PIERS 2008 Hangzhou

Progress In Electromagnetics Research Symposium

Program

March 24–28, 2008
Hangzhou, CHINA

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Progress in Electromagnetics Research Symposium
March 24–28, 2008
Hangzhou, CHINA

PIERS 2008 HANGZHOU ORGANIZATION

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T. M. Habashy, M. Hallikainen, Y. Hara, H.-C. Huang
A. Ishimaru, Z. Lemnios, L.-W. Li, I. V. Lindell
S. G. Liu, K.-M. Luk, S. Mano, G. D. McNeal
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R. Ramer, C. M. Rappaport, C. Seo, A. H. Sihvola
D. P. Tsai, J. Vrba, B.-I. Wu

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J. J. Zhang, W. Zhao, F. Zheng

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P. L. Xie, L. Ye, L. Y. Yu

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J.-M. R. Fournier	L. M. Gaggero-Sager	R. C. Gauthier	T. M. Grzegorczyk
M. Gu	Z.-H. Gu	K. Iwatsuki	H. Kikuchi
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T. S. Yeo	S. Zeng	H. T. Zhang	W. L. Zhang
G. Y. Zhou			

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- CST China (www.cst-china.cn)

PIERS 2008 HANGZHOU SPONSORSHIP

- Zhejiang University
- National Natural Science Foundation of China
- National Key Laboratory of Space Microwave Technology
- The Electromagnetics Academy at Zhejiang University
- College of Info Science and Engineering, Zhejiang University
- MIT Center for Electromagnetic Theory and Applications/Research Laboratory of Electronics
- The Electromagnetics Academy

SYMPOSIUM SITE

The 2008 Progress in Electromagnetics Research Symposium will be held on March 24–28, 2008, at the Grand Metropark Hotel Hangzhou, China. During the symposium, the PIERS OFFICE will be in the Grand Metropark Hotel. PIERS OFFICE will open at 8:00 AM on Monday, March 24, 2008. PIERS Registration starts Monday Morning.

REGISTRATION

PIERS poster session will begin at 10:00 AM on Monday, March 24, 2008. Technical oral session will start at 13:00 after the Reception. You may register in the PIERS OFFICE on Monday, March 24, from 8:00 AM through the symposium to 17:00 PM, March 28, 2008.

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 24, 2008, from 11:00 to 13:00, symposium reception with buffet lunch will take place at the Grand Metropark Hotel Hangzhou. 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 26, 2008, 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 make online reservation in advance and pay cash at PIERS check-in desk.

PIERS ONLINE

Information on PIERS 2008 Hangzhou 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 room. Presenting Authors are highly suggested to upload the presentation files via PIERS webpage before the conference.

- **Presentation files format:**
  PDF, Power Point 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.

- **Time Limit: 20 minutes:**
  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 x 200 cm) will be available for each poster.

The poster session 1 will be 10:00 to 17:00 on Monday, March 24, 2008 and the poster session 2 will be 10:00 to 17:00 on Tuesday, March 25, 2008. 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 at 10:00–10:20 and 15:00–15:20.

ACCOMMODATION

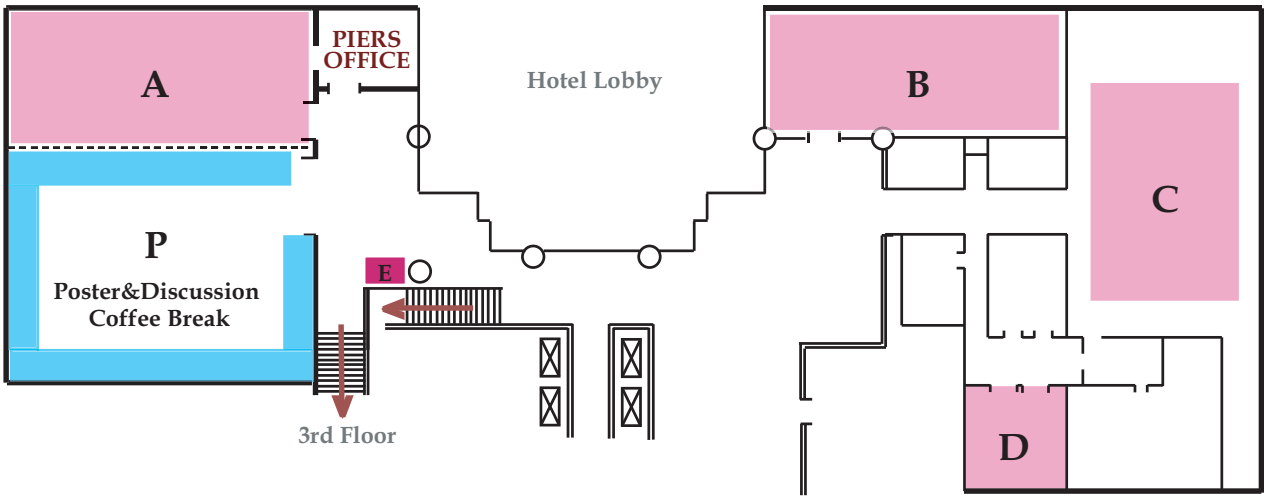
Participants are responsible for making their own housing arrangements. The PIERS Host Hotel is Grand Metropark Hotel Hangzhou. Online Reservation is available. Please visit PIERS 2008 website for detailed information. The information below is provided for your convenience.

Grand Metropark Hotel Hangzhou

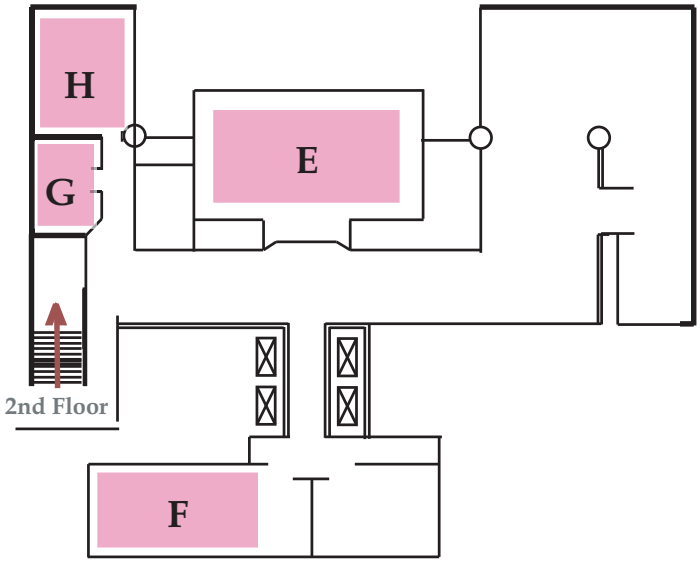
www.metroparkhotels.com
ADD: NO. 2, Pinghai Road, Hangzhou, China,

Phone: +86 571 87088088
Fax: +86 571 87081588
Email: connie.yu@metroparkhotels.com

MAP OF CONFERENCE SITE



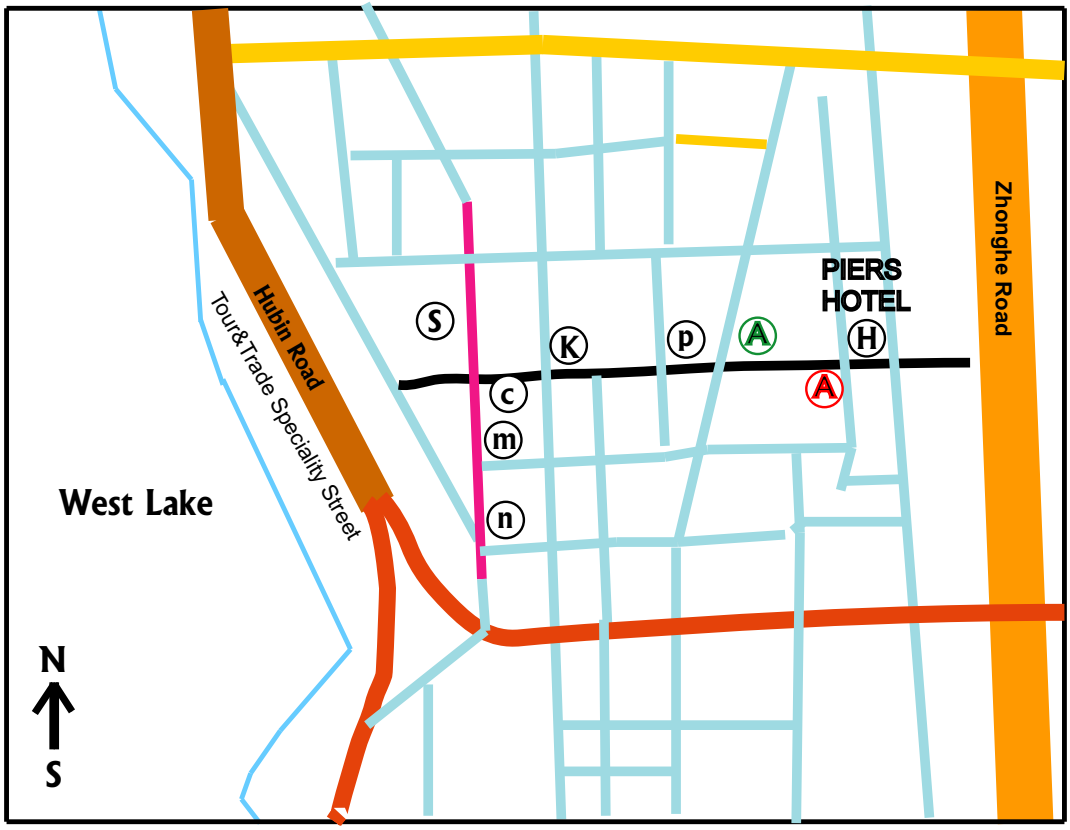
2nd Floor



3rd Floor

Grand Metropark Hotel Hangzhou
ADD: No. 2, Pinghai Road, Hangzhou, CHINA

MAP OF CITY



Pinghai Road - About 8 minutes by walk from hotel to West Lake

Dongpo Road - There are many restaurants in this street

(H) **Grand Metropark Hotel Hangzhou - PIERS HOTEL**

(A) Airport Shuttle Bus stop from Hangzhou Airport to City

(A) Airport Shuttle Bus stop from City to Hangzhou Airport

(K) KFC

(p) Pizzahut

(m) McDonald

(n) Noodles

(S) Shopping Centre

(c) Cinema

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 7 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 2008 HANGZHOU TECHNICAL PROGRAM

Session 1AP
Poster Session 1

Monday AM, March 24, 2008
10:00 AM - 17:00 PM
Room P

1 Novel Dual-band Microwave Components Based on Composed Right/Left-handed Transmission Lines
Xiao Liu, *Chao Li*, *Fang Li*,

2 Coplanar Waveguide with Elevated Center Strip Conductor Based on HR-Si Substrate
Xiuzhi Wen, *Yanling Shi*, *Jing Liu*, *Fuquan Cao*, *Yanfang Ding*, *Xi Li*, *Hao Huang*, *Hongbo Ye*, *Linyan Xue*,

3 Miniaturization of Harmonics-suppressed Filter with Folded Loop Structure
Han-Nien Lin, *Wen-Lung Huang*, *Jer-Long Chen*,

4 Broadband Amplifier Gain Slope Equalization Filter
Qian Ma, *Mingbo Ma*,

5 The PBG Filter Design
Cheng-Hung Lin, *Guan-Yu Chen*, *Jwo-Shiun Sun*, *Kwong-Kau Tiong*, *Y. D. Chen*,

6 Optimization of the SAW Transducer Design by Probabilistic Global Search Lausanne
Guiling Huang, *Qida Zhao*, *Luming Zhao*, *Shuhong Li*, *Junfeng Lv*, *Fei Wang*, *Jiping Liao*,

7 Scaling Law for Unloaded Q of Microwave Resonators
Ikuo Awai, *Taichi Nishimura*,

8 Design of Wideband Filter Using Split-ring Resonator DGS
Zheng-Zheng Hou, *Xing-Xing Li*, *Chao-Kun Hao*,

9 Novel Trisection Cross-coupled Filter Based on Mixed Split-ring Resonators
Bian Wu, *Zheng-Zheng Hou*, *Chang-Hong Liang*,

10 Some Differences among HiFi, Tuned Amplifiers and Oscillators
Sara Liyuba Vesely, *A. A. Vesely*,

11 X-band Low Phase Noise Quadrature CMOS VCO with Transformer Feedback
Yu-Shun Liao, *Christina F. Jou*,

12 A Image Rejection Low Noise Amplifier for WLAN System
Lien-Sheng Wei, *Christina F. Jou*,

13 A 3–8 GHz Broadband Low Power Mixer
Chih-Hao Chen, *Christina F. Jou*,

14 Frequency Synthesizer Architecture Design for DRM and DAB Receiver
Jianzheng Zhou, *Zhigong Wang*,

15 Design of Reflectionless Phase Shifter by Coordinate Transformation
Mengyu Wang, *Lixin Ran*, *Jin Au Kong*,

16 Path Planning during the Geomagnetic Navigation
Lingling Jiang, *Lixin Ran*,

17 Simulation for a Distributed Phase-stable Synchronization System
J. Long, *Shan Qiao*, *Jiangtao Huangfu*, *Lixin Ran*,

18 A 40 GHz Amplifier Designed by Using CPW
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19 A 2.5 GHz Voltage Controlled FBAR Oscillator
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20 High Tunable Capacitor Using a Finger Structured Electrode
Young Chul Lee, *Kyung Hyun Ko*,

21 CPW-to-stripline Vertical via Transitions for 60 GHz LTCC SoP Applications
Young Chul Lee,

22 A Novel Ultra Wideband Transformer-feedback LNA
Hui I Wu, *Tsung-Ting Lin*, *Christina F. Jou*, *Chih-Peng Lin*, *Pei-Yuan Chiang*,

23 The Differential Low Noise Amplifier for WiMAX System Application
Man-Long Her, *Chi-Feng Lin*, *Yu-Hsiang Chen*,

24 DDS Based Radar Signal Generator for Microwave Remote Sensing
C. Z. Gu, *Shan Qiao*, *Jiangtao Huangfu*, *Lixin Ran*,

25 Ambiguity Function of Chaotic Radar with Colpitts Oscillator
Tao Jiang, Shan Qiao, Zhiguo Shi, Lixin Ran,

26 A Broadband Low Noise Amplifier Design
Ying Wang, Yi Fu, Wan-Zhao Cui, Wei Ma,

27 A 10∼18 GHz Wide-band Transformer Feedback LNA
Pei-Yuan Chiang, Christina F. Jou,

28 Region Feature Extraction Based on Improved Regularization Method in SAR Image
Feng Xu, Chao Wang,

29 Reducing the Time Steps of FDTD Predictions of High-Q Cavities
Juan Chen, Jianguo Wang,

30 Reduction of EMI and Mutual Coupling in Array Antennas by Using DGS and AMC Structures
A. Mahmoudian, Jalil A. Rashed-Mohassel,

31 The Phase Invariance Condition for the Ultra-wideband Voltage Controlled Attenuator
O. V. Stukach,

32 Facilitating EMI/EMC Modeling by Predicting Voltage Interference in an EMI/EMC Environment by Two Wires as the Pick-up Model of EM Waves
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33 Interaction between Magnetoresistor and Magnetotransistor in the Two-dimensional Folded Vertical Hall Devices
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34 Multifunctional Piezomagnetic Ferrite Materials and Their Newly Acoustical and Vibration Control Devices
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35 Development of Smart Antenna Array Signal Processing Algorithm for Anti-Jam GPS Receiver
Anindya Kundu, Soham Ghosh,

36 Time Domain Studies of Ultra Wideband Dielectric Loaded Monopole Trans-receive Antenna System
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37 Study and Improvement in Operational Characteristics of Mid Air Collision Aversion System (TCAS)
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38 Design of Three-layer Circular Mushroom-like EBG Structures
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39 Circular Polarized Rhombic Loop Antenna over a Mushroom-like EBG Surface
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40 Bandwidth Enhancement of Single-feed Circularly Polarized Equilateral Triangular Microstrip Antenna
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42 Small Antenna Measurement Facilities
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43 Microstrip Antenna Design for Ultra Wideband Application by Using Two Slots
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44 The GPS Antenna Design and Measurement
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45 The Wideband Character of Self-structuring Antenna
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48 Super-compact UWB Bandpass Filter Using a Partially-grounded Interdigital Gap Structure
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49 Folded Dual-mode Microstrip Filter
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50 Planar Leaky-wave Antenna with Aperture Coupled Feed
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51 A Novel Broadband Compact Circular Disk Microstrip Antenna for Wireless Applications
Husam El-Din Ahmed Osman, Esmat Abdel-Fattah Abdallah, Abdel-Hamid Abdel-Rhim,

52 Novel Planar Wideband Omni-directional Antenna for RFID Applications
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53 Clover Polarimetric Detector — A Novel Design of an Ortho-mode Transducer at 150 and 225 GHz
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60 Compact Microstrip-fed Annular-slot Antenna Combined with C-shaped Slot for Broad Dualband Operation
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61 Design and Implementation of Aperture Coupled Microstrip IFF Antenna
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62 Design of the Spiral Monopole Antenna for Multiband Mobile Communication and SAR Analysis
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63 Design and SAR Measurement of the Trapezoidal Shape Antenna
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64 Design of Dual-band PIFA for WLAN
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65 Dual Frequency Operate Circular Array of Triangular Patches with RF-MEMS Switches
Naveen Kumar Saxena, Bhoopendra Singh, P. K. S. Pourush,

66 12 GHz Planar Array Antenna for Satellite Communication
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68 A Comprehensive Study on Performance of IEEE 802.15.4
Shuai Fang, Lu Rong, Qiang Xu, Yang Du,

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

70 Energy-efficient Sleeping Schedule and Performance Analysis for IEEE 802.15.4 Device
Qiang Xu, Lu Rong, Shuai Fang, Yang Du,

71 SIP-based Mobility Management
Bing Zhao, Lu Rong, Peng Qiao, Yang Du,

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

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

74 MIMO Channel Model and Its Impact on the Channel Capacity
Jun Wang, Quan Zhou, Wei Ma, Lede Qiu,

75 The Influence of the Climatic Peculiarities on the Electromagnetic Waves Attenuation in the Baltic Sea Region
Mindaugas Zilinskas, Milda Tamosiunaite, Stasys Tamosiunas, Milda Tamosiuniene,

76 Outdoor Exposure to the RF-radiation of WiFi for Wireless City Applications
Gilbert Decat, Meynen Guy, Daniel Wilczek,

77 OFDM System Location Determination with 4-element Antenna Array Using Frequency Domain Matrix Pencil (FDMP) Method
Mohamed A. Labib, Hassan M. Elkamchouchi,

78 WCDMA 3D Location Determination with 3D Polarization Using Four 3-element Arrays
Mohamed A. Labib, Hassan M. Elkamchouchi,

79 Location Determination for 2G/3G/4G Using Time Delay Matrix Pencil (TDMP) Method
Mohamed A. Labib, Hassan M. Elkamchouchi,

80 To the Glory of J. F. Maxwell: Electromagnetic Theory of the Origin of Saturn's Rings
Vladimir V. Tchernyi,

81 Analyses on Frequency Dependence of Permeability and Power Loss for NiZn Ferrites
Hua Su, Huaiwu Zhang, Xiaoli Tang, Zhiyong Zhong,

82 Strip Casting of Immiscible Alloys in a Static Magnetic Field
H. L. Li, *Jiuzhou Zhao*,

83 Two Different Sets of Integral Equations for Modeling Electromagnetic Scattering from Arbitrary Concave Perfectly Conducting Objects
Jia-Jun Niu, *Bin Yuan*, *Yu Rong*,

84 A Hybrid GAM/SM-AIM Formulation for Quasi-planar Structures above a Planar Aperture Array
Nicola Truschi, *Alberto Di Maria*, *Angelo Freni*,

85 Electrical Transport in Manganite Structures: The Random Fuse Network Study
Jian-Chun Wu, *Hua Sun*, *Hai-Xia Da*, *Zhen-Ya Li*,

86 A Hybrid Iterative Method for Computing Electromagnetic Scattering of Large Perfectly Conducting Cavities
Jia-Jun Niu, *Bin Yuan*, *Yu Rong*,

87 Inward-outward Hybrid Iterative Method for Analyzing Electromagnetic Scattering by Complex Perfectly Conducting Objects including Large Cavities
Jia-Jun Niu, *Bin Yuan*, *Yu Rong*,

88 Technique for Detecting Chirp in Femtosecond Pulse by Autocorrelator
Yan Ling, *Fang Lu*,

89 3D Microwave Module Interconnect Using Fuzz Button
Lei Xia, *Ruimin Xu*, *Bo Yan*,

90 Design and Analysis of Quad-band PCB Embedded Antenna for Mobile Handset Applications
Soon-Ho Hwang, *Kyu-Bok Park*, *Joon-Ho Byun*,

91 Reconfigurable Stacked Patch Antenna for Wireless Power Beaming and Data Telemetry
Guangli Yang,

92 An High Gain Omni-directional Planar Array Antenna
Yuanbo Shang, *T. Zhang*, *Yong-Chang Jiao*, *F. S. Zhang*,

93 Analysis of Technical Conditions for Sharing Frequency Spectrum
Taekjin Hwang,

94 Dynamic Sector Synthesis of Antenna Array Using Genetic Algorithm
Abdelaziz Abdelmonem Abdelaziz, *Hanan A. Kamal*,

95 Mie Particles and Quasiparticles in Ag Thin Films
M. Gnanavel, *D. Bharathi Mohan*, *C. S. Sunandana*,

96 Surface Plasmon Polaritons in Dual-sided Corrugated Metal Films
Xin Wu, *Z. J. Zhang*, *R. W. Peng*, *J. S. Zhang*, *J. Li*, *K. Wei*, *De Li*, *R. L. Zhang*,

97 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,

98 Recent Advances in Polarimetric and Interferometric Radar Remort Sensing
Wolfgang-Martin Boerner,

99 Need for Developing Repeat-pass Differential POLSAR Interferometry
Wolfgang-Martin Boerner, *Kun-Shan Chen*,

100 Mechanical and Electric Fields in Quantum-wire and Quantum-dot Nanostructures
E. Pan, *K. Y. Xu*,

Session 1P1
Recent Advances in Metamaterials and Invisibility Cloaking 1

Monday PM, March 24, 2008

Room A

Organized by Hongsheng Chen, Bae-Ian Wu

Chaired by Hongsheng Chen, Bae-Ian Wu

13:20 Transformation Optics
Ulf Leonhardt, *Thomas G. Philbin*,

13:40 Electromagnetic Materials with a Polarization Independent Wave Velocity: Wormhole Construction and Inverse Problem
Allan Greenleaf, *Yaroslav Kurylev*, *Matti Lassas*, *E. Somersalo*, *Gunther Uhlmann*,

14:00 Optimization of the Optical Invisibility Cloak Constructed of Concentric Layered Nanostructure
Yijun Feng, *Xiaofei Xu*, *Ying Huang*, *Tian Jiang*,

14:20 A Rigorous Analysis in the Time and Frequency Domains of Full Wave Electromagnetic Invisibility Cloaks
Ricardo Weder,

14:40 Manipulating Light Polarizations by Anisotropic Meta-materials: A Generalized 4×4 Transfer-matrix Method
Jiaming Hao, *Lei Zhou*,

15:00 **Coffee Break**

15:20 Spherical Cloak Makes both Passive and Active Devices Invisible
Hongsheng Chen, Baile Zhang, Bae-Ian Wu, Jin Au Kong,

15:40 Differential Forms, Metrics, and the Electromagnetic Masking of Scattering Objects
Burkay Donderici, Kezhong Zhao, Fernando Lisboa Teixeira, Jin-Fa Lee,

16:00 Transformation Media that Rotate Electromagnetic Fields
Huanyang Chen, Hongru Ma, C. T. Chan,

16:20 A General Method for Cloaking Design
Yu Luo, Jingjing Zhang, Hongsheng Chen, Lixin Ran, Jin Au Kong,

16:40 Invisibility Cloaking of Active Devices
Matti Lassas, Allan Greenleaf, Yaroslav Kurylev, Gunther Uhlmann,

Session 1P2
Femtosecond Photonics: Microfabrication and Optical Data Storage 1

Monday PM, March 24, 2008

Room B

Organized by Guangyong Zhou, Min Gu

Chaired by Baohua Jia, Min Gu

13:00 Photonic Band Gap Materials: Engineering Light-matter Interactions, Part I
Sajeev John,

13:20 Photonic Band Gap Materials: Engineering Light-matter Interactions, Part II
Sajeev John,

13:40 Towards 3D Microfabrication of Photonic and Plasmonic Componients by Two-photon Polymerization
Boris N. Chichkov,

14:00 Quantum Entanglement and Single Photon Emission in Photonic Crystals
Xue-Hua Wang,

14:20 Three Dimensional Femtosecond Laser Structuring in Optical Materials
Saulius Juodkazis, V. Mizeikis, H. Misawa, Kenji Kitamura, Shunji Takekawa, E. G. Gamaly, A. V. Rode, Wieslaw Krolikowski,

14:40 Nanometer Resolution and Designable Assembly in Two-photon 3D Micronanofabrication
Xuan-Ming Duan, Xian-Zi Dong, Wei-Qiang Chen, Zhen-Shang Zhao,

15:00 **Coffee Break**

15:20 Fabrication and Characterisation of Photonic Devices in Laser Media by Femtosecond Laser Writing
Daniel Jaque Garcia, Airan Rodenas, Jorge Lamela, Francisco Jaque, Gustavo Torchia, Cruz Mendez, Luis Roso,

15:40 Femtosecond Laser Fabrication of High Precision Three-dimensional Woodpile Photonic Crystals and Their Near-field Characterisation
Baohua Jia, Min Gu,

16:00 Three-dimensional Chiral Photonic Crystals
M. Thiel, G. Von Freymann, M. Wegener,

16:20 3D Structuring of Materials by Femtosecond Pulses
Saulius Juodkazis, H. Misawa,

16:40 Direct Femtosecond Fabrication in High Refractive Index Materials
Guangyong Zhou, Min Gu,

17:00 Photonic Quasi-crystals: A Review
Robert C. Gauthier,

Session 1P4
Terahertz Optoelectronics

Monday PM, March 24, 2008

Room D

Organized by Weili Zhang

Chaired by Weili Zhang

13:20 Experimental Study on Generation of THz Radiation Using Periodically and Aperiodically Poled Lithium Niobate
Zhen Tian, Changlei Wang, Qirong Xing, Jianqiang Gu, Lu Chai, Yanfeng Li, Qingyue Wang, Yiqiang Qin, Yongyuan Zhu,

13:40 Waveguide Structures for Generation of Terahertz Radiation by Electro-optical Process in GaAs and $ZnGeP_2$ Using 1.55 µm Fiber Laser Pulses
Tianxin Yang, Shupeng Song, Hongtao Dong, Rongsheng Ba,

14:00 The Role of Non-resonant Effect in Terahertz Transmission through Subwavelength Holes
Jiaguang Han, Xinchao Lu, Abul K. Azad, Mufei Gong, Weili Zhang,

14:20 Very Deep Subwavelength Metallic Gratings with Like-lens Properties at THz Frequency Region
Dong Liang, Changlei Wang, Qirong Xing, Yanfeng Li, Zhen Tian, Jianqiang Gu, Lu Chai, Qingyue Wang,

14:40 Electromagnetic Metamaterials for Terahertz Applications
Hou-Tong Chen, Willie J. Padilla, Richard D. Averitt, Joshua M. O. Zide, Arthur C. Gossard, Clark Highstrete, Mark Lee, Abul K. Azad, John F. O'Hara, Antoinette J. Taylor,

15:00 **Coffee Break**

15:20 Interference and Spectral Shaping of Terahertz Pulses
Zhen Tian, Qirong Xing, Changlei Wang, Jianqiang Gu, Lu Chai, Yanfeng Li, Qingyue Wang,

15:40 Time-frequency Analysis of Ultrafast THz Pulse in Metal Waveguide Based on THz-TDS
Jianqiang Gu, Haiyan Wen, Qirong Xing, Zhen Tian, Feng Liu, Changlei Wang, Yanfeng Li, Mingxia He, Lu Chai, Qingyue Wang,

16:00 Terahertz Response of Bulk and Nanostructured ZnO
Jiaguang Han, Wei Chen, J. Zhang, Mingxia He, A. K. Azad, S. Ray, Y. Zhao, Weili Zhang,

16:20 Terahertz Time-domain Spectroscopy of MgO Nanoparticles
Jiaguang Han, Xinchao Lu, Mei Sang, Wei Chen, Weili Zhang,

16:40 Terahertz Time-domain Spectroscopy Signature of Animal Tissues
Mingxia He, Meng Li, Weili Zhang,

Session 1P5
Remote Sensing and Applications

Monday PM, March 24, 2008

Room E

Organized by Tat Soon Yeo

Chaired by Tat Soon Yeo

13:00 Interferometric ISAR Imaging on Squint Model
Changzheng Ma, Tat Soon Yeo, Hwee Siang Tan, Guangyue Lu,

13:20 Avian Detection and Monitoring Using Frequency-stepped Chirp Signal Radar
Qun Zhang, Ying Luo, Dong Liang Hu, Bin-feng Luo, Y. S. Zeng,

13:40 Model of Man-made Target beneath Foliage Using PolInSAR
Bin Zou, Hongjun Cai, Lamei Zhang, Maoliu Lin,

14:00 A Hybrid Entropy Decomposition and Maximum Likelihood Method for Image Classification
Chue-Poh Tan, Hong-Tat Ewe, Hean-Teik Chuah,

14:20 Comparison of Methods for Target Detection and Applications Using Polarimetric SAR Image
Lamei Zhang, Junping Zhang, Bin Zou, Ye Zhang,

14:40 Light Reflection from a Rough Liquid Surface Including Wind-wave Effects in a Scattering Atmosphere: Polarized Light Case
Santo V. Salinas, Soo Chin Liew,

15:00 **Coffee Break**

15:20 Retrieval of Sea Water Attenuation Coefficient and Water Depth from Hyperspectral Imagery
Soo Chin Liew, Santo V. Salinas, Chew Wai Chang,

15:40 Localization in Near Field with Wideband Signal: Trade-off between Bandwidth and Number of Sensors
Hongyang He, Yide Wang, Joseph Saillard,

16:00 Investigation of Novel Surface Acoustic Wave (SAW) Gas Sensor Used in Sensor Network
Mitsutaka Hikita, Keiya Minami, Koki Takimoto, Yasushi Hiraizumi,

Session 1P6
Electromagnetic Wave Applications in Material Processing and Characterization

Monday PM, March 24, 2008

Room F

Organized by Juh Tzeng Lue

Chaired by Juh Tzeng Lue, Cheng-Chung Chi

13:40 EXAFS and Raman Characterization of $x\mathrm{La}(\mathrm{Mg}_{1/2}\mathrm{Sn}_{1/2)}\mathrm{O}_3$-$(1-x)\mathrm{La}(\mathrm{Mg}_{1/2}\mathrm{Ti}_{1/2})\mathrm{O}_3$ Microwave Ceramics
Chih-Ta Chia, Tsan-Yuan Yu, Chieh-Han Lu, G. Santosh Babu, Venkatachalam Subramanian, V. R. K. Murthy, I-Nan Lin,

14:00 Dynamic Optical and Terahertz Responses of YBCO Films with Various In-plain Orientations
Zen-Chi Lin, Pao-An Lin , Kuo-Chien Hsu, Hsin-Chia Ho, Shyh-Shii Pai, Cheng-Chung Chi,

14:20 Anisotropic Ultrafast Dynamics in Doped $\mathrm{Y}_{1-x}\mathrm{Ca}_x\mathrm{Ba}_2\mathrm{Cu}_3\mathrm{O}_{7-\delta}$ Superconducting Thin Films
C. W. Luo, K. H. Wu, J.-Y. Lin, T. M. Uen, Y. S. Gou, Jenh-Yih Juang,

14:40 Growth of Carbon Nanotubes and Its Applications in Quantum Transport Behavior and Hydrogen Storage
H. Y. Miao, *L. W. Chang*, *Juh Tzeng Lue*,

15:00 **Coffee Break**

15:20 Surface Plasma and Growth Mechanism of Gold Nanorods
Ru-Shi Liu, *H. M. Chen*, *S. F. Hu*,

15:40 Far-infrared, Raman Spectroscopy and Microwave Dielectric Properties of $La(Mg_{0.5}Ti_{(0.5-x)}Sn_x)O_3$ Ceramics
I-Nan Lin, *Chih-Ta Chia*, *Hsiang-Lin Liu*, *Hsiu-Fung Cheng*, *G. Santosh Babu*, *V. Subramanian*, *V. R. K. Murthy*,

16:00 Conductivities for Direct Current and Microwaves with Domain Wall Scattering for Ni-Fe Alloy Thin Films
Yi-Chen Yeh, *Juh Tzeng Lue*,

16:20 Photoelectric Effect of Silicon Nanopillar
Shu-Fen Hu, *Ting-Wei Liao*, *Chao-Yuan Huang*,

16:40 The Studies of Defects in Phosphorous Ion-implanted Si(111) by Reflective Second Harmonic Generation
Kuang-Yao Lo, *Yi Jen Huang*,

Session 1P7
Space Microwave Technology

Monday PM, March 24, 2008

Room G

Organized by Hongtai Zhang, Lede Qiu

Chaired by Jianrong Chen, Wei Ma

13:20 Analysis of Equivalence of Standing-wave Dipole Model and Traveling-wave Monopole Model
Shi-Wei Dong, *Wei Ma*, *Wanzhao Cui*, *She Shang*, *Hong-Tai Zhang*, *Hong Chen*,

13:40 Research on the Electromagnetic Interference of Antennas on the Satellite
Bin Zhou, *Qizhong Liu*, *Xinyang He*,

14:00 Ka-band Solid-state Amplifier Using Spatial Power-combining Technique
Lei Wang, *Shiwei Dong*, *Wei Ma*,

14:20 Analysis of BPSK Homodyne Intersatellite Optical Communication Link with Optical Field Misalignment
Qinggui Tan,

14:40 New Method of Amplitude Modulation for Detection of Multipaction
Yan Ping Li, *Yi Ming Ma*,

15:00 **Coffee Break**

15:20 Peculiar Radar Cross Section Properties of Metamaterials
Wan-Zhao Cui, *Wei Ma*, *Lede Qiu*,

15:40 Rectangular Waveguide Band Pass Filter with Capacitive Coupling Iris
Shengxian Li, *Junmei Fu*, *Xuda Wu*,

16:00 Study on W-band PLL Frequency Synthesizer for Space Communications
Haihong Ma, *Xiaohong Tang*,

16:20 Theoretical Analysis of Composite Right/Left-handed Coupled Transmission Line Resonators
Tiancun Hu, *Wei Ma*,

16:40 Automatic Digital Modulation Recognition Using Feature Subset Selection
Jie Li, *Jun Wang*, *Xiaoyan Fan*, *Yi Zhang*,

Session 1P8
Electromagnetic Modeling, Inversion and Application 1

Monday PM, March 24, 2008

Room H

Organized by Ganquan Xie, Michael Oristaglio

Chaired by Jianhua Li, Chow-Son Chen

13:00 Object-oriented Philosophy in Designing Adaptive FEM Package for 3D Elliptic Deferential Equations
Zheng Yong Ren, *Jing Tian Tang*, *Chang Sheng Liu*, *Xiao Xiao*, *Hua Kun Du*, *Ye Wang*, *Ji Feng Zhang*,

13:20 GL EM Mechanical and Acoustic Field Time Domain Modeling for Materials and Exploration with Dispersion
Ganquan Xie, *Jianhua Li*, *Lee Xie*, *Feng Xie*,

13:40 Evaluating Surface Impedance Models for Normal Metals in the Extreme Anomalous Region
Stepan Lucyszyn,

14:00 State-of-the-Art Microwave Filter Modeling and Design Using Neural Network Technique
Humayun Kabir, *Ming Yu*, *Qijun Zhang*,

14:20 A GLEMFHS EMS Imaging Using the GL EM-Flow-Heat-Stress Coupled Modeling
Jianhua Li, *Lee Xie*, *Ganquan Xie*, *Jing Li*, *Daxin Zuo*,

14:40 Simulation on EMI Coupling from Driving System of Fuel Cell Vehicle
Jiawei Sun, *Min Zhang*,

15:00 **Coffee Break**

15:20 Properties of Motion of Microscopic Particles in Nonlinear Systems and Nonlinear Quantum Mechanics
Xiao-Feng Pang,

15:40 3D-2D AGILD EM Inversion for GPR Imaging in Multiple Lines' Data Configration
Ganquan Xie, *Michael Oristaglio*, *L. Xie*, *Jianhua Li*,

16:00 Three Component Time-domain Electromagnetic Surveying: Modeling and Data Analysis
Chow-Son Chen, *Wei-Hsuan Chiu*, *Ching-Ren Lin*,

16:20 Experimental Study on Noise Coupling among Multiple Power Areas through Edge Coupling and via Penetrations
Gang Feng, *Jun Fan*,

16:40 Analogy between Electromagnetic and Acoustic
Z. E. A. Fellah, *N. Sebaa*, *E. Ogam*, *M. Fellah*, *C. Depollier*, *W. Lauriks*,

17:00 High-frequency Ferromagnetic Properties and Monte Carlo Simulation of FeCoHf Thin Films Prepared by Gradient Sputtering
Meimei Liu, *Shandong Li*, *Jenq-Gong Duh*,

17:20 Green's Function of Reduced Wave Equation for a Nonhomogeneous Medium
Evgeny Grigoryevich Saltykov,

Session 2A1
Plasmonic Photonics 1

Tuesday AM, March 25, 2008

Room A

Organized by Din Ping Tsai, Chien-Cheng Chang

Chaired by Din Ping Tsai, Chien-Cheng Chang

08:20 Design, Fabrication, and Integration of Micro/Nanoscale Plasmonic Waveguide Devices for VLSI Photonic Integrated Circuit Application
El-Hang Lee, *S. H. Song*,

08:40 Optical Superresolution through Super-oscillations
F. M. Huang, *Vasily Fedotov*, *Yifang Chen*, *F. Javier Garcia de Abajo*, *Nikolay Zheludev*,

09:00 Multidimensional Optical Data Storage Based on Plasmonic Nanophotonics
Min Gu,

09:20 Nanoparticle-based Molecular Plasmonics
Andrea Csaki, *Andrea Steinbrueck*, *Norbert Jahr*, *Kathrin Ritter*, *Thomas Schueler*, *Robert Moeller*, *Wolfgang Fritzsche*,

10:00 **Coffee Break**

10:20 Metallic Structures with Nanometer Scale Resolution Fabricated by Direct Laser Photoreduction and Selected Surface Metallization
Xuan-Ming Duan, *Yao-Yu Cao*, *Wei-Kang Wang*, *Xian-Zi Dong*, *Wei-Qiang Chen*, *Nobuyuki Takeyasu*, *Takuo Tanaka*, *Satoshi Kawata*,

10:40 Superlens from Complementary Anisotropic Metamaterials
G. X. Li, *H. L. Tam*, *F. Y. Wang*, *Kok Wai Cheah*,

11:00 Optimized Plasmonic Nanostructures for Nanolithography
Y. Chue, *Y. Cheng*, *Jia-Han Li*,

11:20 Slow Light and Extraordinary Magneto-optical Effects in Magnetic and Plasmonic Nanostructures
Vladimir I. Belotelov, *A. K. Zvezdin*, *A. N. Kalish*, *E. A. Shevchenko*,

Session 2A2a
Femtosecond Photonics: Microfabrication and Optical Data Storage 2

Tuesday AM, March 25, 2008

Room B

Organized by Guangyong Zhou, Min Gu

Chaired by Baohua Jia, Min Gu

08:00 Femtosecond Photonics for Multilayered Optical Memory
Yoshimasa Kawata, *M. Miyamoto*, *M. Nakabayashi*,

08:20 Rewriteable Three-dimensional Optical Memory by Using Spatial Valence State Manipulation of Rare-earth Ions
Jianrong Qiu, *K. Miura*, *K. Hirao*,

08:40 Polarization-dependent Memory of Light via Ultrashort Pulse Laser Irradiation
Yasuhiko Shimotsuma, *Masaaki Sakakura*, *Peter G. Kazansky*, *Jianrong Qiu*, *Kiyotaka Miura*, *Kazuyuki Hirao*,

09:00 Fs Laser Micro Fabrication Method and Its Application in Multilayer Data Storage
Wenhao Huang,

09:20 Lasing with the Shortest Wavelength in Substituted ZnO and Laser Spectroscopy Study on High Density Exciton in Nanocrystal
Jian-Wen Dong, *C. R. Ding*, *B. C. Chen*, *S. W. Li*, *He-Zhou Wang*,

09:40 Optical Filter Based on One Dielectric Reflector
Ken Liu, *Wei-Min Ye*, *Xiao-Dong Yuan*,

10:00 **Coffee Break**

Session 2A2b
Photonic Crystal Waveguides

Tuesday AM, March 25, 2008

Room B

Organized by John Canning, Martin Kristensen

Chaired by John Canning, Martin Kristensen

10:20 Manipulating Polarisation in 2D Photonic Crystal Silicon-On-Insulator (SOI) for Novel Photonic Filters
John Canning, *Martin Kristensen*, *Nina Skivesen*, *Lars H. Frandsen*, *Amelie Tetu*, *Jacques Chevallier*, *Cicero Martelli*,

10:40 Fresnel Fibres and Components
John Canning,

11:00 Scattering of UV Light through Photonic Crystal Fibre Triangular Lattices and Impact on Grating Writing
John Canning, *John Holdsworth*,

11:20 Polymer Photonic Crystal Waveguides in Orthodontics
Maura Milsczewski, *John Canning*, *Cicero Martelli*, *Hypolito Kanilowski*, *Jose Simoes*, *Michael Stevenson*, *Paolo Talaia*,

11:40 Making Porphyrin Nanowires for Silicon Photonic Crystal Waveguides
Cicero Martelli, *Nina Skivesen*, *John Canning*, *Martin Kristensen*, *Maxwell J. Crossley*,

Session 2A3
Metamaterials at Optical Frequencies

Tuesday AM, March 25, 2008

Room C

Organized by Le-Wei Li, Jan Machac

Chaired by Le-Wei Li, Christophe Caloz

08:20 Phase-engineered Metamaterial Structures and Devices
Christophe Caloz, *Shulabh Gupta*,

08:40 Optical Activity Introduced by Magnetic Plasmon Resonance in Metamaterial
Hui Liu, *D. A. Genov*, *Tao Li*, *Shu-Ming Wang*, *Fu-Ming Wang*, *Shi-Ning Zhu*, *X. Zhang*,

09:00 Realization of Three-dimensional Photonic Metamaterials at Optical Frequencies
Na Liu, *Hongcang Guo*, *Liwei Fu*, *Stefan Kaiser*, *H. Schweizer*, *Harald W Giessen*,

09:20 Dielectric Metamaterials with Accessible Tunability
Xian Qi Lin, *Jessie Yao Chin*, *Xin Mi Yang*, *Di Bao*, *Qiang Cheng*, *Tie Jun Cui*,

09:40 Does Planar Left-handed Material Slab Resolve Subwavelength Details in the Image?
M. Yu. Barabanenkov, *Yurii Nicolaevich Barabanenkov*, *S. A. Nikitov*,

10:00 **Coffee Break**

10:20 Widening the Negative Effective Parameter Frequency Band of Resonant SNG Metamaterials
Jan Zehentner, *Jan Machac*,

10:40 Resonance-induced Transparencies of Opaque Waveguides and Doppler Effects of a Light Source on a Metamaterial Slab
Hao Xu, *Weihua Wang*, *Jiaming Hao*, *Lei Zhou*,

11:00 From Photonic Crystals to Metamaterials: A General Mean-field Theory
Peter Halevi, *F. Pérez-Rodríguez*, *J. A. Reyes-Avendaño*, *E. Reyes-Ayona*,

11:20 Coupling Light to Delocalized Magnetic Excitations: Magnetic Plasmon Polaritons and Antisymmetric SPP Mode
Tao Li, *Hui Liu*, *Shu-Ming Wang*, *Fu-Ming Wang*, *Jia-Qi Li*, *Shi-Ning Zhu*,

11:40 Influence of Dephasing on Electromagnetically Induced left-handedness in Optically Excited Atomic Media
Shang-Bin Li,

Session 2A4
Microwave Photonics and Terahertz Technologies and Their Applications

Tuesday AM, March 25, 2008

Room D

Organized by Katsumi Iwatsuki

Chaired by Katsumi Iwatsuki

08:00 Microwave Photonic Devices and Their Applications to Communications and Measurements
Tadao Nagatsuma, *Yuichi Kado*,

08:20 Terahertz Emission from Two-dimensional Plasmons in High-electron-mobility Transistors Stimulated by Optical Signals
Yahya Moubarak Meziani, Tetsuya Suemitsu, Taiichi Otsuji, Eiichi Sano,

08:40 Resonant Band Gaps from a Narrow Slit at Terahertz Frequencies
Yan Zhang, Kuo Meng, Yanhua Wang,

09:00 Beam Pattern Investigation of Terahertz Quantum Cascade Lasers
Saeed Fathololoumi, Dayan Ban, Hui Luo, Peter Grant, Sylvain R. Laframboise, Zbig R. Wasilewski, Margaret Buchanan, H. C. Liu,

09:20 Fabrication of Terahertz Coupling Structures by Electron Beam Lithography
Grahame Rosolen,

09:40 Terahertz Sensing for Ensuring the Safety and Security
Yuichi Ogawa, Shinichiro Hayashi, Chiko Otani, Kodo Kawase,

10:00 **Coffee Break**

10:20 Live Electro-optic Imaging (LEI) for Real-time Analyses of Electric Near-fields over Microwave Circuits
Kiyotaka Sasagawa, Atsushi Kanno, Masahiro Tsuchiya,

10:40 Latest Trends in Millimeter-wave Imaging Technology
Soichi Oka, Hiroyoshi Togo, Naoya Kukutsu, Tadao Nagatsuma,

11:00 Trends in Next Generation Optical Access Networks and a Proposed Hybrid Optical/Wireless Wide-area Access Network
Junichi Kani,

11:20 Development of Radio on Free Space Optics System for Ubiquitous Wireless
Katsutoshi Tsukamoto, Takeshi Higashino, Takuya Nakamura, Koichi Takahashi, Yuji Aburakawa, Shozo Komaki, Kazuhiko Wakamori, Toshiji Suzuki, Kamugisya Kazaura, Alam Mohammad Shah, Kazunori Omae, Mitsuji Matsumoto,

11:40 Photonic Millimeter-wave Generation and Distribution System Applicable to the ALMA Radio Telescopes
Hitoshi Kiuchi, Tetsuya Kawanishi, Masumi Yamada, Takahide Sakamoto, Masahiro Tsuchiya, Jun Amagai, Masayuki Izutsu,

Session 2A5
Methods and Instruments for the Determination of Electromagnetic Properties of Soils and Materials

Tuesday AM, March 25, 2008

Room E

Organized by Lorenzo Capineri, Colin G. Windsor

Chaired by Lorenzo Capineri, Yann Yvinec

08:20 Microwave Dielectric Spectroscopy of Moist Soils in the Problem of Radar and Radiometric Remote Sensing of the Land
V. L. Mironov,

08:40 An International Agreement on the Characterisation of the Effects of Soils on Ground Penetrating Radars and Metal Detectors
Yann Yvinec,

09:00 Soil Electromagnetic Properties and Landmine (Metal) Detectors: An Overview of Canadian Research
Yogadhish Das,

09:20 Mapping of Landmine Detection Interferences in Soil Prior to Operation
T. J. Katsube, Yogadhish Das,

09:40 Estimation of Relative Permittivity of Shallow Soils by Using the Ground Penetrating Radar Response from Different Buried Targets
Lorenzo Capineri, David J. Daniels, Pierluigi Falorni, Olga Lucia Lopera, Colin G. Windsor,

10:00 **Coffee Break**

10:20 Electrodynamic Model for Near-field Microwave Microscopy of Layered Samples
A. N. Reznik, V. V. Talanov,

10:40 An Example of Holographic Radar Using at Restoration Works of Historical Building
Vladimir V. Razevig, Sergey I. Ivashov, Anton P. Sheyko, Igor A. Vasilyev, A. V. Zhuravlev,

11:00 Device Fatigue-fracture Caused by High Current Density
Jianhua Xiao,

11:20 Magnetic Layer Plasma Thruster Using in Liquid Crystal Alignment
Bing-Hung Chen, Pei. Ci. Li,

11:40 Anomalous Negative Magnetostriction in $Tb_{0.3}Dy_{0.7}Fe_{1.95}$ Alloys under Magnetomechanical Loading
Y. Pei, Dai-Ning Fang,

Session 2A6
Electromagnetic Theory and Computational Methods for Passive Dielectric Waveguides and Devices

Tuesday AM, March 25, 2008

Room F

Organized by Hung-Wen Chang

Chaired by Hung-Wen Chang

08:20 Field Analysis of Dielectric Waveguide Devices Based on Coupled Transverse-mode Integral Equation
Hung-Wen Chang, *Shih-Ming Lu*,

08:40 Numerical Analysis of Polarization Splitter Based on Vertically Coupled Microring Resonator
Xinlun Cai, *Siyuan Yu*, *Dexiu Huang*,

09:00 Numerical Approaches for Solving Coupled Mode Theory-Part I: Uniform Fiber Bragg Gratings
Jiun-Jie Liau, *Nai-Hsiang Sun*, *Ru-Yen Ro*, *Po-Jui Chiang*, *Shih-Chiang Lin*,

09:20 Numerical Approaches for Solving Coupled Mode Theory-Part II: Apodized Fiber Bragg Gratings
Jiun-Jie Liau, *Nai-Hsiang Sun*, *Ru-Yen Ro*, *Jung-Sheng Chiang*, *Shih-Chiang Lin*,

10:00 **Coffee Break**

10:20 Hybrid FD-FD Method for Medium Scaled Dielectric Waveguide Devices
Hung-Wen Chang, *Wei-Chi Cheng*,

10:40 A New Simple Technique for Suppress the Spurious Response at Twice the Passband Frequency
Homayoon Oraizi, *Hoggat-Allah Nemati*,

11:00 Numerical Calculations of PCs Structures by Pseudospectral Method
Po-Jui Chiang, *Nai-Hsiang Sun*,

11:20 Full Eigen Mode Expansoin Technique for Large Scale Dielectric Waveguide Devices with One-way Traffic
Hung-Wen Chang, *Sen-Eon Liu*,

Session 2A7
Fields and Waves

Tuesday AM, March 25, 2008

Room G

Organized by Karl Joerg Langenberg

Chaired by Karl Joerg Langenberg

08:00 Wave Field Imaging
Karl Joerg Langenberg, *Klaus Mayer*, *René Marklein*,

08:20 The Theory of Low-Frequency Wave Physics Revisited
George Venkov, *Martin W. McCall*, *Dan Censor*,

08:40 Radiation Emission in a Medium with Time-dependent Permittivity
Peter Halevi,

09:00 Analysis of Layered Crossed Gratings Using Method of Integral Functionals Based on a Model of Double Periodic Magneto-dielectric Layer
Vladimir Yachin, *Kiyotoshi Yasumoto*,

09:20 Performance of Multigrid in the Context of Beam Dynamics Simulations
Gisela Poplau, *Ursula van Rienen*,

09:40 Trends in Computational Electromagnetics
Thomas Weiland,

10:00 **Coffee Break**

10:20 Incorporation of the Continuous Spectrum in Closed Form Expressions for Layered Media Green's Functions
Rafael R. Boix, *Francisco L. Mesa*, *Francisco Medina*,

10:40 Fiber-optical Analog of the Event Horizon
Ulf Leonhardt, *Thomas G. Philbin*, *Friedrich Konig*,

11:00 Trapped Surface Wave and Lateral Wave in the Presence of a Four-layered Region
Yi Hui Xu, *Kai Li*, *Liang Liu*,

11:20 A New Type of Mechanically Tunable Frequency Selective Surface
Da Ma, *Wen Xun Zhang*,

11:40 An Efficient Highways Coverage Technique for the High Altitude Platforms Mobile Communications
Yasser Albagory, *Moawad Dessouky*, *Hamdy Shashar*,

Session 2A8
Electromagnetic Modeling, Inversion and Application 2

Tuesday AM, March 25, 2008

Room H

Organized by Ganquan Xie, Michael Oristaglio

Chaired by Chien-Chang Lin, Tong Kang

08:00 The Electromagnetic and Seismic Field Coupled Modeling for Pores Media
Jing Ba, *Huizhu Yang*, *Michael Oristaglio*, *Ganquan Xie*,

08:20 Energy-efficient Data Aggregation Protocol Based on Static Clustering for Wireless Sensor Networks
S.-G. Deng, L.-F. Shen, X.-R. Zhu,

08:40 An Inverse-scattering Iterative Algorithm for EM and Seismic Imaging
Jing Ba, Huizhu Yang, Jianhua Li,

09:00 A Weight Regression Analysis of the Spectroscopy and Chromatography Measurement Data
Juan Fan, Jianhua Li, Chien-Chang Lin,

09:20 AGILD Low Fequency EM Field Simulation for Earth Ionosphere Large Scale Waveguide
Qingyun Di, Ganquan Xie, Jianhua Li, Tong Kang,

09:40 AGILD DC Mechanical and Electric Modeling for Industrial and Environmental Engineering
Chien-Chang Lin, Jianhua Li, Jing Li, Ganquan Xie,

10:00 **Coffee Break**

10:20 A Method of Improving Image Quality of an Uncooled Infrared Focal Plane Array
Xia Zhang, Dapeng Chen, Chaobo Li, Shali Shi, Binbin Jiao, Yi Ou,

10:40 Management of the Operation and Environment in the EM Stirring
Jing Li, Jianhua Li, Daxin Zuo, Ganquan Xie, Henghua Li,

11:00 AGILD WMT Ray-tracing Tomography and Its Application
Jianhua Li, Chien-Chang Lin, Ganquan Xie, Michael Oristaglio,

11:20 Improved Isoparameter FEM for Plastic and EM Modeling
Chien-Chang Lin, Jianhua Li, Ganquan Xie, Michael Oristaglio,

11:40 AGILD Seismic Modeling For Double-porosity Media
Jing Ba, Huizhu Yang, Ganquan Xie,

Session 2AP
Poster Session 2

Tuesday AM, March 25, 2008
10:00 AM - 17:00 PM
Room P

1 Electrical Field and Plasticity for Polar Materials
Jianhua Xiao,

2 Photoacoustic Effect: A Case in Which Electromagnetic Wave Is Converted into Sound
Mayo Villagrán-Muniz, J. Andrade-Herrera,

3 Study on Initial Stage of Gas Discharge by Numerical Method
Yun Zhang, Rong Zeng, Xiaochuan Wang, Bo Zhang, Jinliang He,

4 Genetic Algorithms for Automated Design of the Multilayer Absorbers in the X-Band and Incident Angle Range
Nadia Lassouaoui, Habiba Hafdallah Ouslimani, Alain C. Priou,

5 A Novel Analysis for Circular-groove Guide
Yinqin Cheng,

6 PIC Simulation of Surface Charging in the Wake Zone
Ji Wang, Jiawen Qiu, Xiaogang Qin,

7 The Optical Spatial Comb
Tao Duan, Chun-Fang Li,

8 Analysis of High Frequency Interference in Antennas by Implementation of a Novel Efficient Hybrid TLM Method
M. Bahadorzadeh, M. Naser Moghaddasi,

9 Asymptotic Expansion of the Scattering Problem by a Rough Periodic or Doubly Periodic Surface
J.-R. Poirier, A. Bendali, Pierre Borderies,

10 Physics Based Time Domain Simulation of Magnetic Recording Signal and Noise
Xiaobin Wang, Zhen Jin, Xuebing Feng, Dimitar Dimitrov,

11 Ferroelectric Properties of Pulsed Laser Deposited Thin Films for Detecting Electromagnetic Waves
Hsiu-Fung Cheng, P. T. Joseph, C. C. Hung, Y. W. Chen, Nyan-Hwa Tai, I-Nan Lin,

12 Ferroelctric Properties of Nanostructured SBLFT Thin Films Prepared by Pulsed Laser Ablation
P. T. Joseph, Nyan-Hwa Tai, Hsiu-Fung Cheng, I-Nan Lin,

13 Modeling of Electron Beam — Bragg Gratings Interaction
Artem A. Balyakin, Elena V. Blokhina,

14 PIC Simulation of Surface Charging in the Wake Zone
Ji Wang, Jiawen Qiu, Xiaogang Qin,

15 Study on a Novel Permanent Magnet Retarder for Vehicles
Lezhi Ye, Desheng Li, Z. Y. Lu, Qiaohong Guo,

16 Research on a Maglev Ball Control System Based on DSP2812
Qiaohong Guo, Desheng Li, Zhiyuan Lu, Wei Wang, Lezhi Ye,

17 Key Technologies for Lidar Detecting Stealth Targets
Bin Zhu, *Jing Zhang*, *Yan Chen*, *Ke Deng*, *Dagang Jiang*, *Peng Zhang*, *Zoushi Yao*, *Wei Hu*,

18 Enhancement of Microwave-assisted Organic Reactions Using Active Carbon
Zhibin Li, *Jianhua Chen*, *Haisheng Xu*, *Shan Hu*, *Dong Shen*,

19 A Comparison of SRTM and CALIPSO Superresolution Lidar Altimetry
Yongxiang Hu,

20 Universal Radio Frequency Identification Sensing System
J. H. Lin, *J. L. Sun*, *T. H. Su*, *P. F. Hsieh*,

21 Passive Radar Imaging Based on Correlation Motion Compensation
Xiaoyan Fan, *She Shang*, *Wei Ma*, *Jie Li*, *Xuan Li*,

22 Enhancement Gradient Pulse Waveforms in MR Tomography
Eva Gescheidtova, *Radek Kubasek*,

23 A Study on Electronic Nose System Based on Integrated Gas Sensors Array and Support Vector Machine
Guiling Huang, *Qida Zhao*, *Luming Zhao*, *Shuhong Li*, *Yinping Miao*, *Jiping Liao*, *Fei Wang*,

24 High Vertically Resolved Atmospheric State and Surface/Cloud Parameters Retrieved with IASI Single Field-of-view
Daniel K. Zhou,

25 Remote Sensing of Atmosphere and Surface Properties from Ultra-spectral Sensors
Xu Liu, *Daniel K. Zhou*, *Allen Larar*, *Willian L. Smith*, *Peter Schluessel*,

26 Three-scale Radar Backscattering Model of the Ocean Surface Based on Second-order Scattering
Ying Yu, *Xiao-Qing Wang*, *Min-Hui Zhu*, *Jiang Xiao*,

27 Potentiality of Doppler Spectrum of Backscattered Microwave Signal for Detection of Sea Surface Slicks
Vladimir Yurjevich Karaev, *Mikhail Kanevsky*, *Eugeny Meshkov*,

28 Remote Sensing Image Compression Based on Classification and Detection
Minqi Li, *Quan Zhou*, *Jun Wang*,

29 Using AMSR-E Satellite Data to Retrieve Soil Moisture on the Mongolia Plateau
Yuei-An Liou, *Tzu-Yin Chang*,

30 Far-field Diffraction Characteristics of a Short Pulse from a Slit with Gaussian form of Transmittance
Pin Han,

31 Two-step Contrast Source Inverse Method with Phaseless Data for EM Inverse Scattering
Lianlin Li, *Yin Xiang*, *Fang Li*,

32 Differential Theory with Genetic Algorithms in Design Periodic Absorbers
Nadia Lassouaoui, *Habiba Hafdallah Ouslimani*, *Alain C. Priou*,

33 A Stable and Efficient Numerical Method for Grating Structures
N.-Y. Shih, *W.-L. Yeh*, *Yih-Peng Chiou*,

34 Optical Response of a Tunable Liquid Crystal Cell with Nano-structured Metal Layer
Lizhen Ruan, *J. Parsons*, *W. A. Murray*, *J. Roy Sambles*,

35 Theoretical and Experimental Study of Goos-Hänchen Shifts on Symmetrical Metal-cladding Waveguides
Zhuangqi Cao, *Honggen Li*, *Lin Chen*, *Qishun Shen*, *Xiaoxu Deng*,

36 Optical Mode Parameters of the 2.3-µm Al(In)GaAsSb/GaSb Ridge-waveguide Laser Diodes and Laser Diode Arrays
Yimin Chen, *Dmitry Donetsky*,

37 Wavefront Phase Modulation of Cylindrical Vector Beam in Optical Focusing System
Xiumin Gao, *Jian Wang*,

38 Detection of Narrow-band and Multi-frequency Terahertz Generation and Propagation in Periodically Poled MgO: LiNbO3 (PP-MgO: LN)
W. M. Liu, *G. Kh. Kitaeva*, *H. C. Guo*, *Sing Hai Tang*,

39 The Photonics Collapse-revival's of Intensity-dependent Coupling of Lambda Atoms and Fields
J. Hajivandi, *M. M. Golshan*,

40 High Quality, High Intensity and Narrow Bessel Beams
O. Brzobohatý, *T. Čižmár*, *Pavel Zemánek*,

41 Speed Enhancement of Many-body Cluster of Microparticles in Optical Conveyor Belt
M. Šiler, *T. Čižmár*, *Pavel Zemánek*,

42 All-optical Switching Structure Using Nonlinear Photonic Crystal Directional Coupler
Armaghan Eshaghi, *M. M. Mirsalehi*, *Amir Reza Attari*, *S. A. Malekabadi*,

43 Two-color Two-photon Microscopy for Enhancing the Imaging Depth into Highly Scattering Media
Lingling Qiao, *Chen Wang*, *Ya Cheng*, *Zhizhan Xu*,

44 Multifunctional Microdevices Integration on Glass Chips with Femtosecond Laser Microfabrication
Fei He, Haiyi Sun, Jian Xu, Yang Liao, Ya Cheng, Zhizhan Xu,

45 Studying of the Dipole Characteristic of THz from Photoconductors
Hong Liu, Weili Ji, Wei Shi,

46 Influence of External-cavity Length on the Route-to-chaos of Semiconductor Lasers under Optical Feedback
Moustafa Ahmed, Minoru Yamada,

47 Broadband Terahertz Biological Sensing with a Membrane Device
H. Yoneyama, M. Yamashita, A. Tanabashi, S. Kasai, H. Ito, T. Ouchi,

48 Quadratic Data Storage System in Polymeric Material
Kokou D. Dorkenoo,

49 Beam Spot Size Evolution of Gaussian Femtosecond Pulses after Angular Dispersion
Derong Li, Xiaohua Lv, Shaoqun Zeng, Qingming Luo,

50 Propagation of Anomalous Hollow Beams in a Turbulent Atmosphere
Yangjian Cai, Halil Tanyer Eyyuboglu, Yahya Baykal,

51 New Optical Fiber Sensor Based on Hydrogels for Detection of Liquid Leaks
Guiling Huang, Qida Zhao, Junfeng Lv, Luming Zhao,

52 Longitudinal Relaxation Time Measurement in MR with Transient-state Magnetization
Eva Gescheidtova, Karel Bartusek,

53 The Electromagnetic Interaction with Tissue of a Circular Patch Antenna, Comprising a Concentric Ring and Radially Slotted Groundplane
S. Curto, Xiu Long Bao, M. J. Ammann,

54 Anti-interference Design of Quasi-resonant Tank for Magnetic Induction Heating System
Cheng-Chi Tai, Ming-Kum Cheng,

55 The Design of a Half-bridge Series-resonant Type Heating System for Magnetic Nanoparticle Thermotherapy
Cheng-Chi Tai, Chien-Chang Chen,

56 Morphological Changes Induced by 53.37 GHz Radiation on Giant Vesicles
Alfonsina Ramundo-Orlando, M. Cappelli, G. Longo, M. Girasole, L. Tarricone, A. Beneduci,

57 A Novel Method for Passive Shim Design: II
Hector Sanchez Lopez, Feng Liu, Ewald Weber, Stuart Crozier,

58 Design of Tunable Filter with Fiber Bragg Gratings with Cladding Made of Electro-optic Materials
Shang-Lin Hou, Suo-Ping Li, Dao-bin Wang, Jing-Li Lei,

59 Fiber Grating Designing Method Based on Multi-subpopulation Competition Evolutionary Algorithm
Zhaoniu Huang, Songfen Liu, Guiling Huang,

60 A Study of Detection Technology for Liquid Leakage Base on Fused-biconical Fiber Couplers
Zhaoniu Huang, Guiling Huang,

61 Influence of the Cladding Diameter of Tilted Fiber Bragg Grating on the Refractive Index Sensitivity Characteristic
Yinping Miao, Qida Zhao, Bo Liu, Bo Dong, Guiling Huang,

62 A Compact Filter with Good Performance Based on Super-compact Multilayered Left-handed Transmission Line
Hao Hu, Anxue Zhang, Yansheng Jiang, Zhuo Xu,

63 Scattering Characteristics of a New Dielectric Periodic Array Composed of Left-handed Gratings
Weihai Fang, Shanjia Xu,

64 Propagation Characteristics of a Novel NRD Guide with Double-LHM Slab Layer
Yongmei Pan, Shanjia Xu,

65 Realization of Even Amplitude and Phase Distributions in Series Feed Configuration with Composite Right/Left-handed Transmission Line
Yuanchun Li, Qi Zhu, Jun Zhang, Jiali Lai, Shanjia Xu,

66 Design of Microstrip Array with Series Fed Configuration
Wenhui Mao, Qi Zhu, Yuanchun Li, Shanjia Xu,

67 The Research on Application of Composite Metamaterial in Rectangular Waveguide
Man-na Han, Qiang Sui, Chao Li,

68 Magneto-tunable Left-handed Material Based on Yttrium Iron Garnet
Hongjie Zhao, Ji Zhou, Qian Zhao, Bo Li, Lei Kang, Yang Bai, Xing Zhang,

69 Experimentally Demonstration of Isotropic Negative Permeability in a Three-dimensional Dielectric Composite
Qian Zhao, Lei Kang, Bo Du, Hongjie Zhao, Qin Xie, Xueguang Huang, Bo Li, Ji Zhou, Longtu Li,

70 The Negative Parameters of Left-handed Materials Consisting of Granular Composite
Xiumin Gao,

71 Hydrogenated Amorphous Silicon-based Thin Film Solar Cells
S. Khalefa, M. Sbeta, A. Abugalia,

72 Electromagnetic Field Quantization in an Anisotropic Magnetodielectric Medium with External Charges
Majid Amooshahi, Fardin Kheirandish,

73 Study on Elliptical Cylinder and Elliptical Sphere Electromagnetic Cloakings
Kan Yao, Chao Li, Fang Li,

74 Microscopic Origins of Nonlinearity in Superconducting Microwave Devices
Alexander Zhuravel, Alexey V. Ustinov, Steven M. Anlage,

75 Omni-directional Vibration Sensor Based on Dynamic Image Understanding
Yi-Ping Tang, Wu-Jie He, Yi-Hua Zhu,

76 Rotation of the Leaky Dielectric Particle in a Spinning Electric Field
Yu. Dolinsky, T. Elperin,

77 Real Time Fire Detection Based on Omni-directional Vision
Yi-Ping Tang, Shun-jing Jin,

78 Research on Audio Information Hiding Arithmetic Based on BP Neural Network
Hong Wang, Qiong Sun, Yi Sun,

79 Model Error Estimate in Quantitative Remote Sensing Inversion
Zheng Lu, Hua Yang, Xiang Ma, ZhiXing Ren,

80 Fabrication of Focusing Optic for Soft X-Ray Microscope
Kwon Su Chon, Kwon-Ha Yoon,

81 Schlieren Imaging with Coherent and Incoherent Light Sources and with Proper Fourier Filters
Boris Zakharin, Josef Stricker,

82 Polarization-independent Microwave Directional Anisotropy in Magnetophotonic Crystal
H. X. Da, J. C. Wu, Zhen-Ya Li,

83 Scaling Invariance Band Gaps in 1D Periodic Structures Containing Metamaterials
Zhiguo Wang,

84 Influence of Subjective Material on the Energy Transferring Process between Phosphorescent Material and Fluorescent Material
Yuan Li, Suling Zhao, Zheng Xu, Fujun Zhang, Yanrui Li, Yaru Yang, Jinglu Song,

85 Implementation of Range-gated Underwater Laser Imaging System
Mingsong Chen, Faliang Ao, Ning He,

86 Band Engineering and Waveguide Design for THz Si/SiGe Quantum Cascade Laser
Guijiang Lin, Hongkai Lai, Cheng Li, Songyan Chen, Jinzhong Yu,

87 Far-field Distortion Characteristics of Annular Lasers from Confocal Unstable Resonators through the Natural Atmosphere
Yufeng Peng, Li Liu, V. S. Egorov, Zuhai Cheng, Minggao Zhang,

88 Subwavelength Terahertz Imaging and Plasmonically Transferred Image through an Array of Periodically Corrugated Metal Rods
Yongyao Chen, Ching-Yue Wang,

89 Surface Optical Breathers in Semiconductor Quantum Dots
G. T. Adamashvili, A. Knorr,

90 Spatial Light Modulators for Cold Atom Manipulation
Michael Mestre, Fabienne Diry, Bruno Viaris de Lesegno, Laurence Pruvost,

91 Active III-V Photonic Crystal Devices Integrated onto Silicon Wafers
F. Raineri, G. Vecchi, A. M. Yacomotti, T. Karle, A. Levenson, R. Raj,

92 From Fast Optical Bistability to Thermo-optical Excitability in a Two Dimensional Photonic Crystal
A. M. Yacomotti, P. Monnier, F. Raineri, R. Raj, A. Levenson,

93 The Localized Modes for Random Laser
Sheng Li, Xin Sun, Thomas F. George,

94 Nitride-bsed LEDs with MQW Active Regions Grown by Different Temperature Profiles
S. C. Wei, A. T. Cheng, Yan-Kuin Su,

95 Optical Tunneling through a Disordered Stack of Metamaterials
Wei-Hua Sun, Ye Lu, R. W. Peng, De Li, X. Wu, L. S. Cao, Mu Wang,

96 Optical Propagation in One-dimensional Random n-mer Dielectric Systems
Zeng Zhao, F. Gao, Ru-Wen Peng, K. Wei, L. S. Cao, De Li, Z. Wang, Mu Wang,

97 Voltage-controlled Light Storage in Vertically Coupled InGaAs/GaAs Quantum Dots
Ka-Di Zhu,

98 Effect of 50 Hz Power Frequency Magnetic Field on Microfilament Cytoskeleton Assembly of Human Amnion FL Cell
Keping Chu, Yukun Zhang, Danying Zhang, Qunli Zeng, Zhiyin Cai, Shude Chen, Ruohong Xia,

99 Goos-Hänchen Shift and Pulse Widening for Step-index Fiber
Yaoju Zhang, Jianping Bai,

100 An Inverse Model for Localization of Low-diffusivity Regions in the Heart Using Ecg/Mcg Sensor Arrays
Ashraf Atalla, Aleksandar Jeremic,

Session 2P1a
Plasmonic Photonics 2

Tuesday PM, March 25, 2008

Room A

Organized by Din Ping Tsai, Chien-Cheng Chang

Chaired by Din Ping Tsai, Chien-Cheng Chang

13:00 Electric and Magnetic Dipole Moments and Lifetimes of Eigenstates of Finite-length Cylinders and Cylinder-clusters
David J. Bergman,

13:20 Localization Characteristics of Two-dimensional Metal Nanoparticle Structures
Jian-Wen Dong, Kin Hung Fung, Che Ting Chan, He-Zhou Wang,

13:40 Ponderomotive Force-induced Nonlinearity for Surface Plasma Wave in Plasma-insulator-plasma Structure
Yung-Chiang Lan,

14:00 Focusing of Light beyond the Diffraction Limit
Kuan-Ren Chen,

14:20 A Study of the Motion of Surface Plasmons on Silver Nanotrack
Sheng Chung Chen, Zheng Yu Lin, Kuo Pin Chiu, Din Ping Tsai,

Session 2P1b
Biophoton, Plasmonic Effects and Materials

Tuesday PM, March 25, 2008

Room A

Organized by Hock Chun Ong, Jones Tsz-Kai Wan

Chaired by Jones Tsz-Kai Wan, Hock Chun Ong

15:20 Cloaking of Metallic Cube by Plasmonic Shell in Quasistatic Limit
Adnan Noor, Zhirun Hu,

15:40 Theoretical and Experimental Investigations on Surface Plasmon Cross Coupling Mediated Emission from ZnO
Dangyuan Lei, H. C. Ong,

16:00 Theoretical and Experimental Studies of the Optical Properties of One-dimensional Metallic Gratings
Wai Chun Luk, Heping Ying, Jia Li, Pak Ming Hui, Hock Chun Ong,

16:20 The Optical Properties of Large Area Two-dimensional Plasmonic Nanobottle Arrays
Hei Iu, Jia Li, Hock Chun Ong, Jones Tsz-Kai Wan,

16:40 Resonance as a Tool to Transfer Informations to Living Systems
Antonella Lisi, Deleana Pozzi, Mario Ledda, Flavia De Carlo, Roberto Gaetani, Enrico D'Emilia, Livio Giuliani, Francesca Bertani, Isotta Chimenti, Lucio Barile, Alberto Foletti, Settimio Grimaldi,

17:00 High-sensitivity Exploration of Very Thin Liquid Crystal Layers — Coupled Surface Plasmon and Guided Modes
Fuzi Yang, Lizhen Ruan, J. Roy Sambles,

Session 2P2a
Shaping Optical Forces for Trapping and Binding – Theory

Tuesday PM, March 25, 2008

Room B

Organized by Jean-Marc R. Fournier, Tomasz M. Grzegorczyk, René P. Salathé

Chaired by Jean-Marc R. Fournier

13:00 Bored Helical Phases: Dynamics of Intensity Profiles and Poynting Vector Calculation upon Propagation
Nathaniel P. Hermosa II, Stein C. Baluyot,

13:20 Optical Trapping in Interfering Laser Beams: Principles and Applications
Pavel Zemánek, T. Čižmár, M. Šiler, P. Jákl, M. Sery,

13:40 Theory for Trapping Efficiency of Arbitrary Beams in Optical Tweezers
Antonio A. R. Neves, A. Fontes, C. L. Cesar, A Camposeo, R. Cingolani, D. Pisignano,

14:00 Dual-beam Interferometric Laser Trapping of Rayleigh and Mesoscopic Particles
Vincent L. Y. Loke, Timo A. Nieminen, N. R. Heckenberg, Halina Rubinsztein-Dunlop,

14:20 Giant Optical Forces and Size-selective Manipulation for Microspheres Using Evanescent Wave Excitation of Whispering Gallery Modes
Jack Ng, Che Ting Chan,

Session 2P2b
Shaping Optical Forces for Trapping and Binding – Biology

Tuesday PM, March 25, 2008

Room B

Organized by Jean-Marc R. Fournier, Tomasz M. Grzegorczyk, René P. Salathé

Chaired by René P. Salathé

15:20 Optical Micro-assembly in Parallel
Jesper Glückstad,

15:40 Spectroscopy Nanofabrication and Biophotonics
Enzo Di Fabrizio,

16:00 Feeling for Cells with Light
Josef A. Käs,

16:20 Investigating Cellular Signaling Reactions at the Nanometer and Attoliter Scale
Horst Vogel,

16:40 PicoNewton Force Spectroscopy for Motile Structures of the Axon's Growth Cone
Dan Cojoc, *E. Ferrari*, *F. Di Fato*, *R. Shahapure*, *J. Laishram*, *M. Righi*, *Enzo Di Fabrizio*, *V. Torre*,

Session 2P3
Metamaterials at Microwave Frequencies

Tuesday PM, March 25, 2008

Room C

Organized by Le-Wei Li, Jan Machac

Chaired by Jan Machac, Ari Henrik Sihvola

13:00 Negative-index Materials Are Different from Left-handed Materials: Bi-isotropic Constitutive Relations Revisited
Ari Henrik Sihvola,

13:20 Extraordinary Transmission through Periodically Perforated Screens from a Circuit Theory Perspective
Francisco Medina, *Francisco L. Mesa*, *Mario Sorolla*,

13:40 An Inhomogeneous Model of Periodic Structures for Negative Index Material
Ling Li Hou, *Jessie Yao Chin*, *Qiang Cheng*, *Ruopeng Liu*, *Fu Yong Xu*, *Tie Jun Cui*,

14:00 Development of Thin Soft Magnetic Amorphous Microwires for High Frequency Magnetic Sensors Applications
Arcady P. Zhukov, *M. Ipatov*, *C. García*, *J. Gonzalez*, *Larissa V. Panina*, *J. M. Blanco*, *V. Zhukova*,

14:20 Design of Metamaterial Based-on Ferromagnetic Substrate
Boren Zheng, *Guangjun Wen*, *Zhenghai Shao*, *Yunjian Cao*, *Kang Xie*,

14:40 Analysis of Varactor-tunable High-impedance Surfaces and Waveguides
O. Luukkonen, *C. R. Simovski*, *A. V. Räisänen*, *Sergei Tretyakov*,

15:00 **Coffee Break**

15:20 A Novel Wideband Microstrip Patch Antenna with Left-handed Element and Enhanced Horizontal Radiation
Ya-Nan Li, *Cheng-Wei Qiu*, *Le-Wei Li*, *Juan R. Mosig*,

15:40 Left-handed Behavior of Ferrite Loaded Waveguide
Kensuke Okubo, *Makoto Tsutsumi*,

16:00 Transmission Properties of Omega Shaped Bianisotropic Metamaterial
Koray Aydin, *Zhaofeng Li*, *Serafettin Bilge*, *Ekmel Ozbay*,

16:20 Lossless DNG-DPS Bilayer Structures for Tunneling and Zero Reflection
Homayoon Oraizi, *Majid Afsahi*,

16:40 Periodic Ferrite-semiconductor Layered Composite with a Tunable Negative Index of Refraction
Ai-Min Jiang, *Rui-Xin Wu*,

17:00 Studies of Pulse Propagation in Strongly Dispersive Media
J. Qi, *Ari Henrik Sihvola*,

17:20 On the Study of Left-handed Coplanar Waveguide Coupler on Ferrite Substrate
Mahmoud A. Abdalla, *Zhirun Hu*,

Session 2P4
Electromagnetic Field in Optical Materials and Dispersion Engineering of Photonic Crystals

Tuesday PM, March 25, 2008

Room D

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

Chaired by Tzong-Jer Yang, Chien-Jang Wu

13:00 One-dimensional Arrays of Ultra-small Josephson Junctions under Microwave Irradiation
Watson Kuo, *Saxon Liou*, *Y. W. Suen*, *C. D. Chen*,

13:20 The Effect of Cooling Systems on HTS Microstrip Antennas
Shu-Fang Liu, *Shao-Dong Liu*,

13:40 GL Time Domain Modeling for EM Acoustic and Elastic Wave Field with Dispersion in Crystal and Porous Material
Jianhua Li, *Ganquan Xie*, *Lee Xie*, *Feng Xie*,

14:00 A Novel Decoupled Scheme of the Potential-based Finite Element Method for 3-D Transient Eddy-current Problems
Tong Kang, *Kwang Ik Kim*,

14:20 Influence of Electric-field on Conductivity Properties of Proton Transfer in Hydrogen-bonded Systems
Xiao-Feng Pang,

14:40 Optical Properties of a Superconducting Distributed Bragg Reflector
Chien-Jang Wu,

15:00 **Coffee Break**

15:20 Fabrication of Polymer Bragg Grating Waveguide Devices Using MEMS Technology
Kun-Yi Lee, *Wei-Ching Chuang*, *Yen-Juei Lin*, *Wei-Yu Lee*,

15:40 Optical Dispersion of Indefinite Media Based on a Special Physical Model
Linfang Shen, *Tzong-Jer Yang*, *Yuan-Fong Chau*,

16:00 High-sensitivity Nuclear Magnetic Resonance Spectrometer for Hyperpolarized ^{3}He and Water by Using High-T_c Superconducting Quantum Interference Devices
Hong-Chang Yang, *Shu-Hsien Liao*, *Herng-Er Horng*, *S. Y. Yang*,

16:20 Frequency-dependent Negative Refraction of Photonic Crystals: Experimental Observations on Superprisming and Super-chromatic-aberration Effects
Shieh-Yueh Yang, *J. Y. Wu*, *H. E. Horng*, *Chin-Yih Hong*, *H. C. Yang*,

16:40 AGILD EM Dispersion Modeling For Photonic Crystals
Ganquan Xie, *Tong Kang*, *Jianhua Li*,

17:00 Fast and Accurate Full-model Simulation Algorithm for the Analysis of Frequency Selective Surfaces and Periodic Structures
Heng-Tung Hsu,

17:20 Design and Implementation of Novel Switching-mode Output Driver with Off-chip Transmission Speed up to 640 Mb/s
Heng-Shou Hsu,

Session 2P5
Theoretical Models for Microwave Remote Sensing

Tuesday PM, March 25, 2008

Room E

Organized by Hong-Tat Ewe, Saibun Tjuatja

Chaired by Hong-Tat Ewe, Saibun Tjuatja

13:20 Digital Bathymetry and Correction Model for Multibeam Bathymetric Sonar System
Lei Yan, *Jia Cheng Yu*, *Yue Feng Liu*, *Jia Bin Chen*,

13:40 A Broadband Proximity Antenna for Subsurface Sensing
Suman K. Gunnala, *Mingyu Lu*, *Jonathan W. Bredow*, *Saibun Tjuatja*,

14:00 Surface Bistatic Scattering Based on IEM Model
T. D. Wu, *Kun-Shan Chen*, *Jiancheng Shi*,

14:20 FDTD Modeling of Emission from Finite-size Object
Luis M. Camacho, *Mingyu Lu*, *Saibun Tjuatja*,

14:40 Multi-temporal Backscattering Behavior of Rice Crop Canopies Based on Dense Medium Model Simulations
Jun-Yi Koay, *Hong Tat Ewe*, *Hean-Teik Chuah*,

15:00 **Coffee Break**

15:20 A Study of Optimized Observation Configuration in Determining Sea Ice Thickness Using Multilayer Backscattering Model in Antarctica
Mohan Dass Albert, *Hong-Tat Ewe*, *Hean-Teik Chuah*,

15:40 Localization of Passive Targets Based on a Radar Sensor Network
Tsungyin Wu, *Mingyu Lu*, *Kartik Trasi*, *Saibun Tjuatja*,

16:00 Use of Numerical Methods for Assessing Validity Domains of the Approximations Involved in Electromagnetic Interaction Modeling with Vegetation
Pierre Borderies, *J.-R. Poirier*, *S. Tournier*, *C. Lauprette*, *Ludovic Villard*, *Pascale Dubois-Fernandez*, *N. Floury*,

16:20 Analysis of the Impact of Forest Structure on Radar Backscattering Based on Three-dimensional Radar Coherent Model
Dawei Liu, *Guoqing Sun*, *Yang Du*, *Wenzhe Yan*, *Jin Au Kong*,

16:40 On the Convergency Properties of Translational Addition Theorems
Wenzhe Yan, *H. Wu*, *Yang Du*, *Q. W. Xiao*, *Dawei Liu*, *Jin Au Kong*,

Session 2P6a
Microwave and Millimeter Wave Circuits and Devices 1

Tuesday PM, March 25, 2008

Room F

Chaired by Francisco Medina, Yozo Utsumi

13:00 40 GHz Band Down/Up Converter with E-Plane Circuit
Yozo Utsumi, Nguyen Thanh, Toshihisa Kamei, Hirosuke Suzuki,

13:20 An Experimental Study of Improved Low Pass Filter Using Post-wall Grounding Configuration
Ka Sing Lim, Manimaran Nagalingam,

13:40 Use of Ground Plane Windows and Floating Conductors in Microstrip SIR Filters
Maria del Castillo Velázquez-Ahumada, Jesús Martel, Francisco Medina,

14:00 A Millimeter-wave Sampled-Line Six-port Reflectometer at 300 GHz
Guoguang Wu, Zhiyang Liu, Stephen H. Jones, Robert M. Weikle,

14:20 Parallel-coupled Microstrip Filter with Super Wide Stopband
Shry-Sann Liao, Shih-Yi Yuan, Pou-Tou Sun, Yi-Hao Chang, Hung-Liang Lin,

14:40 Design and Optimization of Microstrip Interdigital Bandpass Filters with Impedance Matching
Homayoon Oraizi, Nima Azadi-Tinat, Shahrokh Saeedi,

15:00 **Coffee Break**

Session 2P6b
Mobile Antennas for Communication

Tuesday PM, March 25, 2008

Room F

Chaired by Jwo-Shiun Sun, Zhaoran (Rena) Huang

15:20 Simple Multiband Antenna for Mobile Phone Application Based on a Dual-arm Monopole Structure
David Delaune, Ning Guan, Koichi Ito,

15:40 Antennas Made of Transparent Conductive Films
Ning Guan, Hirotaka Furuya, David Delaune, Koichi Ito,

16:00 A 35-GHz Quasi-Yagi Antenna on Silicon Substrate
Jun Liao, Zhaoran (Rena) Huang, Kenneth Connor,

16:20 Application of Artificial Dielectric Material for a PIFA Antenna
Jwo-Shiun Sun, Guan-Yu Chen, Cheng-Hung Lin, Kwong-Kau Tiong, Y. D. Chen,

16:40 Bandwidth Enhancement of Balanced Folded Loop Antenna Design for Mobile Handsets Using Genetic Algorithms
Dawei Zhou, Raed A. Abd-Alhameed, Peter S. Excell,

17:00 Design Considerations of MIMO Antennas for Mobile Phones
Muhammad Usman, Raed A. Abd-Alhameed, Peter S. Excell,

17:20 A Simple Antenna Design of Implantable RFID based on EFAB Technology
Donghui Guo, Huajun Chen, L. L. Cheng,

Session 2P7
RF Safety

Tuesday PM, March 25, 2008

Room G

Organized by Chung-Kwang Chou

Chaired by Chung-Kwang Chou

13:20 Informing the Public about EMF and Health: Scientists' Responsibility
Michael H. Repacholi,

13:40 Advances in RF Bioeffect Mechanisms
Asher R. Sheppard, Mays L. Swicord, Quirino Balzano,

14:00 Design and Achievement of a Stirring Mode Chamber for Animal Exposure
Tongning Wu, F. Lacroux, Y. Toutain, O. Picon, Man-Fai Wong, Joe Wiart,

14:20 Dependence of the Induced Current of the Liquid-type Human-body Equivalent Antenna on Its Height
Ally Y. Simba, Yoshilide Takahashi, Soichi Watanabe, Takuji Arima, Toru Uno,

14:40 SAR of Wireless Communication Terminals Operated near the Human Body Using the Example of PCMCIA Data Cards
Yi Zhou, Joachim Streckert, H. Ndoumbè Mbonjo Mbonjo, Volkert Hansen,

15:00 **Coffee Break**

15:20 Active Implantable Medical Devices (AIMD) and Radio Frequency (RF) Fields
Veronica Ivans,

15:40 An Estimate for Human Health that Influenced by Electromagnetic Wave from Mobile Phone and the Relay Stations
Hung-Yao Pai,

16:00 Cardiophysiological Studies on Patients with Dual-chamber Pacemaker During Exposure to RF-fields Emitted by Cellular Phones
Maila Hietanen, *Kari Tahvanainen*, *Juanita Nino*, *Juha Hartikainen*, *Antti Hedman*, *Tom Kuusela*, *Harri Lindholm*,

16:20 Behavioral and Cognitive Effects of MW Electromagnetic Field Exposures Updated
Sheila A. Johnston,

16:40 RF Bioeffect Research to Address Human Safety Concerns
Chung-Kwang Chou, *Joe A. Elder*,

Session 2P8a
Electromagnetic Imaging: State of the Art and Perspectives

Tuesday PM, March 25, 2008

Room H

Organized by Lorenzo Crocco, Ibrahim Akduman

Chaired by Lorenzo Crocco, Ibrahim Akduman

13:00 Negative Refraction and Focusing in Magnetically Coupled L-C Loaded Transmission Lines
Peter Halevi, *U. Algredo-Badillo*,

13:20 The Closed-form Solution to the Reconstruction of the Radiating Current for EM Inverse Scattering
Lianlin Li, *W. J. Zhang*, *Fang Li*,

13:40 Contrast Field and Contrast Source Formulations for Microwave Imaging — A Comparative Analysis
Leonardo Lizzi, *Paolo Rocca*, *Massimo Donelli*, *Andrea Massa*,

14:00 Diagnosis of Reinforcing Bars in the Concrete Structure by Using Real-coded GA Using Real Data
Toshiyuki Tanaka, *Yuta Mitake*, *Kenzo Nagatomi*, *Takashi Takenaka*,

14:20 A Qualitative Approach to Breast Cancer Detection Using Microwaves
Michele Piana, *R. Aramini*, *Giovanni Bozza*, *Massimo Brignone*, *J. Coyle*, *F. Delbary*,

14:40 Circular Microwave Imaging Setup for Retrieving Soil Moisture Content
Raphael Lencrerot, *Amelie Litman*, *Herve Tortel*, *Jean Michel Geffrin*,

15:00 **Coffee Break**

15:20 Complete Recovery of Partially Coherent Wave Fields and Applications in Imaging
Chanh Q. Tran, *K. A. Nugent*,

15:40 An Improved Doppler Parameter Estimator for Synthetic Aperture Radar
Y. Li, *H. Fu*, *Pooi Yuen Kam*,

Session 2P8b
Electromagnetic Inverse Problems

Tuesday PM, March 25, 2008

Room H

Organized by Samuli Siltanen

Chaired by Samuli Siltanen

16:00 A Modified Time Reversal Iteration and Inverse Problems
Matti Lassas, *Kenrick Bingham*, *Yaroslav Kurylev*, *Samuli Siltanen*,

16:20 Detection of the Inclusions from Localized Boundary Measuraments in the Electrical Boundary Measurements
Takanori Ide,

16:40 Inverse Scattering in a Waveguide
Hiroshi Isozaki, *Yaroslav Kurylev*, *Matti Lassas*,

17:00 The D-bar Method for Electrical Impedance Tomography
Samuli Siltanen,

17:20 Experiments in Time-reversed Electromagnetics
Steven M. Anlage, *Thomas Antonsen*, *James Hart*, *Biniyam Taddese*, *Edward Ott*,

Session 3A1a
Dynamics on the Attosecond Time Scale

Wednesday AM, March 26, 2008

Room A

Organized by Ya Cheng, Shaoqun Zeng

Chaired by Katsumi Midorikawa

08:00 Imaging on the Attosecond Time Scale — Promises and Pitfalls
G. Jordan, *Ch. Ede*, *Xinhua Xie*, *Armin Scrinzi*,

08:20 Temporal Characterization of an Attosecond Pulse Train Using the FROG Technique
Chang Hee Nam, *Kyung Taec Kim*, *Dong Hyuk Ko*, *Kyung Sik Kang*, *Ju Yun Park*,

08:40 Complete Characterization of Attosecond Pulses by Spectral Shearing Interferometry of Photoelectron Wave Packets
Taro Sekikawa,

09:00 Classical Trajectory Perspective on Double Ionization Dynamics of Diatomic Molecules Irradiated by Ultrashort Intense Laser Pulses
Jie Liu,

09:20 Quantum Control of High Harmonics and Attosecond Pulse Generation
Peixiang Lu, *Pengfei Lan*, *Wei Cao*, *Yuhua Li*, *Xinlin Wang*,

09:40 Laser Tweezers with a Femtosecond Laser Beam
Min Gu,

10:00 **Coffee Break**

Session 3A1b
Attosecond Pulse Generation Related Technologies

Wednesday AM, March 26, 2008

Room A

Organized by Ya Cheng, Shaoqun Zeng

Chaired by Chang Hee Nam

10:20 High-order Harmonic Generation in Mixed Gases
E. J. Takahashi, *T. Kanai*, *Y. Nabekawa*, *Katsumi Midorikawa*,

10:40 Ultrafast Optics for High-order Harmonics and Attosecond Pulses
Paolo Villoresi,

11:00 Carrier-envelope Phase Controlled 5-fs Optical Pulses for Driving Single Attosecond Pulses Generation
Zhiyi Wei, *Jiangfeng Zhu*, *Hao Teng*, *Hainian Han*, *Qiang Du*,

11:20 Attosecond Pulse Generation in Waveform-shaped Two-color Laser Fields
Zhizhan Xu, *Ya Cheng*, *Ruxin Li*,

11:40 Spatial and Temporal Evolution of Gaussian Femtosecond Pulses after Angular Dispersion
Shaoqun Zeng, *Xiaohua Lv*,

Session 3A2a
Shaping Optical Forces for Trapping and Binding – Near-field

Wednesday AM, March 26, 2008

Room B

Organized by Jean-Marc R. Fournier, Tomasz M. Grzegorczyk, René P. Salathé

Chaired by René P. Salathé

08:20 Spectral Response of Plasmonic Optical Traps
Lina Huang, *Olivier J. F. Martin*,

08:40 Trapping Force in Near-field Laser Tweezers
Baohua Jia, *Min Gu*,

09:00 Waveguide Based Optical Handling for Biology and Nanofabrication
Stephane Gétin, *S. Gaugiran*, *D. Néel*, *P. Ferret*, *J.-M. Fedeli*, *J. Derouard*,

09:20 Algorithms for Specialized Holographic Optical Tweezers (HOTs): Superresolution, Self-reconstruction, and Evanescent-wave Shaping
Johannes Courtial, *L. C. Thomson*, *J. Nelson*, *Michael Mazilu*,

09:40 Selfconsistent Collective Dynamics and Stability of an Optically Bound Chain
Janos Asboth, *Peter Domokos*, *Helmut Ritsch*,

10:00 **Coffee Break**

Session 3A2b
Shaping Optical Forces for Trapping and Binding – Binding

Wednesday AM, March 26, 2008

Room B

Organized by Jean-Marc R. Fournier, Tomasz M. Grzegorczyk, René P. Salathé

Chaired by Tomasz M. Grzegorczyk

10:20 Longitudinal Optical Binding in Bessel Beams: Theory vs. Experiment
V. Karásek, *T. Čižmár*, *O. Brzobohatý*, *Pavel Zemánek*,

10:40 Advanced Studies of Optical Binding
Tomas Cizmar, *Peter Reece*, *Klaus Metzger*, *Antonia Carruthers*, *Ewan Wright*, *Kishan Dholakia*,

11:00 Optical Binding and "Unbinding" in Large-scale Microscopic Particle System
Jack Ng, Zhihong Hang, Che Ting Chan,

11:20 Optical Binding in Evanescent Waves
Luen Yan Wong, Matthew R. Cargill, Colin D. Bain,

11:40 Full Mie Scattering Model of Optically Bound Particles in Evanescent Waves
Jonathan M. Taylor, C. D. Bain, G. D. Love,

Session 3A3a
Metamaterials Design and Applications

Wednesday AM, March 26, 2008

Room C

Chaired by Lixin Ran, Qi Zhu

08:00 Design of a 4-bit High Power Phase Shifter Module with Left-handed Transmission Line
Jun Zhang, Qi Zhu, Shanjia Xu,

08:20 A Novel Left-handed NRD Guide Directional Coupler without LSE_{11} Mode Conversion Loss
Meng Huang, Shanjia Xu,

08:40 Design of Microstrip Antennas with Composite Right/Left-handed Transmission Lines
Lu Han, Qi Zhu, Shanjia Xu,

09:00 Performance Investigation of the Flat Antenna Based on Metamaterials
Dexin Ye, Lixin Ran, Jin Au Kong,

09:20 The Prevention of Multipactor Discharge in Rectangular Waveguide Loaded with Uniaxial Metamaterial
Wan-Zhao Cui, Zhiyu Wang, Tao Jiang, Dongxing Wang, Wei Ma, Lixin Ran,

09:40 Experimental Study of the Transmission Property of Anisotropic Left-handed Materials
Tao Jiang, Lixin Ran, Zhiguo Shi,

10:00 **Coffee Break**

Session 3A3b
Recent Advances in Metamaterials and Invisibility Cloaking 2

Wednesday AM, March 26, 2008

Room C

Organized by Hongsheng Chen, Bae-Ian Wu

Chaired by Hongsheng Chen, Bae-Ian Wu

10:20 Cloak Changing with Background
Jingjing Zhang, Jiangtao Huangfu, Yu Luo, Hongsheng Chen, Jin Au Kong, Bae-Ian Wu,

10:40 Cylindrical Cloak Created with Nonlinear Transformations
Sheng Xi, Hongsheng Chen, Bae-Ian Wu, Baile Zhang, Jiangtao Huangfu, Dongxing Wang, Jin Au Kong,

11:00 On Extending the Band-width of Electromagnetic Cloaks
Huanyang Chen, Xunya Jiang, Hongru Ma, C. T. Chan,

11:20 Transformation Media for Bend Waveguide
Jiangtao Huangfu, Jingjing Zhang, Sheng Xi, Hongsheng Chen, Bae-Ian Wu, Dongxing Wang, Jin Au Kong,

11:40 Electromagnetic Absorption by Metamaterial Grating System
Xiaobing Cai, Gengkai Hu,

Session 3A4
Physical Properties of Photoexcited Semiconductors

Wednesday AM, March 26, 2008

Room D

Organized by S. J. Xu

Chaired by S. J. Xu, Jian-Nong Wang

08:00 Optical Emission from Si/β-$FeSi_2$ and C_{60}-coupled β-$FeSi_2$ Nanocomposites
Xinglong Wu,

08:20 The Manipulation of Tunneling Property by Quantum Dot under Photoexcitation
W. P. Wang, N. Li, Xiaoshuang Chen, T. X. Li, Wei Lu,

08:40 Magneto-optical Properties and Spin Dynamics in Novel II-VI and III-V Semiconductor Materials and Nanostructures
I. A. Buyanova, W. M. Chen, A. A. Murayama, Y. Oka, C. R. Abernathy, S. J. Pearton,

09:00 Exciton-biexciton Dynamics in InGaAs Quantum Wells Studied by Time-resolved Kerr Rotation Spectroscopy
J. Q. Ning, S. J. Xu, X. Z. Ruan, Ji Yang, H. Z. Zheng, H. C. Liu,

09:20 Spin Dynamics of Photoexcited Carriers in InGaAs/GaAs Layered Quantum Structures
J. Q. Ning, S. J. Xu, X. Z. Ruan, Ji Yang, H. Z. Zheng, H. C. Liu,

09:40 Spin Lifetime of Electrons in a High Mobility, Low Density Two-dimensional Electron System
Xue Zhong Ruan, Hai Hui Luo, Yang Ji, Bao Quan Sun, Zhong Ying Xu, V. Umansky,

10:00 **Coffee Break**

10:20 Designed Fano Resonance in Semiconductor Devices
H. C. Liu, C. Y. Song, Z. R. Wasilewski, J. A. Gupta, M. Buchanan,

10:40 Dember Effect Induced Photovoltage in Perovskite p-n Heterojunctions
Kui-Juan Jin, Kun Zhao, Hui-Bin Lu, Leng Liao, Guo-Zhen Yang,

11:00 Photo-excited Carrier Dynamics in Large Bandgap Semiconductor Films and Nanostructures
Kam Sing Wong,

11:20 Coherent Relaxation of Excitons via Exciton-phonon Interaction and Time Evolution of Excitonic Polaron States
Shi-Jie Xiong, S. J. Xu,

11:40 Defects in ZnO Nanorods: Effect of Fabrication Method
Yuk Fan Hsu, Yan Yan Xi, Man Ching Alan Ng, Aleksandra B. Djurišić, Wai Kin Chan,

Session 3A5
EM Wave in Atmosphere Propagation and Communication 1

Wednesday AM, March 26, 2008

Room E

Organized by Zu-Han Gu, Jixiong Pu

Chaired by Zu-Han Gu, Jixiong Pu

08:00 Stochastic Electromagnetic Beams for Optical Communication Systems Operating in Turbulent Atmosphere
Olga Korotkova,

08:20 Formulation of Scintillations for Optical Incidence of Arbitrary Field Profile
Yahya Baykal, Halil Tanyer Eyyuboğlu, Yangjian Cai,

08:40 Goos-Haenchen Effect Applied for the Design of Collett-Wolf Beams
Zu-Han Gu, Anting Wang,

09:00 The Challenges for Optical Communication Using Orbital Angular Momentum of a Laser Beam in Turbulent Atmosphere
Jixiong Pu, Ziyang Chen, Tao Wang, Yongxin Liu,

09:20 Propagation of Partially Coherent Beams after a Source Plane Ring Aperture
Halil Tanyer Eyyuboğlu, Yahya Kemal Baykal, Yangjian Cai,

09:40 Second-harmonic Generation by an Astigmatic Partially Coherent Beam
Yangjian Cai, Ulf Peschel,

10:00 **Coffee Break**

10:20 The Influence of Atmospheric Turbulence on the Propagation Properties of Partially Coherent Flat-topped Beams
Xiaoling Ji,

10:40 Design of a Retro-reflected Tag for Free-space Optical Communication
Zu-Han Gu, Tamara A. Leskova, Alexei Alexei Maradudin,

11:00 Measurements and Physical Electromagnetic Statistical Modeling of mm Wavelength Propagation
Zaid Muhi-Eldeen, Miqdad Al-Nuaimi, Leonidas P. Ivrissimtzis,

11:20 Time Domain Analysis of Electromagnetic Monocycle Signals for Communication in Seawater
Raouf N. Boules,

11:40 General Improvement of the Two-flux Kubelka-Munk Approach in the Theoretical Optics of Turbid Media
Dmitrii A. Rogatkin, Vladimir V. Tchernyi, V. A. Dybov,

Session 3A6
Wireless Communication Component

Wednesday AM, March 26, 2008

Room F

Organized by Chulhun Seo

Chaired by Chulhun Seo

08:20 Broadband VCO Using Tunable Metamaterial Transmission Line with Varactor-loaded Split-ring Resonator
Jaewon Choi, Hyoungjun Kim, Chongmin Lee, Chulhun Seo,

08:40 A Frequency and Pattern Reconfigurable Antenna with a Simple Structure
Woo Suk Kang, Sung Jung Rho, Hyung Kuk Yoon, Kihun Chang, Young Joong Yoon,

09:00 Design for PCS Antenna Based on WiBro-MIMO
Kyeong-Sik Min, Min-Seong Kim, Chul-Keun Park, Manh Dat Vu,

09:20 Dual Band Internal Antenna with Independently Adjusted Resonant Frequencies
Jeongpyo Kim, Jaehoon Choi,

10:00 **Coffee Break**

10:20 Design of Dual-polarization Stacked Arrays for Wireless Communications
Adel Mohamed Abdin,

10:40 A High Linearity and Efficiency Doherty Power Amplifier for Retrodirective Communication
Xiaoqun Chen, Yuchun Guo, Xiaowei Shi,

11:00 Effect of the Gap Feeding on the Multi-band Small Antenna Using a Branch Structure
Hyengcheul Choi, Hojeong Kim, Sinhyung Jeon, Hyeong Dong Kim,

11:20 Design and Analysis of a 1.2 V, 1.8 GHz, 240.147 µw Low Power ASK Transmitter for Wireless Micro Sensor Nodes
Thankappan Sasilatha, J. Raja,

Session 3A7
Electromagnetic Techniques for Biomedical Applications 1

Wednesday AM, March 26, 2008

Room G

Organized by Andrea Massa, Paul M. Meaney, Paolo Rocca

Chaired by Andrea Massa, Paolo Rocca

08:00 Biomedical Qualitative Imaging by Means of a Two-step Inverse Scattering Approach
Manuel Benedetti, Massimo Donelli, Dominique Lesselier, Andrea Massa,

08:20 Wavefront Reconstruction of Breast Microwave Imagery Acquired along Circular Scan Trajectories: A Study on Experimental Feasibility
Daniel Flores-Tapia, Gabriel Thomas, Stephen Pistorius,

08:40 A Contrast Source Inversion Algorithm Using a Finite-difference Solver
Wenyi Hu, Aria Abubakar, Peter M. van den Berg, Tarek M. Habashy,

09:00 Detection of Breast Tumor by Using a Time-domain Three-dimensional Reconstruction Method
Hui Zhou, Takashi Takenaka, Toshiyuki Tanaka,

09:20 Advancements towards Microwave Tomography for Breast Cancer Screening
Ilaria Catapano, Lorenzo Crocco, Michele D'Urso, Tommaso Isernia,

09:40 An Analysis of Algorithms for the Solution of the Magnetoencephalography Inverse Problem
Michele Piana, C. Campi, A. Pascarella, A. Sorrentino,

10:00 **Coffee Break**

10:20 TEM Horn Antenna for Microwave Imaging
Mark A. Campbell, Michal M. Okoniewski, Elise C. Fear,

10:40 FDTD Analysis in Hyperthermia and Dosimetry for Biomedical Applications
Seddik Bri, A. Saadi, A. Nakheli, M. Habibi, L. Zenkouar, L. Bellarbi, Ahmed Mamouni,

11:00 The Design of Planar Transverse Gradient Coils Using a Deformation Algorithm
Minhua Zhu, Feng Liu, Ling Xia, Andrew Mehnert, Hector Sanchez, Qing Wei, Stuart Crozier, Jianfeng Zhu, Zhaoyang Jin, Chenghui Zhang, Naxin Cui, Wenlong Xu,

11:20 A Novel Algorithm for Inverse Scattering from Phaseless Measurements of Total Field Based on Rytov Approximation
Yanli Liu, Lianlin Li, Fang Li,

11:40 Technical Equipment for Research of Biological Effects of EM Field
Jan Vrba, Paolo Togni, Lukas Visek, Luca Vannucci, Peter Peschke,

Session 3A8
Computational Techniques

Wednesday AM, March 26, 2008

Room H

Organized by Yoichi Okuno, Tsuneki Yamasaki

Chaired by Yoichi Okuno, Tsuneki Yamasaki

08:20 Parallel Computing Methods for Finite-difference Schemes in MRI Research
Hua Wang, Feng Liu, Adnan Trakic, Stuart Crozier,

08:40 The Effective Current Density Scheme for Drude Model in the Finite-difference Time-domain
Minfeng Chen, Hung-Chun Chang,

09:00 A Numerical Estimation of Human Effects on Electric Field Distribution in Wireless Office LANS Using the FDTD Method
Louis-Ray Harris, Takashi Hikage, Toshio Nojima, Masahiko Hirono,

09:20 Revisited Implementation of the Spectral Kummer-Poisson's Method for the Efficient Computation of 2-D Periodic Green's Functions in Homogeneous Media
Rafael R. Boix, A. L. Fructos, Francisco L. Mesa, Francisco Medina,

10:00 **Coffee Break**

10:20 An Improved Matrix Bandwidth and Profile Reduction Algorithm in FEM Problems
Qing Wang, Yuchun Guo, Xiaowei Shi,

10:40 Scattering of Electromagnetic Waves by Inhomogeneous Dielectric Gratings Loaded with Two Adjacent Perfectly Conducting Strip
Tsuneki Yamasaki, Ryosuke Ozaki, Takashi Hinata,

11:00 Diffraction on a Magnetic Nanoparticle Array Computed Using Autonomous Blocks with Floquet Channels
Galina S. Makeeva, Oleg. A. Golovanov, Martha Pardavi-Horvath,

11:20 Simulation of Multiple Scattering Scenes for Time Domain Maxwell's Equations by an Hybrid and Parallel Method
V. Mouysset, Pierre Borderies, X. Ferrières,

Session 3P2a
Shaping Optical Forces for Trapping and Binding – Applications

Wednesday PM, March 26, 2008

Room B

Organized by Jean-Marc R. Fournier, Tomasz M. Grzegorczyk, René P. Salathé

Chaired by Jean-Marc R. Fournier, Tomasz M. Grzegorczyk

13:00 Tailoring Particles for Optical Trapping and Micromanipulation: An Overview
Timo A. Nieminen, T. Asavei, Y. Hu, M. Persson, R. Vogel, Vincent L. Y. Loke, S. J. Parkin, N. R. Heckenberg, Halina Rubinsztein-Dunlop,

13:20 Optical Trapping and Binding in Fresnel Diffraction
Jean-Marc R. Fournier, Pierre Jacquot, Fabrice Merenda, Johann Rohner, Rene Paul Salathe,

13:40 Laser Tweezers Arrays, Micro-fluidics, and Bioanalytics: From Concept to Reality
Rene Paul Salathe, Fabrice Merenda, Johann Rohner, Jean-Marc R. Fournier,

14:00 Optical Angular Moment Transfer on Open and Closed Line Patterns of Light
A. Jesacher, C. Maurer, A. Schwaighofer, S. Fürhapter, S. Bernet, Monika Ritsch-Marte,

14:20 Confined Brownian Motion Studied by Optical Trapping Interferometry
Sylvia Jeney, Branimir Lukić, Jonas Kraus, Thomas Franosh, László Forró,

14:40 Circular Movement Control of Micro Spheres Using Weak Focused Laser Beams
Naoki Kagawa, Shinsuke Hashimoto, Satoru Takahasihi,

15:00 Optical Sculpting of Emulsion Droplets
David Woods, Christopher D. Mellor, Colin D. Bain, Amanda Lewis, Andrew D. Ward,

15:20 Vortices and Persistent Currents: Rotating a Bose-Einstein Condensate Using Photons with Orbital Angular Momentum
Kristian Helmerson,

15:40 **Coffee Break**

Session 3P3a
Wave Propagation and Superresolution in Active and Passive Metamaterials 1

Wednesday PM, March 26, 2008

Room C

Organized by Andrey N. Lagarkov, Andrey K. Sarychev

Chaired by Andrey N. Lagarkov, Andrey K. Sarychev

13:00 Electromagnetic Eigenstates of Finite Cylinders and Cylinder-clusters: Application to Macroscopic Response of Meta-materials
David J. Bergman,

13:20 Negative Refraction as a Source of Some Pedagogical Problems
V. G. Veselago,

13:40 Wide-angle Absorption by the Use of a Metamaterial Plate
Andrey N. Lagarkov, Vladimir N. Kisel, V. N. Semenenko,

14:00 Metamaterial-based Microwave Absorber
Andrey N. Lagarkov, Vladimir N. Kisel, V. N. Semenenko,

14:20 Covariant Perspectives on Negative Refraction
Martin W. McCall,

14:40 Magnetic Metamaterials and Left-handed Materials towards Optical Frequencies
Maria Kafesaki, Th. Koschny, E. N. Economou, C. M. Soukoulis,

15:00 Superconducting Metamaterials
Steven M. Anlage, Michael Ricci, Nathan Orloff, Hua Xu, Laura Adams,

15:40 **Coffee Break**

Session 3P4a
Physical Properties of Photoexcited Semiconductors 2

Wednesday PM, March 26, 2008

Room D

Organized by S. J. Xu

Chaired by S. J. Xu, Jian-Nong Wang

13:00 Multi-photon Up-conversion Blue Lasing of Donor-acceptor Oligofluorenes
P. L. Wu, X. J. Feng, H. L. Lam, M. S. Wong, Kok Wai Cheah,

13:20 Exciton Polariton Lasing in ZnO with Two-photon Excitation
Xin-Hai Zhang, S. J. Xu, S. L. Shi, S. J. Chua, Chi-Ming Che,

13:40 Size-dependent Two-photon Absorption in Colloidal Semiconductor Quantum Dots
Wei Ji,

14:00 Dynamics of Carriers in Localized States and its Effects on Luminescence of Quantum Dots
Qing Li, S. J. Xu, Lan Fu, H. Hoe Tan, Chennupati Jagadish,

14:20 Persistent Photo-conductivities from Extended Defects in MBE Grown GaN Films
Xinhua Li, Fei Zhong, Kai Qiu, Jiannong Wang, Yuqi Wang,

14:40 Characterization of Fluorine-Plasma-Induced Deep Centers in AlGaN/GaN Heterostructure by Persistent Photoconductivity
B. K. Li, K. J. Chen, W. K. Ge, Jian-Nong Wang,

15:00 **Coffee Break**

15:40 **Coffee Break**

Session 3P5a
EM Wave in Atmosphere Propagation and Communication 2

Wednesday PM, March 26, 2008

Room E

Organized by Zu-Han Gu, Jixiong Pu

Chaired by Zu-Han Gu, Jixiong Pu

13:00 New Approaches to Generation of Helical Laser Beams
J. Lin, J. Bu, Xiao-Cong Yuan,

13:20 Experimental Reconstruction for Inverse Scattering of One-dimensional Surfaces
Anting Wang, Zu-Han Gu,

13:40 Design of Double-frequency Coaxial CTS Antenna
Bo Sun, Jinghui Qiu, Lingling Zhong, Xiaohang Xing,

14:00 Frequency Scanning Using Micro-strip Array Antenna
Alireza Bayat, Mitra Torabipour Banadkok,

14:20 New Evidence for an Unexplained Electromagnetic Effect Generating False Acoustic Emission
Paolo Diodati,

15:40 **Coffee Break**

Session 3P6a
Microwave and Optical Devices, Propagation

Wednesday PM, March 26, 2008

Room F

Organized by Rodica Ramer

Chaired by Rodica Ramer

13:00 Birefringent Azopolymer Long Period Fibre Gratings
Yanhua Luo, Zengchang Li, Qijin Zhang, Gangding Peng, Rongsheng Zheng, Ming Hai, Ru Chen, Bing Zhu,

13:20 Erasable Azo-polymer Optical Fibre Bragg Gratings
Yanhua Luo, Jingli Zhou, Qing Yan, Wei Su, Zengchang Li, Qijin Zhang, Gangding Peng, Jintang Huang, Keyi Wang,

13:40 Cluster Head Selection Using Evolutionary Computing in Wireless Sensor Networks
Ghufran Ahmed, Noor M. Khan, Rodica Ramer,

14:00 Resonating Modes for Characterization of Low-loss, High Dielectric Constant Materials
G. M. Banciu, A. Ioachim, Rodica Ramer,

14:20 A Robust Transmission Technique for Arbitrary 3D Images in Wireless Multimedia Sensor Networks
Ghufran Ahmed, Noor M. Khan, Rodica Ramer,

14:40 Impact of Cluster Head Energy on the Life Time of Quasi-Centralized Wireless Sensor Networks
Zubair Khalid, *Noor M. Khan*, *Rodica Ramer*,

15:00 **Coffee Break**

Session 3P7a
Electromagnetic Techniques for Biomedical Applications 2

Wednesday PM, March 26, 2008

Room G

Organized by Andrea Massa, Paul M. Meaney, Paolo Rocca

Chaired by Andrea Massa, Paolo Rocca

13:00 Medical Imaging and Diagnostics Based on Microwaves
Jan Vrba, *Ladislav Oppl*, *Radim Zajicek*, *Katerina Novotna*, *David Vrba*,

13:20 Some Improvements in Iterative Multi-scaling Strategies
Xiang Yin, *Lianlin Li*, *Fang Li*,

13:40 A Two-step Strategy for Inverse Scattering from Phaseless Data in Free Space
Wenji Zhang, *Lianlin Li*, *Fang Li*,

14:00 Electromagnetic Radiation from Ingested Sources in the Human Intestine at the Frequency of 2.4 GHz
Lisheng Xu, *Max Q.-H. Meng*, *Hongliang Ren*,

14:20 Microwave Thermotherapy — Technical and Clinical Aspects
Jan Vrba,

14:40 A Physical Model for Study of Electromagnetic Field Interaction with Cancer Cell
Dariush Sardari, *N. Verga*,

15:40 **Coffee Break**

Session 3P8a
Novel Mathematical Methods in Electromagnetics

Wednesday PM, March 26, 2008

Room H

Organized by Kazuya Kobayashi, Yury V. Shestopalov

Chaired by Kazuya Kobayashi, Yury V. Shestopalov

13:00 Plane Wave Diffraction by Two Parallel, Corrugated Half-planes: Evaluation of the Scattered Field
Jianping Zheng, *Kazuya Kobayashi*,

13:20 Plane Wave Diffraction by a Terminated, Semi-infinite Parallel-plate Waveguide with Four-layer Material Loading: The Case of H Polarization
Erhao Shang, *Kazuya Kobayashi*,

13:40 Propagation Characteristics of Dielectric Waveguides for the Air-hole Type
Tsuneki Yamasaki, *Ryosuke Ozaki*, *Takashi Hinata*,

14:00 Analysis of the Diffraction by a Dielectric Body in a Waveguide Using the Method of Volume Integral Equations
Yury G. Smirnov, *Kazuya Kobayashi*, *Yury V. Shestopalov*,

14:20 Method of Integral Equations for Solving 3D Electromagnetic Diffraction Problems in a Perturbed Layer Using Parallel Computations
Yury V. Shestopalov, *Yury G. Smirnov*,

14:40 Using Preconditioners for Numerical Solution of Integral Equations of Electromagnetics
Alexander B. Samokhin, *Ilya Fedotov*,

15:00 Decompositional Algorithm for Determining Descriptors of Nonlinear Autonomous Blocks with Floquet Channels Using the Iterative Method
Galina S. Makeeva, *Oleg A. Golovanov*, *Martha Pardavi-Horvath*,

15:20 The Iteration Algorithm of Recomposition of Nonlinear Autonomous Blocks with Floquet Channels Using S-Matrices of Linearized Blocks
Galina S. Makeeva, *Oleg A. Golovanov*, *Martha Pardavi-Horvath*,

15:40 **Coffee Break**

Session 4A1a
Modelling and Simulations of Nanophotonic Devices

Thursday AM, March 27, 2008

Room A

Organized by Min Qiu

Chaired by Min Qiu

08:20 Counter-directional Coupling between Silica Wire and Photonic Crystal Waveguide for Slow Light Generation
Ziyang Zhang, *Min Qiu*, *Ulf Andersson*,

08:40 A Specific Architectures of CMOS Readout for Resonant-cavity-enhanced Devices
G. Z. Zhan, *Fangmin Guo*, *Wei Lei*, *J. Huang*, *Z. Q. Zhu*, *Junhao Chu*,

09:00 Analyzing the Photovoltaic Characteristic of Carbon Nanotube Device Using Electromagnetic Scattering Model
Liu Yang, *Gaobiao Xiao*,

09:20 Design of Reusable and Flexible Test Access Mechanism Architecture for System-on-Chip
G. Rohini, *S. Salivahanan*,

09:40 Semiconductor Buried-layer Nanopore Photonic Devices
Michael P. Bradley,

10:00 **Coffee Break**

Session 4A1b
Nano Scale Electromagnetics, MEMS 2

Thursday AM, March 27, 2008

Room A

Organized by Lijie Li

Chaired by Lijie Li

10:20 Design and Simulation of Modified 1-D Electrostatic Torsional Micromirrors with z-axis Displacement
Lijie Li, *Deepak Uttamchandani*, *Mark Begbie*,

10:40 Design and Characterization of a Radio Frequency MEMS Inductor Using Silicon MEMS Foundry Process
Deepak Uttamchandani, *Lijie Li*,

11:00 A Concept of Moving Dielectrophoresis Electrodes Based on Microelectromechanical Systems (MEMS) Actuators
Lijie Li, *Deepak Uttamchandani*,

11:20 Micro-machined Magnetometers Applied for Nano- and Pico- Satellites
Zheng You, *Jianzhong Yang*,

Session 4A2a
3D Femtosecond Laser Microprocessing of Transparent Materials

Thursday AM, March 27, 2008

Room B

Organized by Ya Cheng, Shaoqun Zeng

Chaired by Koji Sugioka

08:00 Attosecond Physics
Ferenc Krausz,

08:20 3D Femtosecond Laser Micromachining by Two Photon Polymerization Technique
Andreas Ostendorf,

08:40 Holographic Femtosecond Laser Processing and Three-dimensional Recording in Biological Tissues
Y. Hayasaki,

09:00 Single Femtosecond Laser-induced Periodic Microstructures
Jianrong Qiu, *J. Song*, *Zhizhan Xu*, *K. Miura*, *K. Hirao*,

09:20 Nonlinear Pulse Propagation, Filamentation and Refractive Index Change in Glass
R. Vallée, *Q. Sun*, *A. Saliminia*, *See Leang Chin*,

09:40 Photonic Waveguide Devices Directly Written into Dielectric Materials Using Femtosecond Laser Pulses
Martin Ams, *Graham D. Marshall*, *Peter Dekker*, *Michael Withford*,

10:00 **Coffee Break**

Session 4A2b
3D Femtosecond Micromachining and 3D Bio-imaging

Thursday AM, March 27, 2008

Room B

Organized by Ya Cheng, Shaoqun Zeng

Chaired by Min Gu

10:20 Femtosecond Laser Writing of Waveguides Inside Glass
Yan Li, *Dayong Liu*, *Hong Yang*, *Qihuang Gong*,

10:40 3D Microstructuring of Glass by Femtosecond Laser Direct Writing and Application to Biophotonic Microchips
Koji Sugioka, *Yasutaka Hanada*, *Katsumi Midorikawa*,

11:00 Fabrication of Internal Diffraction Gratings in Planar Silica Plates Using Low-density Plasma Formation Induced by a Femtosecond Laser
Sung-Hak Cho, *Won-Seok Chang*, *Jae-Goo Kim*,

11:20 Nano-sized 3D Structures Generated by Thin Film Processing by Interfering Femtosecond Laser
Yoshiki Nakata, *Kunio Tsuchida*, *Noriaki Miyanaga*,

11:40 Induction of Neuronal Activities with the Femtosecond Laser
Wei Zhou, *Xiuli Liu*, *Shaoqun Zeng*, *Qingming Luo*,

Session 4A3
Wave Propagation and Superresolution in Active and Passive Metamaterials 2

Thursday AM, March 27, 2008

Room C

Organized by Andrey N. Lagarkov, Andrey K. Sarychev

Chaired by V. G. Veselago, Herbert O. Moser

08:20 Light Polarization and Transmission through Elliptical Nanohole Arrays in the Presence of a Magnetic Field
Yakov Strelniker, *David J. Bergman*,

08:40 Magnetophotonics: Magnetic Nanostructures and Diluted Magnetic Semiconductors
Alexander B. Granovsky,

09:00 Super-resolution in a Two-dimensional Negative-index Metamaterial Superlens
Koray Aydin, *Ekmel Ozbay*,

09:20 A Novel Design of Photonic Crystal Lens Based on Negative Refractive Index
S. Haxha, *F. AbdelMalek*,

09:40 Review of Nonlinear Optics in Metamaterials
Yuanjiang Xiang, *Xiaoyu Dai*, *Shuangchun Wen*, *Dianyuan Fan*,

10:00 **Coffee Break**

10:20 Transparency Effect Induced by Elastic Metamaterials
Xiaoming Zhou, *Jin Hu*, *Gengkai Hu*,

10:40 Electromagnetic Smart Screen for Tunable Transmission and Reflection Applications
Lie Liu, *Serguei Matitsine*, *Peng Khiang Tan*,

11:00 Focusing of Light by Disordered Metamaterials
A. P. Mosk,

11:20 Nonlinear Effects in Metamaterials
Ilya V. Shadrivov,

Session 4A4
Semiconductor Homostructures and Heterostructures 1

Thursday AM, March 27, 2008

Room D

Organized by Luis M. Gaggero-Sager, Victor R. Velasco

Chaired by Luis M. Gaggero-Sager

08:00 Enhancement of the Electronic Confinement Improves the Mobility in *p-n-p* Delta-doped Quantum Wells in *Si*
A. David Ariza-Flores, *Isaac Rodriguez-Vargas*,

08:20 Electron Subband Structure and Mobility Trends in *p-n* Delta-doped Quantum Wells in *Si*
A. David Ariza-Flores, *Isaac Rodriguez-Vargas*,

08:40 Stark Effect in p-type Delta-doped Quantum Wells
A. M. Miteva, *Stoyan Jelev Vlaev*, *V. T. Donchev*,

09:00 Miniband Structure Formation of *p*-type Delta-doped Superlattices in GaAs
Isaac Rodriguez-Vargas, *A. del Rio de Santiago*, *J. Madrigal-Melchor*, *Stoyan Jelev Vlaev*,

09:20 Quasi-bound Electronic States in Multiple Delta-doped Quantum Wells
Isaac Rodriguez-Vargas, *A. del RIo De Santiago*, *Stoyan Jelev Vlaev*,

09:40 Dimensions of the Spectrum of Elementary Excitations in Heterostructures Mimicking a DNA Sequence
R. P. Pérez-Álvarez, *Miguel Eduardo Mora-Ramos*, *Luis M. Gaggero-Sager*,

10:00 **Coffee Break**

10:20 Transmittance and Fractality in a Cantor-like Multibarrier System
D. S. Díaz-Guerrero, *J. J. F. Montoya*, *Luis M. Gaggero-Sager*, *R. Pérez-Álvarez*,

10:40 The Electrostatic Potential Associated to Interface Phonon Modes in Nitride Single Heterostructures
Miguel Eduardo Mora-Ramos, *R. Pérez-Alvarez*, *Victor R. Velasco*,

11:00 Electronic Spectrum Study of Parabolic $GaAs/Al_xGa_{1-x}As$ Superlattices
Isaac Rodriguez-Vargas, *O. Y. Sanchez-Barbosa*, *D. A. Contreras-Solorio*, *Stoyan Jelev Vlaev*,

11:20 Transport Properties of Delta Doped Field Effect Transistor
Outmane Oubram, *Luis M. Gaggero-Sager*,

11:40 Mobility of Doped Graphene
Gerardo G. Naumis, F. J. López-Rodríguez, Luis M. Gaggero-Sager,

Session 4A5
Synthetic Aperture Radar Over Land and Sea

Thursday AM, March 27, 2008
Room E
Organized by Kazuo Ouchi
Chaired by Kazuo Ouchi, Seisuke Fukuda

08:20 The Cassini Mission to Saturn: Innovative Design of the Ku Band Titan Radar Mapper
William T. K. Johnson,

08:40 Dependency Analysis of Normalized Radar Cross Section of Ocean Surface on Ocean Winds Using an Airborne Dual-frequency Polarimetric Synthetic Aperture Radar
Akitsugu Nadai, Toshihiko Umehara, Makoto Satake, Takeshi Matsuoka, Seiho Uratsuka,

09:00 Double Structure of the Wind Jet through the Tsushima Strait
Teruhisa Shimada, Hiroshi Kawamura,

09:20 Determination of Ocean Wave Imaging Mechanisms by Airborne Synthetic Aperture Radars
C. S. Yang, K. Ouchi,

09:40 Surface Wave Parameters Retrieval in Coastal Seas from Spaceborne SAR Image Mode Data
Jian Sun, Hiroshi Kawamura,

10:00 **Coffee Break**

10:20 Some Potential Information in Airborne Single-pass Pol-InSAR Data over Land and Sea
Haipeng Wang, Munetoshi Iwakiri, Kazuo Ouchi,

10:40 Extraction of Small Fishing Vessels from ALOS PALSAR Data
Seong In Hwang, Kazuo Ouchi,

11:00 Estimation of Moving Target Parameters in High-resolution SAR Images
Haipeng Wang, Kazuo Ouchi, Ya-Qiu Jin,

11:20 Experimental Studies on Monitoring Ground Motions with Corner Reflector InSAR
Xiao-Li Ding, R. Xiang, J. P. Long, Z. W. Li, Q. Chen, Peter Damoah-Afari, K. S. Fung, V. Chan, Z. Lu,

11:40 Decomposition-based Analysis of Highly Textured Forest Images Acquired by Airborne Polarimetric SAR
Seisuke Fukuda,

Session 4A6
Waves in Random and Complex Media — Recent Advances in Theoretical and Computational Analyses

Thursday AM, March 27, 2008
Room F
Organized by Mitsuo Tateiba, Norimasa Nakashima
Chaired by Mitsuo Tateiba, Norimasa Nakashima

08:00 Statistical Characteristics of Transmitted Nano-meter Electromagnetic Waves in Random Bio-medical Tissues for X-Ray Diagnostic Images
Yasumitsu Miyazaki,

08:20 Propagation in Time-dependent Scattering Media
Shimshon Frankenthal, Mark J. Beran,

08:40 Asymptotic Behaviour of Light in a Random Waveguide System
Akira Komiyama,

09:00 The Radar Cross-section of a Cylinder Surrounded by a Phase Changing Screen
C. Fujisaki, K. Haruta, Z.-Q. Meng, Mitsuo Tateiba,

09:20 FDTD Parallel Computing of Microwave Scattering and Attenuation Characteristics Due to Randomly Distributed Rainfalls
Yasumitsu Miyazaki, Koichi Takahashi, Nobuo Goto,

09:40 Local Modes in Random Lasers
Allard P. Mosk,

10:00 **Coffee Break**

10:20 An Iterative Progressive Numerical Method to the Computation of Scattering from Many Cylinders and Its Parallelization
Norimasa Nakashima, Mitsuo Tateiba,

10:40 Field Approximation for Reconstruction of 2D Perfectly Conducting Rough Surfaces
Mark Spivack, S. Bottone, O. Rath,

11:00 Radar Cross-section of Targets Using Beam Wave Incidence with Linear Polarization
Hosam El-Ocla,

11:20 Polarization of Waves in Reciprocal and Nonreciprocal Uniaxially Bianisotropic Media
Xiangxiang Cheng, Jin Au Kong, Lixin Ran,

11:40 Selective Cancellation of Optical Scattering in Random Media
Claude Amra, C. Deumié, G. Georges, L. Arnaud, M. Zerrad,

Session 4A7
Extended/Unconventionl Electromagnetic Theory, EHD/EMHD, Electrobiology 1

Thursday AM, March 27, 2008

Room G

Organized by Hiroshi Kikuchi

Chaired by Hiroshi Kikuchi

08:20 Identification of Defects in Materials with Surface Conductivity Distribution
Jarmila Dědková,

08:40 Image Reconstruction Using Combination Deterministic and Stochastic Method
Jarmila Dědková,

09:00 Laplace Transform and FDTD Approach Applied to MTL Simulation
Jarmila Dedkova, Lubomir Brancik,

09:20 Basic Experiments with Model of Inductive Flowmeter
Pavel Fiala, Vaclav Sadek, Premysl Dohnal, T. Bachorec,

09:40 Experiments with Accuracy of Air Ion Field Measurement
Miloslav Steinbauer, Pavel Fiala, Karel Bartušek, Zoltan Szabo,

10:00 **Coffee Break**

10:20 Optical Methods Identifying of the Special Purpose Generator Pulses
Pavel Fiala, Petr Drexler, Miloslav Steinbauer,

10:40 A Passive Optical Location with Limited Range
Pavel Fiala, Tomas Jirku, Radek Kubasek, Zoltan Szabo, P. Konas,

11:00 Numerical Method of Simulation of Material Influences in MR Tomography
Miroslav Steinbauer, Radek Kubasek, Karel Bartusek,

11:20 Experiments with the Effect of Non-homogenous Parts into Materials
Pavel Fiala, Eva Kroutilova, Miloslav Steinbauer, Premysl Dohnal, Michal Hadinec, Karel Bartusek,

11:40 Optimization Method of EMI Power Filters and Its Measurement
Zoltan Szabó, J. Sedláček, Michal Hadinec,

Session 4A8
Electromagnetic Techniques for Subsurface Detection and Imaging: Theory, Algorithms, and HW Implementations

Thursday AM, March 27, 2008

Room H

Organized by Andrea Massa, Christian Pichot, Manuel Benedetti

Chaired by Andrea Massa, Manuel Benedetti

08:20 Qualitative Microwave Subsurface Imaging by Means of a Multi-resolution Multi-region Level Set Method
Manuel Benedetti, Dominique Lesselier, Lorenzo Poli, Andrea Massa,

08:40 A Comparison between Deterministic and Stochastic Inversions of Phaseless Data for Microwave Imaging
Gabriele Franceschini, Davide Franceschini, Manuel Benedetti, Paolo Rocca, Andrea Massa,

09:00 A Method for the Shape Reconstruction of a Perfectly Conducting Object Buried in a Half-space
".Ibrahim Akduman, Mehmet Çayören, Ali Yapar,

09:20 Improving a Shape Reconstruction Method by Means of Frequency and Angle Diversity
Mehmet Çayören, Hulya Şahintürk, Lorenzo Crocco,

09:40 Estimation Method of Quasi-wavefronts for UWB Radar Imaging with LMS Filter and Fractional Boundary Scattering Transform
Takuya Sakamoto, K. Teshima, T. Sato,

10:00 **Coffee Break**

10:20 EM Inverse Scattering from Phaseless Data of the Total Field Based on Born Approximation
Zheng Hu, Lianlin Li, Fang Li,

10:40 Detection of a Dielectric Target in a Half-space Using Extinction-pulse (E-pulse) Technique
Shantanu K. Padhi, Hoi-Shun Lui, Nick Shuley, Feng Liu,

11:00 Structural and Multiferroic Properties of $BiFe_{0.5}Co_{0.5}O_3$ Ceramics
Hai-Xia Lu, Xiang-Yu Mao, Wei Wang, Xiao-Bing Chen,

11:20 A Novel Method for Passive Shim Design: I
Hector Sanchez Lopez, Feng Liu, Ewald Weber, Stuart Crozier,

11:40 Subsurface Sounding in Northern Hemisphere of Mars by Marsis: Mars Express Mission
Giovanni Picardi, D. Biccari, M. Cartacci, A. Cicchetti, A. Marini, A. Masdea, F. Piccari, R. Seu, J. J. Plaut, P. T. Melacci, O. Bombaci, D. Calabrese, E. Zampolini, P. Edenhofer, D. Plettemeier, E. Flamini,

Session 4P1a
Photonic Crystals

Thursday PM, March 27, 2008

Room A

Organized by Robert C. Gauthier

Chaired by Robert C. Gauthier

13:00 A New Broadband L-shaped Bend Based on Photonic Crystal Ring Resonators
Mehrdad Djavid, F. Monifi, A. Ghaffari, Mohammad Sadegh Abrishamian,

13:20 Magnetooptics of a 1D Magnetophotonic Crystal
Alexey P. Vinogradov, Alexander M. Merzlikin, Alexander V. Dorofeenko, Alexander B. Granovsky, Alexander A. Lisyansky, Mitsuteru Inoue,

13:40 Photonic Lattice of Coupled Microcavities in Nonpermanent Gravitational Field Produced by Rotation
Dmitri L. Boiko,

14:00 Magnetic Anisotropy and the Stop Band of Magnetic Photonic Crystals at Microwave Frequency
Rui-Xin Wu, Ping Chen, Aimin Jiang, Ji Xu,

14:20 Optical Properties of Photonic Crystals Made of Deep Nanopores in Silicon
A. P. Mosk, A. Hartsuiker, L. A. Woldering, R. W. Tjerkstra, W. L. Vos, W. L. Vos,

14:40 Perfectly Periodic Photonic Quasi-Crystals
Robert C. Gauthier,

15:00 **Coffee Break**

15:20 Mode Localization and Bandstructure Formation in Photonic Quasicrystal Systems via Crystal Angular Momentum States
Khaled Mnaymneh, Robert C. Gauthier,

Session 4P1b
Plasmonics and Photonic Crystals for Electromagnetic Field Enhancement

Thursday PM, March 27, 2008

Room A

Organized by Paul M. Alsing

Chaired by Paul M. Alsing

15:40 Surface-Polariton-Enhanced Reflected THz-Field
Danhong Huang, G. Gumbs, Paul M. Alsing, David A. Cardimona,

16:00 An Efficient Approach to Identifying a Complete Photonic Band Gap in Two-dimensional Photonic Crystals with Omnidirectional Light Propagation
Ruei-Fu Jao, Ming-Chieh Lin,

16:20 Finite Element Modeling of Transmission Characteristics of the Plasmonic Crystal Structures
Dong Xiao, H. T. Johnson,

16:40 Photonic Crystal Enhanced Longwave Infrared Light-emitter Based on Intersubband Transitions in InAs/GaAs Quantum Dots
Xuejun Lu,

17:00 Limitation of Spontaneous Emission Enhancement Using Surface Plasmon Polaritons
Greg Sun, Jacob B. Khurgin,

17:20 Defect Modes in Photonic Crystals: An Asymptotic Theory for Isolated and Compound Defects
Lindsay C. Botten, K. B. Dossou, C. G. Poulton, A. A. Astryan, S. Mahmoodian, Ross C. McPhedran, C. Martijn de Sterke,

Session 4P2
Vector Properties of Bound Light Beams and Their Physical Effects

Thursday PM, March 27, 2008

Room B

Organized by Chun-Fang Li, Guohong Ma

Chaired by Chun-Fang Li, Xuanhui Lu

13:20 Generation of Vortex Beams by Multimode Fibers
Xuanhui Lu, He Chen, Chengliang Zhao,

13:40 Integral Transformation Solution of Maxwell's Equations and Modified Bessel-Gaussian Cylindrical Vector Beams
Chun-Fang Li,

14:00 Ultrafast Optical Nonlinearity Enhancement in Metallodielectric Multilayer Stacks
Guohong Ma, *Sing Hai Tang*,

14:20 Generated One Special Polarization Distribution Light Beam
Pengcheng Jin, *T. Duan*, *C. F. Li*,

14:40 Origin of Anomalous Displacements in Layered Structure: Interference between Multiple Finite-sized Light Beams
Xi Chen, *Chun-Fang Li*, *Qi-Biao Zhu*,

15:00 **Coffee Break**

15:20 Microwave Measurement of Dielectric Thin-film Goos-Hänchen Displacement
Tao Duan, *Chun-Fang Li*,

15:40 Influence of Spatial Coherence on the Goos-Hänchen Shift at Total Internal Reflection
Li-Qin Wang, *Li-Gang Wang*,

16:00 Large Negative and Positive Lateral Displacement of Light Beams in a Left-handed/Right-handed Periodical Layered Structures
Qi-Biao Zhu, *Chun-Fang Li*, *Xi Chen*,

16:20 Transverse Displacement of a Polarization Gaussian Beam at a Sharp Boundary
Bao-Ying Liu, *Chun-Fang Li*,

16:40 Polarization and Dynamical Properties of Propagation Invariant Optical Fields
Karen Volke-Sepulveda, *Eugenio Ley-Koo*,

Session 4P3
Wave Propagation and Superresolution in Active and Passive Metamaterials 3

Thursday PM, March 27, 2008

Room C

Organized by Andrey N. Lagarkov, Andrey K. Sarychev

Chaired by Michael C. K. Wiltshire, Andrey K. Sarychev

13:00 Potential of Micro/Nanotechnology for Metamaterials
Herbert O. Moser,

13:20 Finite Difference Time Domain Analysis of Imaging Properties in a Metallic Photonic Crystal System
Dong Xiao, *K. W. Kim*, *H. T. Johnson*,

13:40 Terahertz Transmission Properties of Multi-layer Planar Electric Metamaterials
Abul K. Azad, *Elshan Akhadov*, *Nina R. Weisse-Bernstein*, *Hou-Tong Chen*, *Antoinette J. Taylor*, *John F. O'Hara*,

14:00 Metamaterial Techniques for Automotive Applications
K. Sato, *T. Nomura*, *S. Matsuzawa*, *H. Iizuka*,

14:20 Terahertz and Microwave Energy Focusing onto Extremely Rectangular Slits
Dai-Sik Kim,

14:40 Anisotropic Metamaterial from Layered Metal-dielectric System: Application to Optical Invisibility Cloaking and Polarization Beam Splitting
Yijun Feng,

15:00 **Coffee Break**

15:20 Left-handed and Right-handed Metamaterials Sensitive to the Polarization
Miguel Beruete, *Miguel Navarro-Cía*, *Mario Sorolla*, *Igor Campillo*,

15:40 Plasmonic Metamaterials with Negative Magnetism and Refractive Index for the Visible Range
Vladimir P. Drachev, *Uday K. Chettiar*, *Hsiao-Kuan Yuan*, *Wenshan Cai*, *Alexander V. Kildishev*, *Vladimir M. Shalaev*,

16:00 Photonic Meta Materials, Nano-scale Plasmonics and Super Lens
Xiang Zhang,

16:20 Discussion of Some Problems of Wave Propagation in Passive Metamaterials
Chao Li, *F. Li*,

16:40 Novel Smart Sensory Composites with Magnetoimpedance Wires for Stress Monitoring at Microwave Frequencies
Larissa V. Panina, *D. P. Makhnovskiy*, *Arcady P. Zhukov*, *J. Gonzalez*,

17:00 Nano-photonic Devices and Wave Propagation in Organic Nano-structures
Vellaisamy Arul Lenus Roy, *Stephen C. F. Kui*, *Chi-Ming Che*,

Session 4P4a
Semiconductor Homostructures and Heterostructures 2

Thursday PM, March 27, 2008

Room D

Organized by Luis M. Gaggero-Sager, Victor R. Velasco

Chaired by Luis M. Gaggero-Sager

13:00 Force Constants and Dispersion Relations in GaN
D. G. Santiago-Perez, F. De Leon-Perez, Miguel Eduardo Mora-Ramos, R. Perez-Alvarez,

13:20 Longwave Phonon Tunnelling Using an Impedance Concept
D. Villegas, F. De Leon-Perez, R. Perez-Alvarez,

13:40 Cantor Dielectric Heterostructures Made of Nanostructured Multilayers of Porous Silicon
V. Agarwal, B. Alvarado-Tenorio, J. Escorcia-Garcia, Luis M. Gaggero-Sager,

14:00 Hydrostatic Pressure and Magnetic Field Effects on the Exciton States in Vertically Coupled GaAs-(Ga, Al) As Quantum Dots
Miguel Eduardo Mora-Ramos, Arezky H. Rodríguez, S. Y. López, C. A. Duque,

14:20 Internal Mobility Edge in Doped Graphene: Frustration in a Renormalized Lattice
Gerardo G. Naumis,

Session 4P4b
Nano-Semiconductors and Devices

Thursday PM, March 27, 2008

Room D

Organized by Zhixun Ma

Chaired by Zhixun Ma

15:20 Electronic States of Strained Semiconductor Nanowires
Zhixun Ma, Todd Holden, Zhiming M. Wang, Gregory J. Salamo, Samuel S. Mao,

15:40 Small Nano-dot Incorporated High-efficiency Phosphorescent Blue Organic Light-emitting Diode
Jwo-Huei Jou, Wei-Ben Wang, Mao-Feng Hsu, Chi-Ping Liu, Cheng-Chung Chen, Chun-Jan Wang, Yung-Cheng Tsai, Yung-Cheng Tsai, Jing-Jong Shyue, Sung-Cheng Hu, Chung-Che Chiang, He Wang,

16:00 Structure and Optical Properties of Pb_8S_8
Shenglan Xu, Huaizhong Xing, Zongling Ding, Xiaoshuang Chen,

16:20 Coherent Transient Terahertz Radiation from Photoexcited Semiconductor Supperlattices
T. Y. Zhang, W. Zhao,

16:40 A Contradictory Spectral Phenomenon with Quantum Confinement Effect in ZnO Nano-particles
Shu-Lin Zhang, J. Z. Jiang,

Session 4P5a
Applied Inverse Problems

Thursday PM, March 27, 2008

Room E

Organized by Michele Piana

Chaired by Michele Piana

13:20 Determination of Electron Spectra in Solar Flares through Regularized Inversion of Observed X-ray Spectra
Gordon Emslie,

13:40 Linear Sampling Method: Physical Interpretation and Guidelines for a Successful Application
Ilaria Catapano, Lorenzo Crocco, Tommaso Isernia,

14:00 Properties of Regularization Operators in Learning Theory
Andrea Caponnetto,

14:20 Parametrical Imaging in Solar Astronomy Using Visibilities
Michele Piana, Anna Maria Massone, A. G. Emslie, G. J. Hurford, E. P. Kontar, M. Prato, R. A. Schwartz,

14:40 A SVM-based Three-dimensional Multi-resolution Approach for Biomedical Inverse Scattering Problems
Federico Viani, Massimo Donelli, Paolo Rocca, Andrea Massa,

15:00 **Coffee Break**

Session 4P5b
Remote Sensing of the Earth, Ocean, Atmosphere and Land/Monitoring the earth

Thursday PM, March 27, 2008

Room E

Organized by Shigehisa Nakamura

Chaired by Shigehisa Nakamura

15:20 Soil Moisture Estimation and Validation Using WindSat Observations
Jingyang Du, Thomas J. Jackson, M. H. Cosh, Li Li,

15:40 Soil Dielectric Model Accounting for Contribution of Bound Water Spectra through Clay Content
V. L. Mironov, L. G. Kosolapova, S. V. Fomin,

16:00 Operational Soil Moisture and Ocean Salinity Mission
Manuel Martin-Neira,

16:20 Monitoring of Satellite Thermal Patch Formed by A Wave Facet Ocean Surface Water Waves
S. Nakamura,

16:40 Monitoring of Satellite Thermal Patch on the Ocean Surface Generated by Strong Wind Duration in Midnight
S. Nakamura,

Session 4P6a
Design and Applications of UWB Antennas

Thursday PM, March 27, 2008

Room F

Organized by Dua-Chyrh Chang

Chaired by Dua-Chyrh Chang, Min Zhang

13:00 CPW-fed Bow-tie Slot Antenna for the Application of UWB Antenna Array
Dua-Chyrh Chang, Bing-Hao Zeng, Ji-Chyun Liu,

13:20 Study of a Circular Disc Monopole Ultrawide-band Miniature Antenna
Lingling Zhong, Bo Sun, Jinghui Qiu, Ning Zhang,

13:40 Feasibility Studies of Transversely Electromagnetic Coupled Microstrip Based Array Using Various Feeding Structures
Ka-Sing Lim, Lei-Teen Teo,

14:00 A Study on a Printed Planar Crescent-like Antipodal Antenna
Yao-Chiang Kan, Li-Hsiang Chin, Chien-Hsun Chen, Huey-Ru Chuang,

14:20 Wideband Cavity Backed Spiral Antenna for Dual Mode Operation
Hongli Wang, Min Zhang,

Session 4P6b
EM Theory and Applications

Thursday PM, March 27, 2008

Room F

Chaired by Ikuo Awai, Peter Saari

15:20 Electric Field Distribution Near the End of a Thin Wire
A. V. Goncharenko, M. M. Dvoynenko, Yia-Chung Chang,

15:40 Artificial Material and Maxwell's Equations
Arun K. Saha, Osamu Mizue, Ikuo Awai,

16:00 Virtual Sources for a Sinh-Gaussian Beam
Y. C. Zhang, Z. R. Chen, Z. X. Shi, J. Q. Dong, Z. L. Wu, N. Zhang,

16:20 Localized Waves as Relativistically Boosted EM Fields
Peter Saari,

16:40 Effect of Incident Electromagnetic Waves on the Earthing Ground Grids and the Surrounding Soils at GSM Frequency
Adel Mohamed Abdin, Mohamed Salah Kheir, Mohamed Gamal Ashmawy,

17:00 High-frequency Ferromagnetic Properties of Uniaxial Anisotropy as-deposited FeCoTa Films
Shandong Li, Meimei Liu, Liya Lu, Jenq-Gong Duh,

17:20 Metamagnetic Transition in $RFe_2(H,D)_{4.2}$ Compounds under Strong Magnetic Field
Maurice Guillot, Valerie Paul-Boncour,

Session 4P7
Extended/Unconventionl Electromagnetic Theory, EHD/EMHD, Electrobiology 2

Thursday PM, March 27, 2008

Room G

Organized by Hiroshi Kikuchi

Chaired by Hiroshi Kikuchi

13:00 Method for Magnetic Field Approximation in MR Tomography
Michal Hadinec, Pavel Fiala, Eva Kroutilová, Miloslav Steinbauer, Karel Bartušek,

13:20 Design Simulation and Optimization the Source of Light
Eva Kroutilova, Tomas Kriz, Pavel Fiala, Michal Hadinec,

13:40 Inversion Reconstruction of Signals Measured by the NMR Techniques
Eva Kroutilova, Miroslav Steinbauer, Premysl Dohal, Michal Hadinec, Eva Gescheidtova, Karel Bartusek,

14:00 Numerical Modeling of Electromagnetic Field a Tornado
Pavel Fiala, Vaclav Sadek, T. Kriz,

14:20 The Numerical Modeling and Conformal Mapping Method Applied to the Strip-centered Coaxial Line Analysis
Vaclav Sadek, Pavel Fiala, Michal Hadinec,

14:40 A Novel Hypothesis for Quantum Physics, Model with Telegraphs Equation
Pavel Fiala, Karel Bartusek, Miloslav Steinbauer,

15:00 **Coffee Break**

15:20 Extending the Concept of Debye Length for Chasmas
Dirk K. Callebaut, Hiroshi Kikuchi,

15:40 Further Results on Post-MHD
Dirk K. Callebaut, Geoffrey K. Karugila,

16:00 Non-quasi-neutral Plasmas or Chasmas
Dirk K. Callebaut,

16:20 Usefulness of a Universal Electric-cusp Type Plasma Reactor in Basic Studies and a Variety of Applications in Dust Dynamics, Ionization and Discharge Physics Based on Electrohydrodynamics
Hiroshi Kikuchi,

16:40 Magnetoplasmons in Graphene Structures
Oleg L. Berman, Godfrey Gumbs, Yurii E. Lozovik,

Session 4P8a
Advanced CEM Techniques

Thursday PM, March 27, 2008

Room H

Organized by Jin-Fa Lee, Chao-Fu Wang

Chaired by Jin-Fa Lee, Chao-Fu Wang

13:00 On the Analysis of Discrete-Time Electromagnetic Problems
Hsi-Tseng Chou, Shih-Chung Tuan,

13:20 Diagonalization of Translation Operators for Elastic Wave Equations
Bo He, Weng Cho Chew,

13:40 A Hybrid Finite/Boundary Element Method for Periodic Structures on Non-periodic Meshes Using an Interior Penalty Formulation
Seung-Cheol Lee, Vineet Rawat, Jin-Fa Lee,

14:00 A Hybrid Technique for Combining Macro Basis Functions and AIM Approach
Irene Ang, Ban leong Ooi,

Session 4P8b
Computational Electromagnetic Methods

Thursday PM, March 27, 2008

Room H

Chaired by Chi Hou Chan, Jun Hu

14:20 Finite Element Method Simulation of Photoinductive Imaging for Cracks
Cheng-Chi Tai, Yen-Lin Pan,

14:40 A New Scheme of Spectral Integral in Low-frequency Fast Multipole Method
Zu-Hui Ma, Jun Hu,

15:00 **Coffee Break**

15:20 Equivalent Charge Formulation of the Multilevel Green's Function Interpolation Method for Capacitance Extraction in RFIC
Y. F. Leung, Haogang Wang, Chi Hou Chan,

15:40 Solving Scattering from Multiple Conducting Objects by Hybrid MLFMA with Generalized Forward-backward Method
Rui Xi, Jun Hu,

16:00 Staggered-grid Pseudospectral Time Domain (PSTD) Method Using Real Fourier Transform for 2.5D Electromagnetic Wave Propagation
Lanbo Liu, Benjamin Barrowes, Zhao Zhao,

16:20 Microscopic Biological Cell Level Model Using Modified Finite-difference Time-domain at Mobile Radio Frequencies
Chan H. See, Raed A. Abd-Alhameed, Peter S. Excell, Dawei Zhou,

16:40 Generalized One-port Network Model for Arbitrarily-shaped Homogeneous Scatterers
Gaobiao Xiao, Junfa Mao, Bin Yuan,

17:00 A Hybrid of Genetic Algorithm and Particle Swarm Optimization for Antenna Design
Wen Tao Li, L. Xu, Xiao Wei Shi,

17:20 Hydrodynamics Investigation of Ferrofluid Flows through Randomly Packed Beds in the Presence of an External Magnetic Field
Arezou Jafari, T. Tynjala, S. M. Mousavi, P. Sarkomaa,

Session 5A1
Nano Scale Electromagnetics, MEMS

Friday AM, March 28, 2008

Room A

Chaired by Jiunn-Ren Roan, Johannes Courtial

08:00 Fabrication and Analysis of Valve-less Micro Pumps
Nan-Chyuan Tsai, *Wei-Ming Huang*, *Chao-Wen Chiang*, *Rong-Mao Lee*,

08:20 Ray-optical Negative Refraction and Local Ray Rotation with Microprism Structures
Johannes Courtial, *J. Nelson*,

08:40 Performance and Dynamic Characteristics of Diamagnetic Bearings in Micro Systems
Jie-Yu Chen, *Jian-Bin Zhou*, *Guang Meng*,

09:00 RF MEMS Extended Tuning Range Varactor and Varactor Based True Time Delay Line Design
Yaping Liang, *Calvin W. Domier*, *Neville C. Luhmann, Jr.*,

09:20 Free Energy Surface of Protein Folding Determined Using Single-molecule Force Spectroscopy
Ching-Hwa Kiang,

09:40 Designing Environmentally Responsive Drug Carriers
Jiunn-Ren Roan,

10:00 **Coffee Break**

10:20 Au Nanowire Arrays for Negative Index Metamaterial Applications
Latika Menon, *W. Lu*, *S. Bennett*, *D. Heiman*, *S. Sridhar*,

10:40 Coupled Magnetic Plasmon Modes in Chains of Metallic Trilayer Structures
Shu-Ming Wang, *T. Li*, *H. Liu*, *F. M. Wang*, *S. N. Zhu*,

11:00 Optical Transmission through Nanostructured Metal/Dielectric Multilayers
Zi-Jian Zhang, *Z. H. Tang*, *Ru-Wen Peng*, *Z. Wang*, *Xin Wu*, *Wei-Hua Sun*, *Mu Wang*,

11:20 Playing with Optical Tweezers Forces Induced on Structured Micro-nano Objects
Jean-Pierre Galaup, *Mariela Rodriguez-Otazo*,

Session 5A2
Optics and Photonics, Quantum Well Devices and Technology

Friday AM, March 28, 2008

Room B

Chaired by Raphael Tsu, Paul Sorba

08:00 Conductance and Wave Impedance of Electrons
Raphael Tsu, *Timir Datta*,

08:20 A New Definition of Capacitance of Few Electron Systems
Tim LaFave Jr., *Raphael Tsu*,

08:40 Macroscopic Quantum Electrodynamics in Linear Media — the Green Tensor of Maxwell's Equations in Quantum Optics
Stefan Scheel,

09:00 Quantum Wires and Field Theory
B. Bellazzini, *M. Mintchev*, *Paul Sorba*,

09:20 Modulation Spectroscopy Study of Arsenic-doped Narrow-gap HgCdTe Epilayers
Junhao Chu, *Jun Shao*, *Xiang Lu*, *Fangyu Yue*, *Wei Huang*, *Lili Ma*, *Wei Lu*, *Jun Wu*, *Li He*,

09:40 Noise Associated with Microwave Intensity Modulation of Semiconductor Lasers
Moustafa Ahmed, *Minoru Yamada*,

10:00 **Coffee Break**

10:20 Temperature Effects Induced a Radically Different Behavior on the Transport Properties of Si Delta-doped GaAs Quantum Wells
Luis M. Gaggero-Sager, *Isaac Rodriguez-Vargas*,

10:40 Evaluation of Leakage Losses in Optical Bragg Waveguides
Jie Li, *Kin Seng Chiang*,

11:00 Numerical Investigation of an Ultra-compact and Ultra-wideband Polarization Beam Splitter Design Using Coupled Plasmonic Waveguide Arrays
Chao-Yi Tai, *Sheng Hsiung Chang*, *Tsen Chieh Chiu*,

11:20 Progress in Theoretical Design and Numerical Simulation of High Power Terahertz Backward Wave Oscillator
Hai Zhang, *Jianguo Wang*, *Changjiang Tong*,

11:40 Modeling of Passively Mode-locked Broadband Dual-gain-media Nd:glass Laser
Song Han, *Li Yan*,

Session 5A3
Wave Propagation and Superresolution in Active and Passive Metamaterials 4

Friday AM, March 28, 2008

Room C

Organized by Andrey N. Lagarkov, Andrey K. Sarychev

Chaired by Alain C. Priou, Yijun Feng

08:20 Active Cut-Rod Metamaterial with Microwave Varactors
Dongxing Wang, *Hongsheng Chen*, *Bae-Ian Wu*, *Jin Au Kong*,

08:40 Metamaterials on the Basis of Precise Micro- and Nanoshells
Victor Yakovlevich Prinz, *E. V. Naumova*, *S. V. Golod*, *V. A. Seleznev*, *R. A. Soots*,

09:00 Chiral Swiss Rolls
Michael Wiltshire,

09:20 Sub-wavelength Imaging with RF Metamaterials
Michael C. K. Wiltshire,

09:40 Optical Magnetism and Plasmonic Nanolaser
Alexei L. Bogdanov, *Andrey N. Lagarkov*, *Andrey K. Sarychev*,

10:00 **Coffee Break**

10:20 Metamaterial Structures for Compact Millimeter Wave Antenna Applications
Cuong Tran Manh, *Habiba Hafdallah Ouslimani*, *Geraldine Guida*, *Alain C. Priou*, *Herve Teillet*, *J. Y. Daden*,

10:40 Design and Characterization of Metamaterial Media Using Space Filling Curve
Redha Abdeddaim, *Habiba Hafdallah Ouslimani*, *Alain C. Priou*,

11:00 Overcoming the Diffraction Limit with a Volumetric Negative-Refractive-Index Transmission-Line Slab
Jiang Zhu, *George V. Eleftheriades*,

11:20 Application of Band Theory to the Imaging Problem in Stackable Lenses
Alexey P. Vinogradov, *Alexander M. Merzlikin*, *Alexander V. Dorofeenko*, *Alexander A. Lisyansky*, *Said Zouhdi*, *J. P. Clerc*,

Session 5A4
Interaction of EM Waves and Media

Friday AM, March 28, 2008

Room D

Chaired by Ka-Ma Huang, Hongsheng Chen

08:20 Force Generation of Selemion Governed by the Charge Quantity
H. Tamagawa,

08:40 Electro-optic Properties and Phase Behavior of Chiral-nematic Molecules
Kyongok Kang, *Samuel Sprunt*, *Jan K. G. Dhont*,

09:00 Biological Effects of Pulsed Microwaves
Jozef Mendecki, *Daniel D. Mawhinney*, *Fred Sterzer*,

09:20 Universal Statistical Electromagnetic Properties of Ray-chaotic Enclosures
Steven M. Anlage, *Thomas Antonsen*, *James Hart*, *Elliott Bradshaw*, *Edward Ott*,

09:40 Design of Composite Electromagnetic Wave Absorber Made of Soft Magnetic Materials Dispersed and Isolated in Polystyrene Resin
Kenji Sakai, *Yoichi Wada*, *Shinzo Yoshikado*,

10:00 **Coffee Break**

10:20 Spectral Density Function Approach as Applied to Dielectric Properties of Biological Cell Suspensions
A. V. Goncharenko, *Yia-Chung Chang*,

10:40 Non-thermal Effect of Electrolyte Aqueous Solution under Microwave Radiation
Ka-Ma Huang, *Xiao-Qing Yang*,

Session 5A5
Remote Sensing and Scattering Problem

Friday AM, March 28, 2008

Room E

Chaired by Robert L. Gardner, Ya-Qiu Jin

08:00 An Unsupervised Classification Method for Polarimetric SAR Images Based on Inhomogeneous Markov Random Field and Graph Cuts
Xing Rong, *Jian Yang*, *Weijie Zhang*, *Wen Hong*, *Fang Cao*,

08:20 Spatial Distribution Pattern of MODIS-NDVI and Correlation between NDVI and Meteorology Factors in Shandong Province in China
Dongmei Song, *Peng Guo*, *Hui Sheng*,

08:40 Development of the Microwave Calibrated Infrared Split-window Technique (MIST) for Rainfall Estimation
Roongroj Chokngamwong, Long Sang Chiu,

09:00 High Temporal Resolution Atmospheric Soundings from GOES Sounder and Applications
Zhenglong Li, Jun Li, W. Paul Menzel, Timothy J. Schmit,

09:20 Domain Decomposition Method with Iterative Robin Boundary Condition for Bistatic Scattering from Large 3D Rough Surface
Peng Liu, Ya-Qiu Jin,

09:40 Research Progress in Polarimetric Scattering and SAR Imagery in WASRSI
Ya-Qiu Jin,

10:00 **Coffee Break**

10:20 Investigation on the RCS Measurement Technique of Large Targets at Near Distance
Nan-Jing Li, Wei-Jun Chen, Chu-Feng Hu, Lin-Xi Zhang,

10:40 Application of DSP in the Step-Frequency RCS Measurement System
Chu-Feng Hu, Jia-Dong Xu, Nan-Jing Li, Jin Cao,

11:00 Effects of Complex Models in Deriving Lightning Return-stroke Currents from Fields
Robert L. Gardner,

Session 5A6
Microwave and Millimeter Wave Circuits and Devices 2

Friday AM, March 28, 2008

Room F

Chaired by Wan-Zhao Cui, Yang Du

08:00 Electromagnetic Absorption by Conducting Fiber Filled Composite in the Centimeter- and Millimeter-wave Regions
Ling Yun Liu, Lin Zhang Wu, Shi Bing Pan, Xian Wang, Rong Zhou Gong, Hua Hui He,

08:20 A Novel Compact Balun for DVB-H Application
Kengyi Huang, Tsenchieh Chiu, Chao Ping Hsieh,

08:40 Analysis of the Optimal Gap Width and Gap-to-gap Distance in π-mode Double-gap Cavities for Broadband Klystrons
Fu-Min Lin,

09:00 Analysis and Design of Power Generator on Passive RFID Transponders
Fan Jiang, Donghui Guo, L. L. Cheng,

09:20 An Injection-locked Millimeter Wave Oscillator Based on Field-emission Cathodes
Ming-Chieh Lin, Pu-Shih Lu,

09:40 Miniaturized Planar Microstrip Line Broadband Branch-line Coupler
Shry-Sann Liao, Kun-Ying Lin, Pou-Tou Sun, Hung-Liang Lin, Yu-Fang Chang,

10:00 **Coffee Break**

10:20 A New Tunable Wideband Ring Filter with Merged Stubs and Miniaturized Geometry for Bluetooth Technology
Mohamed Salah Kheir, Adel Mohamed Abdin,

Session 5A8
Novel Antennas and Array Design

Friday AM, March 28, 2008

Room H

Chaired by Johnson Jenn-Hwa Wang, Jwo-Shiun Sun

08:00 High-performance Universal GNSS Antenna as a New and Practical Approach
Johnson Jenn-Hwa Wang, David J. Triplett,

08:20 A Circular Polarization Microstrip Stacked Structure Broadband Antenna
Huan-Cheng Lien, Huei-Chiou Tsai, Yung-Cheng Lee, Wen-Fei Lee, Wen-Fei Lee,

08:40 A Wide-band Circular Polarization Stacked Patch Antenna for the Wireless Communication Applications
Huan-Cheng Lien, Huei-Chiou Tsai,

09:00 A Low-profile Switchable Quadri-polarization Diversity Aperture-coupled Patch Antenna
Don-Yen Lai, Shi-Yung Wang, Fu-Chiarng Chen,

09:20 Reflector Antenna with Artificial Magnetic Conductor Structure
Jwo-Shiun Sun, Guan-Yu Chen, Cheng-Hung Lin, Kwong-Kau Tiong, Y. D. Chen,

09:40 A High-gain Metallic Patterns Loaded Dielectric EBG Resonator Antenna at 5.0 GHz
Yuehe Ge, Karu P. Esselle,

10:00 **Coffee Break**

10:20 Slot-coupled Planar Antenna's Mutual Coupling Reduction Characteristics Due to Reed-shaped Element
Huiling Jiang, Ryo Yamaguchi, Keizo Cho,

10:40 Design of Controlled RF Switch for Beam Steering Antenna Array
Musa. M. Abusitta, *Dawei Zhou*, *Raed A. Abd-Alhameed*, *Peter S. Excell*,

11:00 Passive and Active Beam Steering of a Metamaterial-based Directive Subwavelength Cavity
Abdelwaheb Ourir, *S. N. Burokur*, *A. de Lustrac*,

11:20 Ultra Low Side Lobe Level Synthesis with Particle Swarm Optimization for Symmetrical Non-uniform Linear Array Antennas
Xiaomiao Zhang, *Kwai Man Luk*, *Xue Bai*, *Yinhang Wang*, *Jinyang Li*,

11:40 An Efficient Density Weighting Approach for Sidelobe Level Suppression of Linear Array Antennas
Xiaomiao Zhang, *Kwai Man Luk*, *Weiwei Song*, *Wei Zhao*, *Yang Liu*,

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( ) 7th PIERS1997 in Hong Kong	( ) 8th PIERS1997 in Cambridge	( ) 9th PIERS1998 in Nantes
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12 Systems and components, electromagnetic compatibility
13 Nano scale electromagnetics, MEMS
14 Magnetic levitation, transportation and collision avoidance
15 Precision airport landing systems, GPS
16 Radar sounding of atmosphere, ionospheric propagation
17 Microwave remote sensing and polarimetry, SAR
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26 Quantum well devices, microwave photonic systems, PBG
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	MONDAY PM 13:00 MARCH 24	TUESDAY AM 8:00 MARCH 25		TUESDAY PM 13:00 MARCH 25		WEDNESDAY AM 8:00 MARCH 26	
ROOM A	1P1 - Recent Advances in Metamaterials and Invisibility Cloaking 1	2A1 - Plasmonic Photonics 1		2P1a - Plasmonic Photonics 2	2P1b - Biophoton, Plasmonic Effects and Materials	3A1a - Dynamics on the Attosecond Time Scale	3A1b - Attosecond Pulse Generation Related Technologies
ROOM B	1P2 - Femtosecond Photonics: Microfabrication and Optical Data Storage 1	2A2a - Femtosecond Photonics: Microfabrication and Optical Data Storage 2	2A2b - Photonic Crystal Waveguides	2P2a - Shaping Optical Forces for Trapping & Binding -- Theory	2P2b - Shaping Optical Forces for Trapping & Binding -- Biology	3A2a - Shaping Optical Forces for Trapping & Binding -- Near-field	3A2b - Shaping Optical Forces for Trapping & Binding -- Binding
ROOM C		2A3 - Metamaterials at Optical Frequencies		2P3 - Metamaterials at Microwave Frequencies		3A3a - Metamaterials Design and Applications	3A3b - Recent Advances in Metamaterials and Invisibility Cloaking 2
ROOM D	1P4 - Terahertz Optoelectronics	2A4 - Microwave Photonics and Terahertz Technologies and Their Applications		2P4 - EM Field in Optical Materials and Dispersion Engineering of Photonic Crystals		3A4 - Physical Properties of Photoexcited Semiconductors	
ROOM E	1P5 - Remote Sensing and Applications	2A5 - Methods and Instruments for the Determination of EM Properties of Soils and Materials		2P5 - Theoretical Models for Microwave Remote Sensing		3A5 - EM Wave in Atmosphere Propagation and Communication 1	
ROOM F	1P6 - EM Wave Applications in Material Processing and Characterization	2A6 - EM Theory and Computational Methods for Passive Dielectric Waveguides and Devices		2P6a - Microwave and Millimeter Wave Circuits and Devices 1	2P6b - Mobile Antennas for Communication	3A6 - Wireless Communication Component	
ROOM G	1P7 - Space Microwave Technology	2A7 - Fields and Waves		2P7 - RF Safety		3A7 - EM Techniques for Biomedical Applications 1	
ROOM H	1P8 - EM Modeling, Inversion and Application 1	2A8 - EM Modeling, Inversion and Application 2		2P8a - EM Imaging: State of the Art and Perspectives	2P8b - EM Inverse Problems	3A8 - Computational Techniques	
ROOM P	1AP - Poster Session 1 **10:00 - 17:00, March 24, 2008**	2AP - Poster Session 2 **10:00 - 17:00, March 25, 2008**					

	WEDNESDAY PM 13:00 MARCH 26	THURSDAY AM 8:00 MARCH 27		THURSDAY PM 13:00 MARCH 27		FRIDAY AM 8:00 MARCH 28
ROOM A		4A1a - Modelling and Simulations of Nanophotonic Devices	4A1b - Nano Scale Electromagnetics, MEMS 2	4P1a - Photonic Crystals	4P1b - Plasmonics and PCs for EM Field Enhancement	5A1 - Nano Scale Electromagnetics, MEMS
ROOM B	3P2a - Shaping Optical Forces for Trapping & Binding -- Applications	4A2a - 3D Femtosecond Laser Microprocessing of Transparent Materials	4A2b - 3D Femtosecond Micromachining and 3D Bio-imaging	4P2 - Vector Properties of Bound Light Beams and Their Physical Effects		5A2 - Optics and Photonics, Quantum Well Devices and Technology
ROOM C	3P3a - Wave Propagation and Superresolution in Active and Passive Metamaterials 1	4A3 - Wave Propagation and Superresolution in Active and Passive Metamaterials 2		4P3 - Wave Propagation and Superresolution in Active and Passive Metamaterials 3		5A3 - Wave Propagation and Superresolution in Active and Passive Metamaterials 4
ROOM D	3P4a - Physical Properties of Photoexcited Semiconductors 2	4A4 - Semiconductor Homostructures and Heterostructures 1		4P4a -Semiconductor Homostructures and Heterostructures 2	4P4b -Nano-Semiconductors and Devices	5A4 - Interaction of EM Waves and Media
ROOM E	3P5a - EM Wave in Atmosphere Propagation and Communication 2	4A5 - Synthetic Aperture Radar Over Land and Sea		4P5a - Applied Inverse Problems	4P5b - RS of the Earth, Ocean, Atmosphere and Land/Monitoring the earth	5A5 - Remote Sensing and Scattering Problem
ROOM F	3P6a - Microwave and Optical Devices, Propagation	4A6 - Waves in Random and Complex Media -- Recent Advances in Theoretical and Computational Analyses		4P6a - Design and Applications of UWB Antennas	4P6b - EM Theory and Applications	5A6 - Microwave and Millimeter Wave Circuits and Devices 2
ROOM G	3P7a - Electromagnetic Techniques for Biomedical Applications 2	4A7 - Extended/Unconventionl Electromagnetic Theory, EHD/EMHD, Electrobiology 1		4P7 - Extended/Unconventionl Electromagnetic Theory, EHD/EMHD, Electrobiology 2		
ROOM H	3P8a - Novel Mathematical Methods in Electromagnetics	4A8 - EM Techniques for Subsurface Detection and Imaging: Theory, Algorithms, and HW Implementations		4P8a - Advanced CEM Techniques	4P8b - Computational EM Methods	5A8 - Novel Antennas and Array Design