*, *Katsunori Tamagawa*,

10:00 **Coffee Break**

10:20 Exploring Uncertainty in the ERS-SCAT Soil Moisture Data with Monte Carlo Simulations
Vahid Naeimi, *Wolfgang Wagner*,

10:40 Satellite-based Atmosphere-land Coupled Data Assimi-Lation System
Toshio Koike, *David N. Kuria*, *Mohamed Rasmy*,

11:00 TRMM Microwave Imager Soil Moisture Mapping and Flooding during CLASIC
Thomas J. Jackson, *Rajat Bindlish*, *Y. Wang*, *M. H. Cosh*,

11:20 Comparison of Soil Scattering Models Using Data vs. Image from EMSL Experiment
Qiang Yin, *Wen Hong*, *Fang Cao*, *Weixian Tan*, *Yun Lin*,

Session 3A4
Electromagnetic Application in the Advanced Manufacturing Technology

Wednesday AM, March 25, 2009

Room D

Organized by Hai Ou Zhang

Chaired by Hai Ou Zhang

08:20 Research on the Robotic Polishing Combined with Electromagnetic Field of Rapid Metal Tool
Guangchao Han, *Hai Ou Zhang*, *Qichang Su*,

08:40 Modeling of Thermal-metallurgical Behavior during Hybrid Plasma-laser Deposition Manufacturing
Fanrong Kong, *Hai Ou Zhang*, *Guilan Wang*,

09:00 A Flexible Synchronous Powder Feeder for Electromagnetism Compress Digital Manufacturing of FGM Metal Component
Haiping Zou, *Hai Ou Zhang*, *Guilan Wang*,

09:20 Research on Relationship between arc Length and arc Voltage in the Plasma Deposition Manufacture Process
Hai Ou Zhang, *Chao Wang*, *Guilan Wang*, *Hui Ai*,

10:00 **Coffee Break**

10:20 Research of Electromagnetic Effects on the Compound Arc Beam in the Hybrid Plasma-laser Manufacturing Process
Ying-Ping Qian, *Hai Ou Zhang*, *Guilan Wang*, *Guangchao Han*,

10:40 Multi-axis Path Planning for Electromagnetic-compressed Plasma Deposition Manufacturing Based on STL Format
Hai Ou Zhang, *Jiang Jiang*, *Guilan Wang*, *Xinhong Xiong*, *Guangchao Han*,

11:00 Integrated Robotic Plasma Spraying System for Advanced Materials Processing
Weisheng Xia, *Hai Ou Zhang*, *Guilan Wang*, *Yunzhen Yang*, *Guangchao Han*, *Haiping Zou*,

11:20 Numerical Simulation of Electromagnetic Flux Leakage in Application of Internal Defects Prediction of Metal Parts
Hai Ou Zhang, *Yunzhen Yang*, *Guilan Wang*, *Haiping Zou*,

Session 3A5a
Non-Thermal Mechanisms of Interaction between Electromagnetic Fields and Living Matter

Wednesday AM, March 25, 2009

Room E

Organized by Livio Giuliani

Chaired by Livio Giuliani, Natalia V. Bobkova

08:00 Electrodynamic of Zwitterions in Aquaeus Solutions under the Action of Weak Magnetic Fields
Emilio Del Giudice, *Livio Giuliani*, *Natalia V. Bobkova*, *Mikhail N. Zhadin*,

08:20 Influence of Calcium Cyclotronic Resonance on the Developmental Rates of *Xenopus Laevis* Tadpoles
M. Severini, Claudia Giliberti, G. Tarantino, M. Loy, M. Bonori, A. Congiu Castellano, A. Bedini, R. Palomba, Livio Giuliani,

08:40 The Weak Combined Magnetic Fields Induce the Reduction in Brain Amyloid-β Level in Two Animal Models of Alzheimer's Disease
Natalia V. Bobkova, Vadim V. Novikov, Natalia I. Medvinskaya, Irina Y. Aleksandrova, Sergei Antonov, Eugenii E. Fesenko,

09:00 Link between Quantum Electro Dynamics and Biology: The Developing Concept of Informative Medicine
Alberto Foletti, Emilio Del Giudice, Livio Giuliani, Settimio Grimaldi,

09:20 Epidemiological Evidence Suggests Preference of the US Versus the EU Standards for Partial Body Exposure to Microwaves
Livio Giuliani, Francesco Boella,

09:40 Biophisical Implications of Coherence in Water Involved in Fuchs' Water Bridges
Enrico D'Emilia, L. Giuliani, S. Grimaldi, A. Lisi,

10:00 **Coffee Break**

10:20 Radio-over-fiber and Micro Cells: Can Be This a Way to Contrast the Increase of Human Exposure to Microwave Electromagnetic Fields?
Francesco Boella, Livio Giuliani,

10:40 Electromagnetic Mapping of Urban Areas: The Example of Monselice (Italy)
Claudia Giliberti, Francesco Boella, A. Bedini, R. Palomba, Livio Giuliani,

Session 3A5b
Progress in fs Laser Interaction with Matter 1

Wednesday AM, March 25, 2009

Room E

Organized by Jianrong Qiu, Hiroaki Misawa

Chaired by Jianrong Qiu, Hiroaki Misawa

11:00 Polymer Photonics and Polymer MEMS: Fabrication by Femtosecond Lasers
Qi-Dai Chen, Hong Xia, Hong-Bo Sun,

11:20 Laser Micro-nanofabrication of High-quality Aspheric Microlenses and Microlens Array
Dong Wu, Qi-Dai Chen, Li-Gang Niu, Hong-Bo Sun,

11:40 Design and Laser Fabrication of Polymeric Binary Micro-optical Components
Xiao-Feng Lin, Qi-Dai Chen, Li-Gang Niu, Dong Wu, Wen-Quan Wang, Hong-Bo Sun,

Session 3A6
Novel Mathematical Methods in Electromagnetics

Wednesday AM, March 25, 2009

Room F

Organized by Kazuya Kobayashi, Yury V. Shestopalov

Chaired by Kazuya Kobayashi, Yury V. Shestopalov

08:00 Charge Moment Tensor and the Rotation Equation of a Charged Rigid Body in a Uniform Magnetic Field
Guo-Quan Zhou, Cao Guan, Si-Lei Zhang,

08:20 Natural Introduction of Charge Moment Tensor and the Lagrangian of a Rotational Charged Rigid Body
Guo-Quan Zhou, Si-Lei Zhang, Cao Guan,

08:40 Simplified Variational Principles for Barotropic Magnetohydrodynamics
Asher Yahalom,

09:00 An in-depth Investigation of the Coupled Transverse-mode Integral Equation
Hung-Wen Chang, Shih-Min Lu,

09:20 Semi-analytical Approach for a Specific Microstructured Fiber
Kiyotoshi Yasumoto,

09:40 RCS Analysis of a Terminated, Semi-infinite Parallel-plate Waveguide with Four-layer Material Loading: Rigorous Wiener-Hopf Approach
Erhao Shang, Kazuya Kobayashi,

10:00 **Coffee Break**

10:20 Wiener-Hopf Analysis of the Diffraction by a Semi-infinite Parallel-plate Waveguide with Sinusoidal Corrugation
Jianping Zheng, Kazuya Kobayashi,

10:40 An Analytical Solution for the Logarithmic Singularity Associated with MoM Applied to Dielectrics and MFIE and Its Optimal Evaluation with Polynomial Quadratures
Thierry Gilles, Marc Piette, Christophe Craeye,

11:00 The Helmholtz Equation with Impedance Boundary Conditions
Aihua W. Wood,

Session 3A7
Electromagnetic Near Field Effects in Problems of Wave Radiation from and Scattering by Ordered and Disordered Media

Wednesday AM, March 25, 2009

Room G

Organized by Yuru Nicolaevich Barabanenkov

Chaired by Yuru Nicolaevich Barabanenkov

08:00 Coupled Surface States in Thin, Frequency Dependent Layers
Michael Bergmair, *Kurt Hingerl*,

08:20 Non-radiating Field Wave Scattering from Discontinuities in Planar Surface
Feng Chen, *Huiling Zhao*, *Wei Wan*,

08:40 High Harmonics Generation in Underdense Plasma from Relativistic Thomson Scattering
Fatemeh Abbasi,

09:00 Relativistic High Harmonics Generation in Underdense Plasma Produced by a Super Intense Femtosecond Laser Pulse
Fatemeh Abbasi, *Karim Salimi*,

09:20 High Harmonic Generation in Magnetic Underdense Plasma
Karim Salimi, *Fatemeh Abbasi*,

09:40 Manipulation of Thermal Emission via Tungsten Gratings
Jones Tsz-Kai Wan,

10:00 **Coffee Break**

Session 3A8
Poster Session 4

Wednesday AM, March 25, 2009

8:00 AM - 12:00 AM

Room K

1 Applications of Silicon-based Photonic Crystal
Huihui Zhang, *Huajun Shen*, *Jingtao Zhou*, *Xinyu Liu*,

2 Theoretical and Experimental Study of Complex Optofluidic Phenomena
Juan A. M. Rojas, *Jesus Alpuente*, *Pablo Luis López Espí*, *Rocio Sanchez*,

3 Focusing Properties of Radially Polarized Beam with Radial Cosine Phase Wavefront
Xiumin Gao, *Jian Wang*, *Lingling Sun*, *Songlin Zhuang*,

4 Investigation of Slow Wave Structure with Metal PBG Structures
Xi Gao, *Ziqiang Yang*, *Limei Qi*, *Zongjun Shi*, *Feng Lan*, *Zheng Liang*,

5 Transmission Characteristics of Electromagnetic Waves in Plasma Photonic Crystal by a Novel FDTD Method
Limei Qi, *Ziqiang Yang*, *Xi Gao*, *Feng Lan*, *Zongjun Shi*,

6 3D FDTD Method Analysis of Light-beam Scattering from a RAD-MSR Disk Models
Di Yang, *Akira Yokoyama*, *Toshitaka Kojima*,

7 Application of Laser Plasma Source with a Gas-puff Target in Calibration of Extreme Ultraviolet Detectors
Janusz Mikolajczyk, *Rafal Rakowski*,

8 Electromagnetic Modes in Hybrid Periodic-non-periodic Dielectric Porous Silicon Multilayers
J. Escorcia-García, *Miguel Eduardo Mora-Ramos*,

9 Study on the Influence of the Incidence Direction on the Photonic Band Gap in Porous Si-based Dielectric Heterostructures
Jose Escorcia-García, *Miguel Eduardo Mora-Ramos*,

10 Improved Property in Inverted Bottom-emission Organic Light-emitting Diodes Using 8-Hydroxyquinolinolatolithium Layer
Jianfeng Li, *W. L. Chang*, *Fujia Zhang*,

11 Analysis of the Injection Layer of Liq in Inverted OLEDs Using Atomic Force Microscopy and X-ray Photoelectron Spectroscopy
Jianfeng Li, *W. L. Chang*, *Fujia Zhang*,

12 Low Cost 1×2 Acrylic-based Plastic Optical Fiber Coupler with Hollow Taper Waveguide
Abang Annuar Ehsan, *Sahbudin Shaari*, *Mohd Kamil Abd. Rahman*,

13 Analysis of a New Measurement for Electromagnetic Field with Polarization Imformation of Fiber Grating
Yang Su, *Hui Peng*, *Yuquan Li*,

14 Optoelectronic Sensor for NO_x Detection
Jacek Wojtas, *Zbigniew Bielecki*, *Janusz Mikolajczyk*, *Miroslaw Nowakowski*, *Tadeusz Stacewicz*, *Adam Czyżewski*,

15 Continuum Electronic Bound States in Rectangular Quantum Wells and Barriers
E. A. Carrillo-Delgado, *Isaac Rodríguez-Vargas*, *Stoyan Jelev-Vlaev*,

16 Characteristic of Pentacene Thin Films
Chunlan Tao, Xuhui Zhang, Maojun Dong, Fujia Zhang,

17 Scanning Tunneling Microscope Studies of Co Growth on the Ru(0001) Surface
H. J. Zhang, Y. F. Xu, X.-S. Wang, H. F. Wu, H. Y. Li, S. N. Bao, P. He,

18 Childhood Leukemia Risk Due to High Voltage Transmission Line in Tehran — Iran
Navid Khaledi, Nima Khaledi,

19 Electromagnetic Pulse Alter Permeability of the Blood-brain Barrier in Rats
Guirong Ding, Xiaowu Wang, Kangchu Li, Yongchun Zhou, Lianbo Qiu, Guozheng Guo,

20 The Research on the Harm of Biological Effect of Mobile Phone Radiation to Human Body
Yang Li, Guizhen Lu,

21 Suppression of Static Magnetic Field in Diffusion Measurements of Heterogeneous Materials
Eva Gescheidtova, Karel Bartušek,

22 Compensating the Effect of Static Magnetic Field in MR Measurement of Diffusion
Karel Bartušek, Eva Gescheidtova,

23 Wavelet Filtering and Level Set Segmentation of NMR Images for Monitoring the Development of Growing Cultures
Jan Mikulka, Eva Gescheidtová, Karel Bartušek,

24 Perimeter Measurement of Spruce Needles Profile Using MRI
Jan Mikulka, Eva Gescheidtová, Karel Bartušek,

25 Characterization of Acetylcholine Hydrolysis under Continuous and Pulsed Microwaves Radiation Using Broadband Dielectric Measurement
Cédric Gilbert, C. Pareige, A. Fourrier-Lamer, F. Maurel, Olivier Meyer,

26 Effect of Seed Pretreatment by Magnetic Fields on Seed Germination and Ontogeny Growth of Agricultural Plants
Ahmad Majd, Azita Shabrangi,

27 Effect of Magnetic Fields on Growth and Antioxidant Systems in Agricultural Plants
Azita Shabrangi, Ahmad Majd,

28 The Weak Combined Magnetic Fields Reduce the Brain β-Amyloid in an Animal Model of Sporadic Alzheimer's Disease
Natalia V. Bobkova, Vadim V. Novikov, Natalia I. Medvinskaya, Irina Yu. Aleksandrova, Eugenii E. Fesenko,

29 Weak Combined Magnetic Field Accelerates Hydrolysis of βAmyloid-Protein ***in vitro***
Eugenii E. Fesenko, Vadim V. Novikov, Natalia V. Bobkova,

30 Electromagnetic Wave Absorption in K Band and V Band with Carbon Microcoils
Kuan-Ting Lin, Jian-Yu Hsieh, Tao Wang, Cheng-Hung Li, Neng-Kai Chang, Shey-Shi Lu, Shuo-Hung Chang, Ying-Jay Yang,

31 Non-linear Heating of the Upper Thermosphere Due to Auroral Electric Field
S. S. De, B. Bandyopadhyay, Suman Paul, M. De, D. K. Haldar,

32 Computer Simulation of Emission Spectra in Plasma Generated by an Alternating Electric Field
Elena Vladimirovna Koryukina,

33 Abnormal Refraction of Microwave in Ferrite Based Composite Metamaterials
Hongjie Zhao, Lei Kang, Ji Zhou, Qian Zhao, Rui Wang, Jingbo Sun,

34 Light Harvest Induced in Cloaking Shells
Pu Zhang, Yi Jin,

35 Terahertz Science and Technology and Applications
Bin Zhu, Y. Chen, K. Deng, W. Hu, Z. S. Yao,

36 Cherenkov Radiation Formed by a Charge Moving Parallel to the Boundary between Normal and Double-negative Media
Zhaoyun Duan, Bae-Ian Wu, Min Chen,

37 Influence of Shielding in Asymmetric Planar Structures for MMICs Applications
Abdelhamid Khodja, C. Boularak, R. Touhami, Henri Baudrand, Mustapha C. E. Yagoub,

38 Electronic States in Mixed Cantor-like Potentials
D. S. Díaz-Guerrero, J. J. F. Montoya, Luis M. Gaggero-Sager,

39 Eigenvalues and Eigenfunctions in a Cantor-like Potential
Luis Manuel Gaggero-Sager, Enrique Pujals, D. S. Díaz-Guerrero,

40 Relative Mobility and Relative Conductivity in ALD-FET (Atomic Layer Doped-field Effect Transistor) in GaAs
Outmane Oubram, Luis Manuel Gaggero-Sager, D. S. Díaz-Guerrero,

41 Design of a Novel Wideband Planar Inverted-F Antenna for Mobile Applications
Xingyu Zhang, Antti Salo,

42 Interaction between Two Photorefractive Bright Solitons in Different Dimensions
Alireza Keshavarz,

43 Second Harmonic Generation from Periodic Arrays of Metallic Sub-wavelength Slits
Marco Centini, *A. Benedetti*, *M. Scalora*, *Concita Sibilia*, *M. Bertolotti*,

44 Structural and Magnetic Properties of Mn Implanted GaN
Abdul Majid, *Akbar Ali*, *Rehana Sharif*, *J. J. Zhu*, *Xiufeng Han*,

Session 3P1
Mathematical and Numerical Tools for Metamaterials 2

Wednesday PM, March 25, 2009

Room E

Organized by Didier Felbacq

Chaired by Didier Felbacq

13:00 Virtual Antenna Method as Applied to the Study of the Scattering by 2-dimensional Non-linear Metamaterials
Frédéric Zolla, *Pierre Godard*, *André Nicolet*,

13:20 Computation of Layered Media Green's Functions in Metamaterials
Boping Wu, *Jeremy Q. Bagley*, *Leung Tsang*,

13:40 Coupling of Terahertz Surface Plasmon Polaritons in Corrugated Stacks of Dielectric and Semiconductor
Xin Wu, *De Li*, *Wei-Hua Sun*, *Feng Gao*, *Zhi-Jian Zhang*, *Ru-Wen Peng*,

14:00 Omnidirectional Transmission in the Photonic Bandgap of Periodic Metamaterials Stacks
Wei-Hua Sun, *Ye Lu*, *Xin Wu*, *De Li*, *Zhi-Jian Zhang*, *Ru-Wen Peng*, *Mu Wang*,

14:20 A Density Matrix Approach to Wave Propagation in Nanostructures
Didier Felbacq, *Brahim Guizal*,

14:40 Rigorous Analysis of Metamaterials by Means of the Parametric Fourier Modal Method
Gérard Granet, *Antoine Moreau*,

15:00 **Coffee Break**

15:20 Dirichlet-to-Neumann Map Method for the Analyzing Photonic Crystal Slabs
Lijun Yuan, *Ya Yan Lu*,

15:40 Analyzing Diffraction Gratings by Neumann-to-Dirichlet Maps and Boundary Integral Equations
Yumao Wu, *Ya Yan Lu*,

16:00 Longitudinal-elliptical-polarized EM Waves in off-diagonal Chiral Media
Weihua Wang, *Siu-Tat Chui*, *Zhifang Lin*, *Lei Zhou*,

16:20 Electromagnetic Resonance, Negative Refraction, Transparency by Coated Spheres: Radial Anisotropy
Lei Gao,

16:40 Application of General Transmission-line Equations on Left-handed Materials
Xiao Liu, *Chao Li*, *Fang Li*,

17:00 Magnetic Resonance Transmission and Its Suppression in Metallic Ring-plate Composite Metamaterials
Zheng-Gao Dong, *Hui Liu*, *Tao Li*, *Shi-Ning Zhu*,

Session 3P2a
Radar Polarimetry

Wednesday PM, March 25, 2009

Room F

Organized by Jian Yang, Wolfgang-Martin Boerner

Chaired by Jian Yang, Wolfgang-Martin Boerner

13:00 Advancements in Active Multimodal Microwave (SAR) Remote Sensing
Wolfgang-Martin Boerner, *Jorge J. Morisaki*,

13:20 Forest LAI Estimation from Radarsat-2 Polarimetric SAR Data
Erxue Chen, *Zengyuan Li*, *Feilong Ling*, *Qisheng He*, *Xin Tian*,

13:40 Crop Type Identification in Jiangsu, China Using Fully Polarimetric Radarsat-2 Data
Feilong Ling, *Zengyuan Li*, *Erxue Chen*,

14:00 Study on Forest Biomass Extraction Based on ALOS PALSAR Data
Qisheng He, *Erxue Chen*, *Zengyuan Li*, *Chunxiang Cao*,

Session 3P2b
Microwave Remote Sensing and Global Climate Change

Wednesday PM, March 25, 2009

Room F

Organized by Hong Tat Ewe, Yang Du

Chaired by Hong Tat Ewe, Yang Du

14:20 Target Detection beneath Canopy Using PolSAR Images
Chu-Feng Hu, *Jia-Dong Xu*, *Nan-Jing Li*, *Lin-Xi Zhang*,

14:40 An Inverse Model for Sea Ice Thickness Retrieval Using Active Microwave Remote Sensing
Yu Jen Lee, *Wee Keong Lim*, *Hong Tat Ewe*, *Hean Teik Chuah*,

15:00 **Coffee Break**

15:20 Monitoring Crop Phenology with MERIS Data — A Case Study of Winter Wheat in North China Plain
Jihua Meng, *Bingfang Wu*, *Qiangzi Li*, *Xin Du*, *Kun Jia*,

15:40 Passive Microwave Remote Sensing for Sea Ice Thickness Retrieval Using Neural Network and Genetic Algorithm
Horng Jau Yap, *Wee Keong Lim*, *Hong Tat Ewe*, *Hean Teik Chuah*,

16:00 Interpolation Techniques to Improve RIO Boundary Detection
Avijit Hira, *Shaik Ashraf Hossain*, *Md Ishfaqur Raza*,

16:20 A Microwave Scattering Model for the Remote Sensing of Oil Palm Plantations
Jun-Yi Koay, *Tuck-Yew Yan*, *Ka-Sing Lim*, *Hong Tat Ewe*,

16:40 EM Scattering from Multiple Cylinders
Wenzhe Yan, *Dawei Liu*, *Hong Tat Ewe*, *Yang Du*,

17:00 Bistatic Vehicle under Foliage Modeling
Ludovic Villard, *Pierre Borderies*,

Session 3P3a
Antenna Applications and Measurement

Wednesday PM, March 25, 2009

Room G

Chaired by Alain C. Priou, Habiba Hafdallah Ouslimani

13:00 Analysis of the Electromagnetic Properties of High Impedance Surfaces Using Genetic Synthesis
Nadia Lassouaoui, *Habiba Hafdallah Ouslimani*, *Alain C. Priou*,

13:20 Electromagnetic Modelling of High-impedance Surface for Antenna Applications
L. Y. Zhou, *Habiba Hafdallah Ouslimani*, *O. Maas*, *Alain C. Priou*,

13:40 Development of a Portable Field Meter for Measuring Specific Absorption Rate
Benjamin Loader, *Mike Manning*, *Alex Miller*,

14:00 Obtaining the Normal Field Component from Measurement
George G. Cheng, *Yong Zhu*, *Jan Grzesik*,

Session 3P3b
Antennas in RFID and Mobile Communications

Wednesday PM, March 25, 2009

Room G

Chaired by Ahmad Hoorfar, Chang-Fa Yang

14:40 Meander-line Antenna Design for UHF RFID Tag Using a Genetic Algorithm
Dawei Zhou, *Raed A. Abd-Alhameed*, *C. H. See*, *M. S. Alkhambashi*, *Z. Zainal Abidin*, *K. N. Ramli*, *Musa M. Abusitta*, *Muhammad Usman*,

15:00 **Coffee Break**

15:20 A Miniature Chip Antenna Design for a Passive UHF RFID Tag to Be Built in a Portable Device
Yu-Shu Lin, *Hsien-Wen Liu*, *Kuo-Hsien Wu*, *Chang-Fa Yang*,

15:40 A Metal Tag Antenna for Passive UHF RFID Applications
Hsien-Wen Liu, *Yu-Shu Lin*, *Kuo-Hsien Wu*, *Chang-Fa Yang*,

16:00 Dual-frequency Balanced Mobile Antenna for WLAN and Short Range Communication Systems
Dawei Zhou, *Raed A. Abd-Alhameed*, *C. H. See*, *S. W. J. Chung*, *A. G. Alhaddad*, *Peter S. Excell*,

16:20 Enhanced-bandwidth PIFA Antenna with a Slot on Ground Plane
Xingyu Zhang, *Anping Zhao*,

16:40 Design of Multi-band Antenna Using Different Radius Wires
Tsutomu Yokoyama, *T. Hoashi*, *K. Murata*, *Shigeru Egashira*, *K. Egashira*, *T. Nakamiya*,

17:00 Balanced MIMO Antenna for Mobile Phones
Muhammad Usman, *Raed A. Abd-Alhameed*, *Dawei Zhou*,

17:20 Design of RFID Reader Antenna for Exclusively Reading One Single Tag
Chi-Fang Huang, *I-Feng Huang*,

Session 3P4
Fiber Optics, Optical Sensors, and All-optical Signal Processing

Wednesday PM, March 25, 2009

Room H

Organized by Chong-Qing Wu

Chaired by Chong-Qing Wu

13:00 Reduction of Four Wave Mixing Noises in FDM Optical Fiber Transmission Systems with Quaternary Bit-phase Arranged Return-to-zero
Yoshitaka Ito, *Takuya Tamo*, *Takahiro Numai*,

13:20 An All Optical XOR Logic Gate for NRZ Based on TOAD
Yaping Wang, *Chong-Qing Wu*, *Xiaojun Shi*, *Shuangshou Yang*, *Yongjun Wang*,

13:40 Ultra-low Power Frequency Conversion in Two-photon-absorption Free Micro Ring Resonator
Marcello Ferrera, *Luca Razzari*, *David Duchesne*, *Roberto Morandotti*, *Zhenshan Yang*, *Marco Liscidini*, *John E. Sipe*, *Sai T. Chu*, *Brent E. Little*, *David J. Moss*,

14:00 Highly Birefringent Hybrid Photonic Crystal Fiber
Sodré Arismar Cerqueira, Jr., *Hugo E. Hernández-Figueroa*, *H. L. Fragnito*,

14:20 Efficient Generation of Cascaded Four-wave Mixing in Very Short Optical Fibers
Sodré Arismar Cerqueira, Jr., *J. D. Marconi*, *Hugo E. Hernández-Figueroa*, *H. L. Fragnito*,

14:40 High Performance, Low-loss Nonlinear Integrated Glass Waveguides
David Duchesne, *Marcello Ferrera*, *Luca Razzari*, *Roberto Morandotti*, *M. Peccianti*, *Brent E. Little*, *Sai T. Chu*, *David J. Moss*,

15:00 **Coffee Break**

15:20 Investigation of the Localization of the Electric Dipoles
Shuang Zhao, *Chong-Qing Wu*,

15:40 Birefringence Vector Computation and Measurement for Fiber with Polarization Dependent Loss
Zhengyong Li, *Chong-Qing Wu*, *Qingtao Zhang*, *Huiyuan Zhang*,

16:00 Spectrum Property of 6.5 W Multi-mode Output Laser Diode
Lanlan Liu, *Chongqing Wu*, *Guodong Lin*, *Luyao Zhai*,

16:20 An Optical Time-Division Multiplier for RZ Optical Clock by Means of Stabilized Delay Interferometers
Junichi Miyashita, *Yuki Adachi*, *Hiroyuki Toda*,

16:40 Evolution of Beat Signal in a Nonlinear PCF Considering the Stability of the Light Source
Li-Mei Zhang, *Zhi Wang*, *Kuang-Lu Yu*, *Chong-Qing Wu*,

17:00 Investigation on Traffic Grooming of OPS Edge Node Base on FDLs
Kai-Qiang Gao, *Chong-Qing Wu*, *Xin-Zhi Sheng*, *Kai Chen*,

17:20 The Diffusion Process of Dye in Polymer Film
Ying-Chuan Wang,

Session 3P5
Progress in fs Laser Interaction with Matter 2

Wednesday PM, March 25, 2009

Room I

Organized by Jianrong Qiu, Hiroaki Misawa

Chaired by Jianrong Qiu, Hiroaki Misawa

13:00 PW/cm^2 Femtosecond Laser-condensed Matter Interaction Resulting in X-ray Pulse Emission
Koji Hatanaka,

13:20 Estimation of Local Force of Biological Cellular Adhesion by Femtosecond Laser Micro "Tsunami"
Yoichiroh Hosokawa, *A. Ito*, *K. Okano*, *Y. Murakami*, *H. Masuhara*,

13:40 Dynamics of Femtosecond Laser Processing inside Glasses — Dependence on Pulse Duration
Masaaki Sakakura, *Masahide Terazima*, *Yasuhiko Shimotsuma*, *Kiyotaka Miura*, *Kazuyuki Hirao*,

14:00 Applications of the Laser 3D-structured Materials
Saulius Juodkazis, *Hiroaki Misawa*,

14:20 New Phenomena in Ultrafast Laser Interaction with Matter
Peter G. Kazansky, *Weijia Yang*, *Martynas Beresna*, *Yasuhiko Shimotsuma*, *Masaaki Sakakura*, *Kazuyuki Hirao*, *Jiarong Qiu*, *Yuri P. Svirko*,

14:40 Nanoaquarium Fabricated by Femtosecond Laser for Dynamic Observation of Microorganisms
Koji Sugioka, *Yasutaka Hanada*, *Katsumi Midorikawa*,

15:00 **Coffee Break**

15:20 Integration of Multifunctional Microdevices with Femtosecond Laser Pulses
Ya Cheng, *Jian Xu*, *Yang Liao*, *Fei He*, *Zenghui Zhou*, *Haiyi Sun*, *Zhizhan Xu*, *Koji Sugioka*, *Katsumi Midorikawa*,

15:40 Complex Nanopatterns on 6H-SiC, ZnO Crystals Induced by the Interference of Multi-beam Femtosecond Laser
Tianqing Jia, *X. Jia*, *P. X. Xiong*, *Z. R. Sun*, *J. R. Qiu*, *Zhizhan Xu*,

16:00 Three-dimensional Surfaces of Inorganic Materials Fabricated by Femtosecond Laser Lithography
Hiroaki Nishiyama, *M. Mizoshiri*, *J. Nishii*, *Y. Hirata*,

16:40 Three-dimensional Microstructuring inside Transparent Solid Substrates Assisted by Femtosecond Laser Pulses
Shigeki Matsuo, *Satoshi Kiyama*, *Kensuke Tokumi*, *Takuro Tomita*, *Shuichi Hashimoto*,

17:00 Multi-photon Induced Polymerization for Three-dimensional Metal/polymer Fine Structures
Nobuyuki Takeyasu, *Takuo Tanaka*, *Satoshi Kawata*,

17:20 Femtosecond Laser Modifications in Polymer Materials
Wataru Watanabe,

Session 3P6
Scattering by Canonical Objects

Wednesday PM, March 25, 2009

Room J

Organized by Egon Marx, Andrey V. Osipov

Chaired by Egon Marx, Andrey V. Osipov

13:20 Looking into Transient Scattering
Giorgio Franceschetti, *James Tatoian*, *George Gibbs*,

13:40 PO-based Analysis of Double-bounce Scattering
Andrey V. Osipov,

14:00 Plane-wave Scattering by an Elliptic Cone
Ludger Klinkenbusch,

14:20 Integral Equations for 3-D Scattering: Finite Strip on a Substrate
Egon Marx,

14:40 Computational Parameters in Simulation of Microscope Images
Egon Marx, *James Potzick*,

15:00 **Coffee Break**

15:20 Diffraction of a Creeping Wave on an Elongated Object by an Edge
Frederic Molinet,

15:40 Reflection of a Plane Electromagnetic Wave in a Right-angled Interior Wedge with Anisotropic Faces
Andrey V. Osipov, *Thomas B. A. Senior*,

16:00 *E*-polarized Diffraction Coefficients of a Composite Wedge Composed of a Perfect Conductor and a Lossy Dielectric
Se-Yun Kim,

16:20 Plane Wave Scattering by a Dielectric Wedge
Jung-Woong Ra,

16:40 Diffraction by an Infinite Singly-negative Material Wedge
Mohamed A. Salem, *Aladin H. Kamel*,

Session 4A1a
Nano Scale Electromagnetics

Thursday AM, March 26, 2009

Room A

Chaired by Ping-Hei Chen

08:00 A Physical De-embedding Method for Silicon-based Device Applications
Hsiao-Tsung Yen, *Tzu-Jin Yeh*, *Sally Liu*,

08:20 Thermal Conductivity of Nanofluid with Magnetic Nanoparticles
Tsung-Han Tsai, *Long-Sheng Kuo*, *Ping-Hei Chen*, *Chin-Ting Yang*,

08:40 Breakups of a Magnetic Drop Passing through a Micro-orifice
Ching-Yao Chen, *C.-H. Chen*, *W.-F. Lee*,

09:00 Short Pulsed Laser Processing in Liquid Media: From Single Silicon Nanocrystal to 3D Photonic Structures
Vladimir Švrček,

09:20 On the Use Complex Susceptibility Measurements in Investigating the Field Dependence of Resonance and After-effect Function of Nano-particle Colloids
P. C. Fannin,

09:40 New Transport Regime of Electromagnetic Wave in Two-dimensional Photonic Crystal
Xiangdong Zhang,

10:00 **Coffee Break**

10:20 CFD Simulation of Gravitational Sedimentation and Clustering Effects on Heat Transfer of a Nano-ferrofluid
Arezou Jafari, *S. M. Mousavi*, *T. Tynjala*, *P. Sarkomaa*,

Session 4A1b
Optics and Photonics 1

Thursday AM, March 26, 2009

Room A

Chaired by Ya Cheng, Stoyan Jelev-Vlaev

10:40 Electronic Properties of Quantum Wells Structures with Gaussian Potential Profiles
Stoyan Jelev-Vlaev, A. Enciso-Muñoz, D. A. Contreras-Solorio,

11:00 Total Density of States in Rectangular Quantum Wells
Stoyan Jelev-Vlaev, Romeo De Coss, A. Del Río de Santiago, J. C. Martínez-Orozco,

11:20 Decline of Quantum Redundancy in a Thermal Environment
Srinivasa Chemudupati, Vladimir Tsifrinovich,

Session 4A2a
Millimeter-wave on-chip Antennas, Filters, and Passive Components

Thursday AM, March 26, 2009

Room B

Organized by Huey-Ru Chuang

Chaired by Huey-Ru Chuang

08:20 Scattering Parameters Measuring Technology Research on Two-port Surface Mounted Device
Hui Huang, Ke Wang, Xin Meng Liu, Xin Lv,

08:40 A Ka Band LTCC-based Small Encapsulated Transceiver Module
Ye Yuan, Yubo Cui, Shengchang Zhang, Kai Zhang,

09:00 A 60-GHz CPW-fed Integrated CMOS Bandpass Filter and on-chip Yagi Antenna
Pei-Chun Kuo, Kai-Hsiang Tsai, Cheng-Ying Hsu, Huey-Ru Chuang,

09:20 A 60-GHz CMOS Millimeter-wave Wilkinson Balun
Yu-Sheng Lin, Lung-Kai Yeh, Cheng-Ying Hsu, Huey-Ru Chuang, Chu-Yu Chen,

09:40 Mm-wave Antenna Array Architecture to Enhance Multi-Gigabit Network Performance
Helen K. Pan, Minyoung Park, Hossein Alavi,

10:00 **Coffee Break**

Session 4A2b
EM Based Modeling and CAD Techniques

Thursday AM, March 26, 2009

Room B

Organized by Qijun Zhang

Chaired by Qijun Zhang

10:20 Signal Integrity Analysis for 3D High-speed Interconnects Using Foldy-Lax Multiple Scattering Equations
Boping Wu, Leung Tsang,

10:40 HFSS ™ Modelling Anomalies with THz Metal-Pipe Rectangular Waveguide Structures at Room Temperature
Yun Zhou, Stepan Lucyszyn,

11:00 High-speed I/O Buffer Modeling for Signal-integrity-based Design of VLSI Interconnects
Yi Cao, Qijun Zhang,

Session 4A3
Active and Passive Microwave Sensing: Modelling and Simulations

Thursday AM, March 26, 2009

Room C

Organized by Saibun Tjuatja, Kun-Shan Chen

Chaired by Saibun Tjuatja, Kun-Shan Chen

08:20 Near Field Imaging of Synthetic Aperture Radiometer
Cheng Zhang, Ji Wu, Hao Liu, W. Y. Sun,

08:40 Numerical Study of Emissivity from Finite-size Cylindrical-shape Objects
Luis M. Camacho, Mingyu Lu, Saibun Tjuatja,

09:00 A 2D Finite Difference Frequency Domain (FDFD) Application for Through-wall Sensing
David Insana, Carey M. Rappaport,

09:20 Adaptive Clutter Suppression Technique for Through-wall Radar Sensing Using 2D FDFD
David Insana, Carey M. Rappaport,

09:40 Radar Target Modeling Based on Energy Content of Scattering Centers
Suman K. Gunnala, Jeffrey B. Hall, Saibun Tjuatja,

10:00 **Coffee Break**

10:20 Independent Source Scattering Model for Radar Imaging
Jeffrey B. Hall, Suman K. Gunnala, Saibun Tjuatja,

10:40 Physical Model of Microwave Remote Sensing of Snow Using the Bi-continuous Random Media Model
Xiaolan Xu, Leung Tsang,

11:00 A Method to Estimated Winter Wheat Yield with the MERIS Data
Xin Du, *Bingfang Wu*, *Qiangzi Li*, *Jihua Meng*, *Kun Jia*,

Session 4A4
Electromagnetic and Optical Wave Technologies for Communication and Sensing 1

Thursday AM, March 26, 2009

Room D

Organized by Yasumitsu Miyazaki, Chuzo Ninagawa

Chaired by Yasumitsu Miyazaki, Chuzo Ninagawa

08:00 VLF Sferics Propagating in the Earth-ionosphere Waveguide
A. B. Bhattacharya, *Shubhendu Joardar*, *R. Bhattacharya*, *S. Sarkar*, *S. Das*,

08:20 A Roadmap for Detecting Extraterrestrial Intelligent Life
A. B. Bhattacharya, *S. S. Banerjee*, *Rina Bhattacharya*,

08:40 On Low-cost GPS/INS Integration for Footprint Chasing in Bistatic SAR
Stefan Knedlik, *Junchuan Zhou*, *Zhen Dai*, *Ezzaldeen Edwan*, *Otmar Loffeld*,

09:00 Analysis of Collided Signal Waveform on the Long Transmission Line of UART-CSMA/CD Control Network
Chuzo Ninagawa, *Yasumitsu Miyazaki*,

09:20 Recognition of Wavelength-multiplexed Labels with Acoustooptic Waveguide Circuit for Hierarchical Photonic Routing
Nobuo Goto, *Yasumitsu Miyazaki*,

09:40 Development of Infrared Position Sensitive Detectors
Masafumi Kimata, *Takashi Kano*, *Masashi Asai*, *Akihiro Takahata*, *Masayuki Morinune*, *Hideaki Kusuhara*, *Yoshiharu Shimada*, *Fumio Yoshioka*, *Ikuo Yamamoto*, *Masashi Yoshida*,

10:00 **Coffee Break**

10:20 Input Impedances and Bandwidths of Meander Line Antennas with Planar Coupled Parasitic Meander Elements for Compact RFID Tags
Kazunari Taki, *Yasumitsu Miyazaki*,

10:40 Design and Development of A FMCW Ground Based Imaging Radar System
Yee Kit Chan, *C. Y. Ang*, *Voon Chet Koo*, *C. S. Gan*,

11:00 Design and Development of a Low Cost Chirp Generator for Airborne Synthetic Aperture Radar
Yee Kit Chan, *S. Y. Lim*,

11:20 Electromagnetic Scattering Theory of Car Body Imaging Using Scanning Millimeter Wave Radar
Yasumitsu Miyazaki,

11:40 FDTD Analysis of Electromagnetic Wave Propagation for Out-door Active RFID System
Yasumitsu Miyazaki, *Tadahiro Hashimoto*, *Koichi Takahashi*,

Session 4A5
Antenna Theory and Radiation, Microstrip and Printed Antennas 1

Thursday AM, March 26, 2009

Room E

Organized by Hou Zhang

Chaired by Hou Zhang

08:00 The Effect of Shorting Post on Axe-shaped Circular Antenna Miniaturization
Jingxian Liu, *Salman Naeem Khan*, *Sailing He*,

08:20 Microstrip Slot Antenna with a Finite Ground Plane for 3.1–10.6 GHz Ultra Wideband Communication
Huan-Cheng Lien, *Yung-Cheng Lee*, *Wen-Fei Lee*, *Huei-Chiou Tsai*,

08:40 Centerline Longitudinal Shunt Slot Excitation by Parabolic Shaped Single Ridge Waveguide
Mahdi Moradian, *Mohammad Khalaj-Amirhosseini*, *M. Tayarani*,

09:00 A New Algorithm about Extrapolating Near Distance Field to Far-field of Large Size Antenna
Nan-Jing Li, *Chu-Feng Hu*, *Jia-Dong Xu*, *Lin-Xi Zhang*,

09:20 Planar Antenna Array Mutual Coupling Identification: A Direct Method Applied to Quasi-Yagi Elements
C. E. Capovilla, *A. Tavora*, *Silvio Ernesto Barbin*, *Luiz Carlos Kretly*,

09:40 Study of High $\boldsymbol{T}_c$ Superconducting Microstrip Antenna
Tarek Fortaki, *Mounir Amir*, *Siham Benkouda*, *Abdelmadjid Benghalia*,

10:00 **Coffee Break**

10:20 Directivity Enhancement of Microstrip Patch Antennas Using a Dieletric Superstrate
Yanfei Li, *Raj Mittra*, *Guizhen Lu*, *Wenhua Yu*,

10:40 Dual-band Dual-polarized Dielectric Resonator Antenna Array for SAR Applications
Xiao-Rong Tang, Shun-Shi Zhong, Zhu Sun, Jian-Jun Liu,

11:00 Design and Properties of Compact Multimode Antennas for Diversity Applications
Heinz Josef Chaloupka, Ludger Klinkenbusch,

11:20 Miniaturized Multimode Antenna Array for 2 × 2 MIMO Systems
Rashid Ahmad Bhatti, Nguyen Ngoc Anh, Seong-Ook Park,

Session 4A6a
Scattering, and Inverse Scattering

Thursday AM, March 26, 2009

Room F

Chaired by Hean Teik Chuah, Se-Yun Kim

08:20 On the Concept of Vector (Polarization) Electromagnetic Inverse Boundary Conditions for the Perfectly and Imperfectly Conducting Cases and Its Applications: Why Is Renewed Interest in EM-IBC Forthcoming?
Wolfgang-Martin Boerner, Harinder P. S. Ahluwalia,

08:40 Exact Solutions for Microwave Holography — Part I: Planar Case
George G. Cheng, Yong Zhu, Jan Grzesik,

09:00 Exact Solutions for Microwave Holography — Part II: Cylindrical and Spherical Cases
George G. Cheng, Yong Zhu, Jan Grzesik,

09:20 The Calculation of Back Scattering Field of Unmanned Air Vehicle
Nilgün Altin, Erdem Yazgan,

09:40 Estimation Error of Topographic Phase Based on RVoG Model Using POLinSAR Data
Lu Bai, Wen Hong, Fang Cao,

10:00 **Coffee Break**

10:20 Antenna Measurement via Compressive Sensing
Wenji Zhang, Lianlin Li, Fang Li,

10:40 Ionospheric Tomography Based on P-band Spaceborne SAR via Compressive Sensing
Lianlin Li, Xiang Yin, Yanli Liu, Fang Li,

Session 4A6b
Computational Techniques 1

Thursday AM, March 26, 2009

Room F

Organized by Yoichi Okuno, Tsuneki Yamasaki

Chaired by Yoichi Okuno, Tsuneki Yamasaki

11:00 Ferrite Image Lines Studies by Transverse Operator Method
Hedi Sakli, Hafedh Benzina, Taoufik Aguili, J. W. Tao,

11:20 Transparent Boudary Condition for a Hybrid FD-FD Method
Hung-Wen Chang, Wei-Chi Cheng,

11:40 The Dirichlet Problem for the Laplace Equation in a Cylindrical Domain
Diego Caratelli, Bruna Germano, Matthew X. He, Paolo Emilio Ricci,

Session 4A7
MIMO, DOA and Wave Propagation in Wireless Communication

Thursday AM, March 26, 2009

Room G

Chaired by Ruben Mateo Lorenzo, Wen-Jiao Liao

08:20 Estimation of Direction of Arrival Using the Modulated Scattering Technique
Jung-Hwan Choi, Byung-Yong Park, Seong-Ook Park,

08:40 A Localization Scheme Using Bi-directional Metrics Joint Estimation
Chee Kiat Seow, Soon Yim Tan, Siwen Chen,

09:00 Propagation of Ultra Wideband Signals in Automotive Environment
Ching-Ping Wang, Wen-Jiao Liao,

09:20 A Simplified Statistical Modeling of Radioclimatological Parameters for LOS Links in South Africa
P. K. Odedina, Thomas J. Afullo,

09:40 Influence of Model Parameters on the Sub-aperture Propagation Method
Juan Blas, Patricia Fernández, Ruben Mateo Lorenzo, S. Mazuelas, A. Bahillo, D. Bullido, Evaristo Jose Abril,

10:00 **Coffee Break**

10:20 A Rigorous Model for Capacity Evaluations of Indoor MIMO Systems with Complex Radiators
Hao Gang Wang, Li Wang, Huan Li, Hong Bing Song, Kan Hong,

10:40 Regular Polyhedron Antenna Array Design and Simulation for MIMO Systems
L. Wang, *Hao Gang Wang*,

11:00 A Source Localization Scheme Based on Unitary ESPRIT and the City Electronic Map
Hong Bing Song, *Hao Gang Wang*, *Li Wang*, *Da Qing Liu*,

11:20 Performance Analysis of OFDM Communication System over Correlated Nakagami-$\boldsymbol{m}$ Fading Channel
Vivek K. Dwivedi, *Pradeep Kumar*, *Ghanshyam Singh*,

Session 4P1a
Medical Electromagnetics, RF Biological Effect, MRI 2

Thursday PM, March 26, 2009

Room A

Chaired by Nam Kim, Jan Vrba

13:00 Numerical Investigation of Spectral Optical Coherence Tomography Based on Full-wave Solution of Maxwell's Equations
Ji Yi, *Wendy Yip*, *Xu Li*,

13:40 Arrays of Waveguide Applicators for Microwave Thermotherapy
Jan Vrba,

14:00 Technical Equipment for Research of EM Field and Biological Systems Interactions
Jan Vrba, *Luca Vannucci*, *Paolo Togni*, *Lukáš Víšek*,

14:20 Microwave Medical Imaging and Diagnostics
Jan Vrba, *Ladislav Oppl*, *Jan Vrba, Jr.*, *David Vrba*,

14:40 Reversible Electroporation on a Microchip
Hyung Sik Kim, *Hong Bae Kim*, *Jeong Han Yi*,

15:00 **Coffee Break**

Session 4P1b
Microwave Devices and Circuits

Thursday PM, March 26, 2009

Room A

Organized by Debendra Kumar Panda

Chaired by Hao Gang Wang

15:20 Wideband Differential Phase Shifters Using Waveguides Filled by Inhomogeneous Dielectrics
Mohammad Khalaj-Amirhosseini,

15:40 Analysis and Design of a Novel Reconfigurable Defected Ground Structure Resonator on CPW Technology
Heba B. El-Shaarawy, *Fabio Coccetti*, *Robert Plana*, *Mostafa El-Said*, *Essam A. Hashish*,

16:00 A Novel LTCC Wideband Filter with Good Out-band Performance
Kengyi Huang, *Chao Ping Hsieh*, *Tsenchieh Chiu*,

16:20 Cascade Electromagnetic Pulse (EMP) Protection Using an AlGaN/GaN MSM 2-DEG Varactor
Liann-Be Chang, *Atanu Das*, *Ferng Yi Cherng*, *Ming-Jer Jeng*,

16:40 The Design of Triple-Mode Low Noise Amplifier for SDR System
Yang Liu, *Sungju Choi*, *Sangho Lee*, *Hyeongdong Kim*,

17:00 Unconditional Stability Criteria for Microwave Networks
Eng Leong Tan, *Xiaofeng Sun*, *Kian Sen Ang*,

17:20 A Low Cost and High Performance Design of X-band Short Range Doppler Radar Transceiver
Jingzhou Luo, *Lixin Ran*,

Session 4P2
Recent Advances in Metamaterials and Invisibility Cloaking 1

Thursday PM, March 26, 2009

Room B

Organized by Hongsheng Chen, Bae-Ian Wu

Chaired by Hongsheng Chen, Bae-Ian Wu

13:20 From the Perfect Lens to Anti-cloak, Superscatterer and Beyond
Huanyang Chen, *Che Ting Chan*,

13:40 Analytic Description of Non-ideal Electromagnetic Cloaks
Ilya V. Shadrivov,

14:00 Electromagnetic Beam Modulation through Transformation Optics and Application to Invisibility Cloaking Structure
Yijun Feng, *Xiaofei Xu*, *Tian Jiang*, *Zhengbin Wang*,

14:20 A New Strategy to Design Cylindrical Cloaks
Wei Xiang Jiang, *Tie Jun Cui*,

14:40 Hiding Arbitrary Geometries with Dissimilar Cloaks
Kan Yao, *Chao Li*, *Fang Li*,

15:00 **Coffee Break**

15:20 Concealing an Object from Electromagnetic Wave with Metamaterial
Yu Luo, *Jingjing Zhang*, *Hongsheng Chen*, *Bae-Ian Wu*, *Lixin Ran*, *Jin Au Kong*,

15:40 Photonic Crystal Based Subwavelength Imaging and Cloaking Optical Devices
Olivier Vanbésien, *N. Fabre*, *X. Mélique*, *L. Lalouat*, *B. Cluzel*, *Frederique De Fornel*, *Didier Lippens*,

16:00 Broadband Acoustic Cloak with Multilayered Homogeneous Isotropic Materials
Ying Cheng, *J. Y. Xu*, *Xiao-Jun Liu*,

16:20 Limitations of High-order Transformation and Incident Angle on Simplified Invisibility Cloaks
Baile Zhang, *Hongsheng Chen*, *Bae-Ian Wu*,

16:40 Perfect Invisibility Using Isotropic Material with Negative Refractive Index
Jose C. Nacher, *Ulf Leonhardt*, *T. Ochiai*,

Session 4P3
Remote Sensing, GPR, SAR

Thursday PM, March 26, 2009

Room C

Chaired by Ya-Qiu Jin, Qin-Huo Liu

13:00 Automatic Detection of Terain Surface Changes after Snowstorm from Multi-temporal Images of Fully Polarimetric ALOS PALSAR and Multi-channel AMSR-E
Ya-Qiu Jin, *Dafang Wang*, *Hao Chen*, *Haipeng Wang*,

13:20 Pulse Electromagnetic Sounding of the Permafrost Layered Medium
V. L. Mironov, *K. V. Muzalevskiy*,

13:40 Experiments on Three-Dimensional Microwave Imaging of Human Body
Wen Hong, *Weixian Tan*, *Yanping Wang*, *Yun Lin*, *Yirong Wu*,

14:00 Evaluation of Scattering in Collision Avoidance Radar Application
Wei-Han Lee, *Wen-Jiao Liao*,

14:20 Monitoring of Satellite Thermal Patterns of Warm Core Ring in Subarctic Sea Surface
Shigehisa Nakamura,

14:40 Monitoring of Satellite Thermal Patterns of Ocean Front Evolution in Relation to Ocean Water Stratification
Shigehisa Nakamura,

15:00 **Coffee Break**

15:20 Integrated Cryogen-free 2.5-THz Heterodyne Receiver for Spectroscopy and Security Applications
H. Richter, *Alexei D. Semenov*, *S. G. Pavlov*, *H.-W. Hübers*, *L. Mahler*, *R. Green*, *A. Tredicucci*, *H. E. Beere*, *D. A. Ritchie*, *K. Il'in*, *M. Siegel*,

15:40 Air Quality Monitoring with a Ground-based FTIR Solar Absorption Spectroscopy during the Beijing Olympic Games
Qin-Huo Liu, *Jie Cheng*, *Yongming Du*,

16:00 Coupling the CUPID and TRGM Models to Study the Temporal Variations of Thermal Emission Directionality of Crop Canopies
Huaguo Huang, *Qin-Huo Liu*, *Wenhan Qin*,

16:20 Ray Tracing of CMP Antenna Array GPR System
Xuan Feng, *Motoyuki Sato*, *Cai Liu*,

16:40 On Some Effects of India-Pakistan Border Earthquake on the Atmospherics Recorded at Tripura
S. S. De, *B. Bandyopadhyay*, *B. K. De*, *A. Bhowmick*, *Suman Paul*, *D. K. Haldar*, *S. Barui*,

17:00 Studies on Solar Flare Effects on Propagation of Sferics and Transmitted Signal
S. S. De, *B. K. De*, *M. Pal*, *B. Bandyopadhyay*, *Suman Paul*, *D. K. Haldar*, *S. Barui*,

Session 4P4
Electromagnetic and Optical Wave Technologies for Communication and Sensing 2

Thursday PM, March 26, 2009

Room D

Organized by Yasumitsu Miyazaki, Chuzo Ninagawa

Chaired by Yasumitsu Miyazaki, Chuzo Ninagawa

13:20 FDTD Analysis of Spatial Filtering of Scattered Waves for Optical CT of Medical Diagnosis
Yasumitsu Miyazaki, *Kouhei Kouno*,

13:40 FDTD Analysis of Microwave Propagation and Scattering Characteristics over Forests for WiMAX Wireless Communications
Yasumitsu Miyazaki, *Tatsutoshi Ikeda*,

14:20 An Accelerated Frequency Domain Ray-tracing Simulator for Ultra-Wideband Communications
John Diskin, *Akram Alomainy*, *Conor Brennan*,

14:40 Alteration of Quantum Fluctuations by Third-order Optical Nonlinearity in Semiconductors
Heongkyu Ju, *Eun-Cheol Lee*,

15:00 **Coffee Break**

15:20 Experimental Study of Atmospheric Turbulence Effects on RoFSO Communication Systems
Wei Ni, Yuichi Miyamoto, Kazuhiko Wakamori, Kamugisha Kazaura, Mitsuji Matsumoto, Takeshi Higashino, Katsutoshi Tsukamoto, Shozo Komaki,

15:40 Soft-lithography-based Inter-chip Optical Interconnects
Wei Ni, Rubing Shao, Jing Wu, X. Wu,

16:00 Experimental Study of the Multipath Propagation Effect on the Accuracy of GPSCo-ordinates Measurements in Case of Urban Conditions
Pavel V. Polyukhovich, Boris P. Dudko,

16:20 FDTD Simulation for Statistical Properties of Microwave Scattering and Attenuation Due to Randomly Distributed Rainfalls
Yasumitsu Miyazaki, Koichi Takahashi, Nobuo Goto,

16:40 Ubiquitous Network for Building and Home Control System with Refrigerant Pipe Communication and Sensor Network Technologies
Toshiyasu Higuma, Noriyuki Kushiro, Masanori Nakata,

Session 4P5
Antenna Theory and Radiation, Microstrip and Printed Antennas 2

Thursday PM, March 26, 2009

Room E

Organized by Hou Zhang

Chaired by Hou Zhang

13:00 Pattern Reconfigurable Antenna Array for MIMO-enabled Handheld Wireless Communication Devices
Rashid Ahmad Bhatti, Nguyen Viet Anh, Seong-Ook Park,

13:20 Research and Application on Scattering Matrixes of the Radar Target under Different Polarization Bases
Jian-Xun Liu, Qiang Xu, Hou-Jun Sun, Xin Lv,

13:40 Electrically Small Top-loaded Monopoles Utilizing Space Filling Curves: Concept, Design and Experiment
Christopher Thajudeen, Ahmad Hoorfar,

14:00 Beauty of Symmetry — Thinking from the Design of Logging-While-Drilling Propagation Resistivity Tools
Sheng Fang, Dan Georgi,

14:20 Air Gap Tuning Effect on the Resonant Frequency and Half-power Bandwidth of Superconducting Microstrip Patch
Tarek Fortaki, Siham Benkouda, Mounir Amir, Abdelmadjid Benghalia,

14:40 Radiation Characteristics of a Wideband Triangular Antenna for Wireless Communications
Adel Mohamed Abdin,

15:00 **Coffee Break**

15:20 Characteristics of a Multi-bandwidth Gear Microstrip Antenna Using a Taper for Feeding
Adel Mohamed Abdin,

15:40 Design and Analysis of Coplanar-waveguide-fed Dual-band Antenna by FDTD
Hou Zhang, Jian Wang,

16:00 Design of an Optimum Antenna System for Maximum Power Transfer Using Statistical Design of Experiment Approach
Arnab Roy, Sushanta Paul, A. S. M. Shamsuzzaman, Md Ishfaqur Raza,

16:20 Renormalization Group Application to Multi-port Model for Studying Fractal-shaped Structures' Diffraction
Taha BenSalah, C. L. Aguili, Taoufik Aguili,

16:40 Input Impedance of Gap-coupled Circular Microstrip Antennas Loaded with Shorting Post
Pradeep Kumar, Vivek K. Dwivedi, Ghanshyam Singh, S. Bhooshan,

17:00 UWB Rectangular Ring Microstrip Antenna with Simple Capacitive Feed for Breast Cancer Detection
Sangam Kumar Singh, Arun Kumar Singh,

17:20 Multiband Rectangular Ring Microstrip Antenna for UWB Wireless Applications
Sangam Kumar Singh, Arun Kumar Singh,

Session 4P6
Computational Techniques 2

Thursday PM, March 26, 2009

Room F

Organized by Yoichi Okuno, Tsuneki Yamasaki

Chaired by Yoichi Okuno, Tsuneki Yamasaki

13:00 Effective Electromagnetic Media for FDTD-PIC
Lars D. Ludeking, Andrew J. Woods,

13:20 Numerical Analysis of Photonic Characteristics by a Multilayered Dielectric Deep Grating
Yoichi Okuno, Akira Matsushima, Taikei Suyama,

13:40 New Method for an Analysis of Electromagnetic Wave Scattering Based on Sinc Function
Akira Komiyama,

14:00 Solving Guided Wave Modes in Plasmonic Crystals by Interfacial Operator and Coupling Interface Approach
Yu-Chen Shu, *Chien-Cheng Chang*, *I-Liang Chern*, *Ying-Hong Liu*,

14:20 Extraction of Complex Permittivity of Multilayered Dielectric Sample Loaded in a Rectangular Waveguide
Uma Balaji,

14:40 Parallel Electric Field Integral Equation Solver for Arbitrary Shaped Conducting Bodies
Haythem H. Abdullah, *Jungsook Yang*, *Nader Bagherzadeh*, *Khalid F. Hussein*,

15:00 **Coffee Break**

15:20 Improvement of Particle Swarm Optimization
K. Kawakami, *Zhi Qi Meng*,

15:40 An Improved Adaptive Finite Element Method for the Simulation of Electromagnetic Field
Zhanghong Tang, *Jiansheng Yuan*, *Gai Tao*,

16:00 A Domain Map Finite Element Method for Solving Open Boundary Electromagnetic Field Problem and Its Application
Zhanghong Tang, *Yueqin Dun*, *Jiansheng Yuan*, *Gai Tao*,

16:20 Nyström Method Solution for Electromagnetic Scattering by Three Dimensional Complex Material Bodies
Mei Song Tong, *Weng Cho Chew*,

16:40 Scattering of Electromagnetic Waves by Slanted Dielectric Gratings Loaded with Two Adjacent Perfectly Conducting Strips
Tsuneki Yamasaki, *Ryosuke Ozaki*, *Takashi Hinata*,

Session 5A1
Optics and Photonics 2

Friday AM, March 27, 2009

Room A

Chaired by Gérard Granet, Hong-Xing Zheng

08:00 Enhanced Transmission through 1D Slanted Subwavelength Slits Arrays in Metallic Films
Gérard Granet,

08:20 Study of Optical Propagation in Hybrid Periodic/Quasiregular Structures Based on Porous Silicon
Jose Escorcia-García, *Miguel Eduardo Mora-Ramos*,

08:40 Magnetic Proximity Effect in Isolator Crystal Pairs
Yoav Linzon, *Marcello Ferrera*, *Luca Razzari*, *Alain Pignolet*, *Roberto Morandotti*,

09:00 New Measuring Method of Examination of Planar Optical Waveguides
Dmitry Valentinovich Svistunov,

09:20 Numerical Analysis of Polarization Gratings Using ADI-FDTD Method
Hong-Xing Zheng,

09:40 Investigation of Phononic Crystal Waveguide Using ADI-FDTD Method
Hong-Xing Zheng, *Ying Liu*,

10:00 **Coffee Break**

10:20 Electric Field Measurement Based on Optical Polarization-multiplexed Sensing Technique
Changsheng Li,

10:40 Time-domain Analysis of Wideband Optical Pulse SHG in Layered Dispersive Material
Mohammad A. Alsunaidi, *F. S. Al-Hajiri*,

11:00 Intense Terahertz Radiation from GaAs Photoconductive Antenna Array
Wei Shi, *Hong Xue*, *Xiangrong Ma*, *Zhenzhen Zhang*,

11:20 The Linear and Nonlinear Properties in Magnetic Plasmon Waveguide
Shu-Ming Wang, *T. Li*, *H. Liu*, *F. M. Wang*, *S. N. Zhu*,

11:40 Electromagnetic Radiation from Organic Light-emitting Diodes
Ariel Epstein, *Nir Tessler*, *Pinchas D. Einziger*,

Session 5A2
Recent Advances in Metamaterials and Invisibility Cloaking 2

Friday AM, March 27, 2009

Room B

Organized by Hongsheng Chen, Bae-Ian Wu

Chaired by Hongsheng Chen, Bae-Ian Wu

08:00 Achieving Waveguide Connection with Left-handed Metamaterials
Jingjing Zhang, *Yu Luo*, *Hongsheng Chen*, *Bae-Ian Wu*, *Lixin Ran*, *Jin Au Kong*,

08:20 Electromagnetic Wave Manipulation by Layered Systems
Huanyang Chen, *C. T. Chan*,

08:40 Realization of Approximate Optical Cloaking Using Silicon Photonic Crystal Structures
Dong Xiao, *H. T. Johnson*,

09:00 Medium Parameters and Electromagnetic Properties of Two-dimensional (2D) Cloaks with Arbitrary Geometries
Chao Li, *Kan Yao*, *Fang Li*,

09:20 Cloak for Bianisotropic and Moving Media
Xiangxiang Cheng, *Hongsheng Chen*, *Bae-Ian Wu*, *Lixin Ran*, *Jin Au Kong*,

09:40 Gaussian Beam Propagation in Chiral Nihility Media
Xiangxiang Cheng, *Hongsheng Chen*, *Bae-Ian Wu*, *Jin Au Kong*,

10:00 **Coffee Break**

10:40 Magnetic Plasmon Resonance at Optical Frequencies in a Slit-hole Resonator
Hui Liu, *Tao Li*, *Shu-Ming Wang*, *Zheng-Gao Dong*, *Shi-Ning Zhu*,

Session 5A3
Rough Surface Scattering, Volume Scattering, and Electromagnetic Theory

Friday AM, March 27, 2009

Room C

Organized by Zhen-Sen Wu

Chaired by Zhen-Sen Wu

08:00 Multilayer Structure with Gradient Periodicity in Absorption Application
Peiheng Zhou, *Longjiang Deng*, *Bae-Ian Wu*, *Jin Au Kong*,

08:20 Analysis of Scattering by Ocean-like Surfaces Using an Augmented SMCG Scheme with Curvilinear Modeling
Shaowu Huang, *Mingyao Xia*,

08:40 Scattering from Random Stone Scatterers on Lunar Surface Using a Complex Image Technique
Hongxia Ye, *Ya-Qiu Jin*,

09:20 Modeling Rough Surface Effects in a Parallel Plate Waveguide
Ruihua Ding, *Leung Tsang*, *Henning Braunisch*,

09:40 Fourth Order Moment Statistical Characteristic of the Laser Pulse Scattering on One-dimensional Random Rough Surface
Ming-Jun Wang, *Zhen-Sen Wu*, *Ying-Le Li*, *Geng Zhang*,

10:00 **Coffee Break**

10:20 Electromagnetic Scattering of a Higher-order Hermite-Gaussian Beam Field by a Multi-layered Sphere
Hai-Ying Li, *Zhen-Sen Wu*,

10:40 Two-dimensional Scattering by a Gyrotropic Elliptic Cylinder
Shi-Chun Mao, *Zhen-Sen Wu*, *Li Yang*,

11:00 A New Matrix Splitting Scheme for Numerical Study of EM Scattering from Randomly Rough Surfaces
Yang Du, *Bin Liu*,

11:20 Computation of Multiple Scattering Effects in Volume Vegetation Modelling
V. Mouysset, *Pierre Borderies*, *X. Ferrieres*, *P. A. Mazet*,

Session 5A4
Wireless Sensor Network and Environment Monitoring

Friday AM, March 27, 2009

Room D

Organized by Yang Du, Hong Tat Ewe

Chaired by Yang Du, Hong Tat Ewe

08:00 Investigation of Novel Ultrasonic Positioning Method Installed in Sensor Network
Mitsutaka Hikita, *Yasushi Hiraizumi*, *Hiroaki Aoki*, *Junji Matsuda*, *Tomoaki Watanabe*,

08:20 The Circuit Model of Built-up Areas
Giorgio Franceschetti, *Sabatino Stornelli*,

08:40 Study on Cross-layer Optimization in Wireless Sensor Networks with Energy Constrains
Guowei Fu, *Lu Rong*, *Yang Du*,

09:00 Positioning System for Wireless Sensor Networks with Location Fingerprinting
Di Cao, *Hock Guan Goh*, *Kae Hsiang Kwong*, *Craig Michie*, *Ivan Andonovic*,

09:20 Wireless Sensor Networks in Agriculture: Cattle Monitoring for Farming Industries
Kae Hsiang Kwong, *Tsung Ta Wu*, *Hock Guan Goh*, *Bruce Stephen*, *Michael Gilroy*, *Craig Michie*, *Ivan Andonovic*,

09:40 Time Table Transfer Time Synchronization in Mobile Wireless Sensor Networks
Reza Khoshdelniat, *Moh Lim Sim*, *Hong Tat Ewe*, *Tan Su Wei*,

10:00 **Coffee Break**

10:20 Performance Analysis of Unsaturated Slotted IEEE 802.15.4 with Downlink and Uplink Traffic
Wei Wang, *Lu Rong*, *Yang Du*,

10:40 Separation of Detection Authorities (SDA) Approach for Misbehavior Detection in Wireless Ad Hoc Network
Zan Kai Chong, *Moh Lim Sim*, *Hong Tat Ewe*, *Su Wei Tan*,

11:00 Optimal Power Allocation Algorithm for AF BAT Relaying
Li Li, *Yang Du*,

Session 5A5a
Microwave Circuits and Systems

Friday AM, March 27, 2009

Room E

Chaired by Sergey V. Tkachenko

08:00 Generalization of the Full-wave Transmission Line Theory for Loaded Lines with Distributed Excitation
Jurgen Nitsch, *Sergey Tkachenko*, *Farhad Rachidi*,

08:20 A Multi-layer Microstrip Coupled-line Power Divider
Sheng-Jie You, *Wen-Jiao Liao*,

08:40 A Compact and Low Loss V-band Lowpass Filter Using Coplanar Waveguide Structure
Hwann-Kaeo Chiou, *I-Shan Chen*,

09:00 Introduction to the System-level Susceptibility Assessments for HEMP and HPEM
Congguang Mao, *Hui Zhou*, *Jiwei Fu*, *Beiyun Sun*, *Haitao Yu*,

09:20 A Viewpoint of Time Variant Dielectric Effect in Vital Sign Detection Using Microwave Radar
Jingzhou Luo, *Kemin Sheng*,

09:40 A Compact 5.8 GHz Rectifying Circuit Design and Experiments
Qijuan He, *Kama Huang*, *Changjun Liu*,

10:00 **Coffee Break**

Session 5A6a
State of the Art in Time Domain Methods

Friday AM, March 27, 2009

Room F

Organized by Salvador Gonzalez Garcia

Chaired by Salvador Gonzalez Garcia

08:00 Parallelisation of Implicit Time Domain Methods: Progress with ADI-FDTD
Timothy David Drysdale, *Tomasz P. Stefanski*,

08:20 Fundamental Schemes for Implicit Finite-difference Time-domain Methods
Eng Leong Tan,

08:40 New Strategies in DGTD-FDTD Hybridizations
Salvador Gonzalez Garcia, *Mario Fernandez Pantoja*, *Carlos Moreno De Jong Van Coevorden*, *Amelia Rubio Bretones*, *Rafael Gomez Martin*,

09:00 Open Issues in Unconditionally Stable Schemes
Salvador Gonzalez Garcia, *Fumie Costen*, *Mario Fernandez Pantoja*, *Anthony Brown*, *Amelia Rubio Bretones*,

Session 5A6b
Computational Electromagnetics

Friday AM, March 27, 2009

Room F

Chaired by Mei-Song Tong, Jun Hu

09:20 Solving Electromagnetic Scattering from Dielectric-coated PEC Surfaces by Improved EFIE
Lijun Tian, *Jun Hu*, *Lin Lei*, *Zai-Ping Nie*,

10:20 Saving Memory with Vector Addition Theorem
Yang G. Liu, *Weng Cho Chew*,

10:40 Analysis of Tunneling and Growing Exponential in Double-negative Media Using ADI-FDTD Method
Hong-Xing Zheng,

11:00 An Improved GE's Method for Calculating Green's Functions in the Shielded Multilayered Structure
Huan Li, *Hao Gang Wang*, *Hua Zhang*,

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This is to inform you about future Progress in Electromagnetics Research Symposium (PIERS).

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( ) I will be interested in organizing and chairing a session, the proposed title is

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B. For past PIERS, I attended

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( ) 4th PIERS1994 in Noordwijk
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( ) 7th PIERS1997 in Hong Kong
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( ) 10th PIERS1999 in Taipei
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( ) 25th PIERS2009 in Beijing

C. I have the following comments about PIERS:

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	MONDAY PM 13:00 MARCH 23		TUESDAY AM 8:00 MARCH 24	TUESDAY PM 13:00 MARCH 24		WEDNESDAY AM 8:00 MARCH 25	
ROOM A	1P1 - Microwave/Terahertz Photonics Technologies and Their Applications		2A1 - Plasmonics Nanophotonics: Theory	2P1a - Plasmonics Nanophotonics: Experimental	2P1b - Radio-Over-Fiber Communication System	3A1a - Piezoelectric Devices and Systems	3A1b - Photonics Sensors
ROOM B	1P2a- Tunable and Nonlinear Metamaterials	1P2b - Backward Emitted Cherenkov Radiation in Left-Handed Material	2A2 - Modeling, Characterization and Measurement for Microwave and Millimeter Wave Applications	2P2 - Metamaterial Technologies from Microwave to Optics		3A2a - Metamaterial Applications: from Antennas to Cloaking	3A2b - Mathematical and Numerical Tools for Metamaterials 1
ROOM C	1P3 - Radar Investigation of the Atmosphere from the Ground to 110 km		2A3 - Synthetic Aperture Radar and Its Applications 1	2P3 - Synthetic Aperture Radar and Its Applications 2		3A3 - Microwave Remote Sensing of Soil Moisture	
ROOM D	1P4a - Wave Propagation in Random Media	1P4b -EM Theory, Moving Media, Relativity, Field Quantization	2A4 - Signal Processing for Communication Systems & Cognitive Radar 1	2P4 - Signal Processing for Communication Systems & Cognitive Radar 2		3A4 - Electromagnetic Application in the Advanced Manufacturing Technology	
ROOM E	1P5 - Extended/Unconventionl Electromagnetic Theory, EHD (Elecrohydrodynamics)/EMHD (Electromagnetohydrodynamics), Electrobiology		2A5 - RF Exposure Safety Issues	2P5a - Bioeffects and Exposure Standards for RF Pulses	2P5b - Medical EM, RF Biological Effect, MRI 1	3A5a - Non-Thermal Mechanisms of Interaction between EM Fields and Living Matter	3A5b - Progress in fs Laser Interaction with Matter 1
ROOM F	1P6 - Electromagnetic Wave Applications in Material Processing and Characterization		2A6 - Novel Computation Techniques in Microwaves	2P6 - Elecromagnetic Field in Bio Magnetism Materials and Instrument and Dispersion in Cloaks and Metamaterials		3A6 - Novel Mathematical Methods in Electromagnetics	
ROOM G	1P7 - Electromagnetic Field in Materials and EM Field Dispersion in Cloaks and Photonic Crystals		2A7 - Electromagnetic Field Modeling and Inversion and Applications 1	2P7 - Electromagnetic Field Modeling and Inversion and Applications 2		3A7 - EM Near Field Effects in Problems of Wave Radiation from and Scattering by Ordered and Disordered Media	
ROOM K	1P8 - Poster Session 1		2A8 - Poster Session 2	2P8 - Poster Session 3		3A8 - Poster Session 4	

	WEDNESDAY PM 13:00 MARCH 25		THURSDAY AM 8:00 MARCH 26		THURSDAY PM 13:00 MARCH 26		FRIDAY AM 8:00 MARCH 27	
ROOM A	3P4 - Fiber Optics, Optical Sensors, and All-optical Signal Processing **(ROOM H)**		4A1a - Nano Scale Electromagnetics	4A1b - Optics and Photonics 1	4P1a - Medical EM, RF Biological Effect, MRI 2	4P1b - Microwave Devices and Circuits	5A1 - Optics and Photonics 2	
ROOM B	3P5 - Progress in fs Laser Interaction with Matter 2 **(ROOM I)**		4A2a - MM wave on-chip Antennas, Filters, and Passive Components	4A2b - EM Based Modeling and CAD Techniques	4P2 - Recent Advances in Metamaterials and Invisibility Cloaking 1		5A2 - Recent Advances in Metamaterials and Invisibility Cloaking 2	
ROOM C	3P6 - Scattering by Canonical Objects **(ROOM J)**		4A3 - Active and Passive Microwave Sensing: Modelling and Simulations		4P3 - Remote Sensing, GPR, SAR		5A3 - Rough Surface Scattering, Volume Scattering, and Electromagnetic Theory	
ROOM D			4A4 - Electromagnetic and Optical Wave Technologies for Communication and Sensing 1		4P4 - Electromagnetic and Optical Wave Technologies for Communication and Sensing 2		5A4 - Wireless Sensor Network and Environment Monitoring	
ROOM E	3P1 - Mathematical and Numerical Tools for Metamaterials 2		4A5 - Antenna Theory and Radiation, Microstrip and Printed Antennas 1		4P5 - Antenna Theory and Radiation, Microstrip and Printed Antennas 2		5A5a - Microwave Circuits and Systems	
ROOM F	3P2a - Radar Polarimetry	3P2b - MW Remote Sensing and Global Climate Change	4A6a - Scattering, and Inverse Scattering	4A6b - Computational Techniques 1	4P6 - Computational Techniques 2		5A6a - State of the Art in Time Domain Methods	5A6b - Computational Electromagnetics
ROOM G	3P3a - Antenna Applications and Measurement	3P3b - Antennas in RFID and Mobile Communications	4A7 - MIMO, DOA and Wave Propagation in Wireless Communication					