

Program-At-A-Glance

| Time | Wednesday 1-Nov-06 | Thursday 2-Nov-06 | Friday 3-Nov-06 | Saturday 4-Nov-06 |
|-------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 08:00 | | Registration | | |
| 08:30 | Tutorial Reg | Opening & Keynote Talks | Parallel Sessions FA1 to FE1 | Parallel Sessions SA1 to SD1 |
| 09:00 | Tutorial on Smart Antennas | | TEA BREAK | |
| 10:10 | | TEA BREAK | | |
| 10:30 | | Parallel Sessions TA1 to TE1 | Parallel Sessions FA1 to FE1 | Parallel Sessions SA1 to SD1 |
| 10:50 | | LUNCH | | |
| 11:30 | | Parallel Sessions TA2 to TE2 | Parallel Sessions FA2 to FE2 | Parallel Sessions SA2 to SD2 |
| 12:00 | | TEA BREAK | | |
| 12:30 | | Parallel Sessions TA2 to TE2 | Parallel Sessions FA2 to FE2 | Parallel Sessions SA2 to SD2 |
| 13:30 | | TEA BREAK | | |
| 14:00 | | Parallel Sessions TA2 to TE2 | Parallel Sessions FA2 to FE2 | Parallel Sessions SA2 to SD2 |
| 14:30 | | TEA BREAK | | |
| 15:10 | TEA BREAK | | | |
| 15:30 | Parallel Sessions TA2 to TE2 | Parallel Sessions FA2 to FE2 | Parallel Sessions SA2 to SD2 | |
| 16:00 | TEA BREAK | | | |
| 16:30 | TEA BREAK | | | |
| 17:00 | TEA BREAK | | | |
| 17:30 | TEA BREAK | | | |
| 18:00 | Welcome Reception | Keynote Talk | | |
| 18:20 | | BANQUET | | |
| 19:00 | | BANQUET | | |
| 22:00 | | BANQUET | | |

General Information

| | |
|---------------------------|---|
| Venue | Orchard Hotel Singapore 442 Orchard Road, Singapore 238879 Tel: 6734 7766 |
| Tutorial | Tutorial on "Smart Antennas" Conducted by Professor Tapan K Sarkar, Syracuse University, New York, USA <i>Date:</i> Wednesday, 1 November 2006 <i>Time:</i> 09:00 – 17:00 hrs <i>Venue:</i> Lavender 1 |
| Welcome Reception | <i>Date:</i> Wednesday, 1 November 2006 <i>Time:</i> 17:00 – 19:00 hrs <i>Venue:</i> Lavender 2, Level 3, Orchard Hotel |
| Registration Hours | <i>Date:</i> Thursday – Friday, 2 – 3 November 2006 <i>Time:</i> 08:00 – 12:00 hrs <i>Venue:</i> Foyer of Ballroom 2 |
| Banquet | <i>Date:</i> Friday, 3 November 2006 <i>Time:</i> 19:00 – 22:00 hrs <i>Venue:</i> Ballroom 3, Level 3, Orchard Hotel |

Note: A special evening program, featuring a keynote address by Prof John Volakis from The Ohio State University, will be held from 18:20 to 19:00 hrs, before dinner commences.

All participants registered under the "DELEGATE" category are entitled to attend the banquet as part of their registration package. Additional banquet ticket for accompanying person(s) can be purchased at SGD 80 from the registration counter before 12 noon on 2 November 2006.

Supporting Hotels

Allson Hotel Singapore

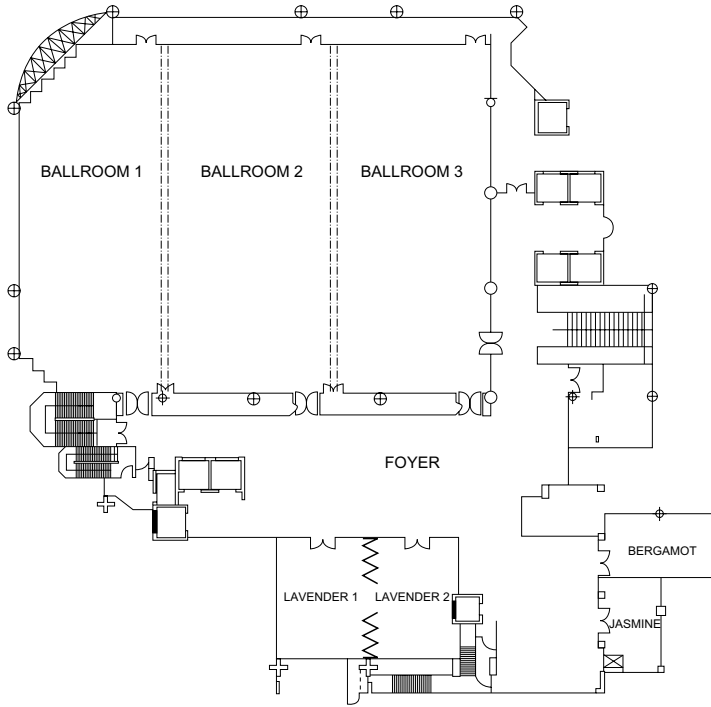
101 Victoria Street, Singapore 188018
Tel: 65 6336 0811

SummerView Hotel

173 Bencoolen Street, Singapore 189642
Tel: 65 6338 1122

Floor Plan

Orchard Hotel – Level 3



| Program /Activity | Venue |
|---------------------------------------|-----------------|
| Opening Ceremony and Keynote Lectures | Ballroom 2 |
| Parallel Session A | Lavender 1 |
| Parallel Session B | Lavender 2 |
| Parallel Session C | Bergamot |
| Parallel Session D | Jasmine |
| Parallel Session E | Neroli, Level 2 |
| Poster Session | Foyer |
| Registration | Foyer |
| Exhibition | Foyer |
| Lunch | Ballroom 1 |
| Teabreaks | Foyer |
| Banquet | Ballroom 3 |

Presentation Guidelines

ORAL PRESENTATIONS

Please note that the time allocated to each oral presentation will be 20 minutes (15 minutes for technical talk and 5 minutes for discussions). PowerPoint or Acrobat PDF slides for presentation on a LCD video projector are highly recommended. Oral presentation rooms will be equipped with the following items:

- A computer running WINDOWS XP Professional operating system, with MS Office, Acrobat Reader 6.0.
- An LCD video projector
- An overhead projector (OHP)
- A microphone

All presenters are strongly encouraged to *upload* their presentation files into the computer provided in their assigned presentation room *at least 10 minutes* before the respective session starts (starting on the morning of their presentation from 8:00 hrs onwards, including the tea breaks). An assistant will be standing by in the room to help you.

POSTER PRESENTATIONS

You will be provided with a poster board to mount your poster. The maximum permitted dimensions for your poster display is **AO size (1189 by 841mm or 46.81 by 33.11 inches)**. Posters **MUST** be in *Portrait* format. Your paper ID will be indicated on the board. Please note that the width of the poster board may not be exceeded under any circumstances. You will be provided with the material to mount your poster onto the board.

Setting Up and Removing Posters

Presenters are to put up their posters before 09:00 hrs on the day of their presentation. Kindly remove your poster(s) on the same day by 18:00 hrs. Presenters are responsible for the dismantling of their posters. Posters left behind after 18:00 hrs will be disposed of and are not the responsibility of the organizer.

Detailed Technical Program

Thursday, 2 November 2006

Session: Opening / Welcome Address
Time: 09:10 – 10:30 hrs
Room: Ballroom 2
Chairs: Jacob C Coetzee, *National University of Singapore, Singapore*

Innovative Antennas and Propagation Studies for MIMO Systems

Yoshio Karasawa

*Advanced Wireless Communication research Center (AWCC), The University of Electro-Communications (UEC, Tokyo), 1-5-1 Chofugaoka, Chofu Tokyo, 182-8585, Japan.
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R&D Progress in Wireless Communications in China: A Review on Chinese High-tech R&D Programs for Wireless Technology

Ke Gong* and Jing Wang

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Tea Break 10:30 – 10:50 hrs

Session: [TA1] Earth-Space and Terrestrial Propagation
Time: 10:50 – 12:10 hrs
Room: Lavender 1
Chairs: Wolfgang-Martin Boerner, *University of Illinois at Chicago, USA*
Wen Xun Zhang, *Southeast University, China*

Dielectric Rough Wall Parallel Plate Waveguide

Hsueh-Yuan Pao

Lawrence Livermore National Laboratory, University of California, L-183, P. O. Box 808, Livermore, CA 94551, USA. E-mail:pao2@llnl.gov

Effect of Rainfall Rate Inhomogeneity on Relations among Propagation Properties

Hajime Fukuchi

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Experimental Results on Ground Wave Propagation over Mixed-Paths

Toru Kawano, Toyohiko Ishihara* and Keiji Goto

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How HF-Surface Radar & HF-OTHR and GPS Technology and Infrasonic Imaging can Favourably be Implemented for Detecting the On-Set of Tsunamis and Real-Time Imaging of Its Spreading

Wolfgang-Martin Boerner¹ and Stuart J. Anderson²

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² *DSTO-HF Radar, Edinburgh, SA 5111-1500, Australia.*

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Session: [TB1] Satellite Communication Systems
Time: 10:50 – 12:30 hrs
Room: Lavender 2
Chairs: Mazlina Esa, *Universiti Teknologi Malaysia, Malaysia*
Hisato Iwai, *Doshisha University, Japan*

Experimental Verification of Multipactor Breakdown for Space RF Hardware

Seung-woon Choi¹, Day-young Kim¹, Jong-in Lee¹, Hak-jung Kim¹ and Pil-yong Lee²

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Deformed Antenna Pattern Compensation Technique for Multi-beam Antennas for Broadband and Scalable Mobile Communications Satellite

Yoshinori Suzuki¹, Satoshi Harada², Kiyoshi Kobayashi³ and Masazumi Ueba⁴

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Study of Channel Interference Between Two Satellites Employing Orthogonal Polarization

Sang Gyu Lee¹, Dae Hyung Lee², Sung Woong Ra³ and Song Jae Lee⁴

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Study on Ka Band Propagation Effect by Rain

Doneko Lakanchanh^{1,*}, Nipha Leelaruji^{1,**}, Narong Hemmakorn^{1,+} and Yoshiaki Moriya²

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²Faculty of Engineering, Tokai University, Japan. E-mail:mle17029@nifty.com

Mobile Ku/Ka-band GEO Satellite Propagation Measurements using Automatic Tracking Dish Antenna for Emergency Telemedicine Services

Joko Suryana¹ and Lenni Yulianti²

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Session: [TC1] EMC/EMI Simulations and Measurements
Time: 10:50 – 12:30 hrs
Room: Bergamot
Chairs: Hisashi Morishita, *National Defense Academy, Japan*
 Wen-Yan Yin, *Shanghai Jiaotong University, China*

Waveform Analysis of Microwave Pulses Emitted in Association with Hypervelocity Impacts

Shigeo Chiba¹, Eriko Soma² and Tadashi Takano^{2,3}

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Study on Position Determination of Space Debris Impact via Microwave

Eriko Soma^{1,*}, Kentaro Ishii¹, Shigeo Chiba², Sunao Hasegawa³,
Tadashi Takano^{2,3} and Masatoshi Sano¹

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Estimation of Current Distribution on Multi-layer Printed Circuit Board by Near-field Measurement

Qiang Chen*, Sumito Kato and Kunio Sawaya

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An Experimental Assessment on Implantable Medical Devices EMI caused by Magnetic Flux Distributions of Low-band RFID reader/writers

Shunichi Futatsumori^{1,*}, Takashi Hikage¹, Toshio Nojima¹, Ben Koike²,
Hiroshi Fujimoto³ and Takeshi Toyoshima³

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²*Japan Automatic Identification Systems Association, 1-9-5 Iwamoto-cho, Chiyoda-ku, Tokyo, 101-0032 Japan*

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Differential Signals for the Rectangular Power-Bus to Reduce the Radiation from PCB Edges

Jeongho Ju and Sungtek Kahng*

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Session: [TD1] **Microstrip and Integrated Antennas**

Time: 10:50 – 12:30 hrs

Room: Jasmine

Chairs: Kyeong Sik Min, *Korea Maritime University, Korea*
Kwok Kee Chan, *Chan Technologies Inc, Canada*

Integrated Planar Monopole Antenna with Microstrip-Ring Resonators

Jin-Hyun Kim^{1,*}, Wang-Ik Son¹, Wang-Sang Lee² and Jong-Won Yu¹

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Bandwidth Enhancement of a Narrowband Rectangular Microstrip Antenna on a Radial Electromagnetic Band-Gap (EBG) Patch Structure

T. Masri¹, M. K. A. Rahim², M. H. Jamaluddin Haizal³ and A. Asrokin⁴

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A Frequency-dependent Pathloss Model for UWB Indoor Non-line-of-sight Environment

Wang Yang^{1,*}, Zhang Naitong¹, Qiu Hongbing² and Zheng Lin²

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Push-Pull Active Patch Array Antenna for Spatial Power Combining

Hidehisa Shiomi¹, Keisuke Nohyama and Yasuyuki Okamura

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Session: [TE1] Array Antennas, Phased Arrays and Feeding Circuits
Time: 10:50 – 12:10 hrs
Room: Neroli, Level 2
Chairs: Marek E. Bialkowski, *University of Queensland, Australia*
 Hiroyuki Arai, *Yokohama National University, Japan*

A Compressed Planar Band-pass Filter using Microstrip Square Resonators with Interdigital Capacitor

Mehdi Nosrati* and Zahra Atlasbaf**

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An Optimal Antenna Array Design for RSU Use of Dedicated Short Range Communications

Hsi-Tsong Chou¹, Yung-Chang Hou and Wen-Jiao Liao

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On the Omni-directional Radiation Pattern with Polyhedron Array

Hai-Jin Zhou¹, Ying-Zeng Yin², Qi-Zhong Liu and Jing-Li Guo

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Studying The Effects of High Order Roots of Array Factor Polynomial On Phased Array's Beamwidth

Ehsan Azordegan¹ and Mahmoud Kamarei²

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²*Electrical and Computer Engineering Department, University of Tehran/Iran. E-mail:kamarei@ut.ac.ir*

| | |
|--------------------|--------------------------|
| Lunch Break | 12:30 – 13:30 hrs |
|--------------------|--------------------------|

Session: [TA2] Small Antennas
Time: 13:30 – 15:10 hrs
Room: Lavender 1
Chairs: Hisamatsu Nakano, *Hosei University, Japan*
Kin-Lu Wong, *National Sun Yat-Sen University, Taiwan*

Thin Internal Patch Antenna for GSM/DCS Operation in a PDA Phone with the User's Hand

Yuan-Chih Lin¹, Liang-Che Chou and Kin-Lu Wong

Department of Electrical Engineering, National Sun Yat-Sen University, Kaohsiung 804, Taiwan, R.O.C. E-mail:lincyh@ema.ee.nsysu.edu.tw¹

Study of the Internal DTV Antenna for Folder-Type Mobile Phone Including the User's Hand Effect

Yun-Wen Chi¹, Chun-I Lin and Kin-Lu Wong

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Excitation of Dipole Mode in Asymmetrical Ultra Low Profile Dipole Antenna

Takehiro Imura¹, *, Midori Okumura², Kazuhiro Kumamaru³, Damri Radenamad¹, Yukio Kamata⁴ and Tadashi Takano^{1,4}

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Basic Study on an Antenna Made of a Transparent Conductive Film

Ning Guan^{1,*}, Hiroataka Furuya¹, Kuniharu Himeno¹, Kenji Goto² and Koichi Ito³

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Characteristics of a Deformed Antenna Made of Flexible Printed Circuit

Hiroataka Furuya¹, Ning Guan¹, Kuniharu Himeno¹ and Koichi Ito²

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Session: [TB2] UWB and Impulse Radio

Time: 13:30 – 15:00 hrs

Room: Lavender 2

Chairs: Tapan Sarkar, *Syracuse University, USA*

Hiroshi Shirai, *Chuo University, Japan*

A Statistical Model for UWB Non-line-of-sight Indoor Environment

Wang Yang^{1,*}, Zhang Naitong¹ and Zhu Hongbo²

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UWB Antenna Array for Grating Lobe Reduction

Dau-Chyrh Chang^{1,2,3}, Ji-Chyun Liu⁴, Kai-Yuen Cheng³ and Bing-Hao Zeng²

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Effect of Cosine Rolloff Filter on Low-IF Multi-Channel Receiver in Digital Communication System

Nozomi Zama¹ and Koichi Ichige²

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²koichi@ynu.ac.jp

Session: [TC2] Computational Electromagnetics
Time: 13:30 – 15:10 hrs
Room: Bergamot
Chairs: Chi Hou Chan, *City University of HK, China*
Yilong Lu, *Nanyang Technological University, Singapore*

One-dimensional Simulation of Electromagnetic Waves Reflected from Perfect Planes Vibrating with Different Forms

Mingtsu Ho

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An Application of Wavelet-Based Method of Moments to Scattering Problems with Discontinuous Impedance Matrix

Hidetoshi Chiba¹, Yoshio Inasawa, Naofumi Yoneda and Shigeru Makino

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Progress in ADI-FDTD Method

Iftikhar Ahmed^{1*} and Zhizhang Chen^{2**}

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Electrical Field Simulations Around a Car in the AIRwatch System

Kouichi Tanoshita¹, Eiji Hirose² and Yoshihide Yamada^{1,*}

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A Novel Interpolation Scheme for Full-Wave Electromagnetic Simulations

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Session: [TD2] Reflector Antennas and Antenna Arrays
Time: 13:30 – 15:00 hrs
Room: Jasmine
Chairs: Hyo Joon Eom, *KAIST, Korea*
 Yoshihide Yamada, *National Defense Academy, Japan*

Historical Review of Reflector Antenna Systems for Satellite Communication Developed by MELCO

Shigeru Makino

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Numerical Analysis of Impulse-Radiating Antennas with Ellipsoidal Reflectors

Kangwook Kim^{1,*}, Waymond R. Scott, Jr², Sang Wook Lee^{1,**} and Moongu Jeon^{1,+}

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Optimisation of Wide Angle Scanning Antennas by Genetic Algorithms; Application to Reflector Antennas for Automotive Radars at 76 GHz

Gabrielle Landrac¹, Eddy Jehamy² and Michel Ney³

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Design of High Efficiency Circular Horns

Chan Kwok Kee

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E-mail: kwok-kee.chan@rogers.com

Session: [TE2] Antenna Design and Measurement
Time: 13:30 – 15:10 hrs
Room: Neroli, Level 2
Chairs: Qiang Chen, *Tohoku University, Japan*
 Esmat A Abdallah, *Electronic Research Institute, Egypt*

Design of the Circularly Polarized UHF RFID Reader Antenna with High Isolation

Hae Won Son^{1,*}, Jung Nam Lee², Gil-Young Choi¹ and Young Ki Cho^{2,**}

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Novel Adaptive Algorithm using Independent Component Analysis for Array Antenna System

Hidehisa Shiomi¹, Takeshi Nakao and Yasuyuki Okamura

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Study on Beam Controllable Antenna by Orthogonal Excitation

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Realization of a Wide-Band Wire Inverted-F Antenna Utilizing Wire-Grid Modeling

R. Fallahi* and M. Hosseini**

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A Novel Dual-frequency Quadrifilar Helix Antenna in GPS/BD Applications

Wang Xiao-fei^{1,2}, Chu Qing-xin^{1,*}, Huang You-huo² and Ju Xin-de³

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Tea Break

15:10 – 15:30 hrs

Session: [TA2] Small Antennas

Time: 15:30 – 17:30 hrs

Room: Lavender 1

Chairs: Hisamatsu Nakano, *Hosei University, Japan*
Kin-Lu Wong, *National Sun Yat-Sen University, Taiwan*

Miniaturization of Built-In Antenna Loaded with Magnetic Materials for Handset by Using Topology Optimization

Akira Matsuzaki^{1,*}, Hisashi Morishita¹, Tsuyoshi Nomura² and Kazuo Sato²

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Performances of an Implanted Cavity Slot Antenna Embedded in the Human Upper Arm

Koichi Ito^{1,*}, Hiroki Usui² and Masaharu Takahashi³

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Miniaturization of Dual-Band Planar Inverted-F Antennas using Peano-Curve Elements

Hui Huang and Ahmad Hoorfar*

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PIFA with Multi-Layered Structure for Bandwidth Enhancement

Kengyi Huang¹ and Tsenchieh Chiu²

Department of Electrical Engineering, National Central University, No.300, Jhongda Rd., Jhongli City, Taoyuan County 32001, Taiwan. E-mail: tfdc.eason@msa.hinet.net¹, tchiu@ee.ncu.edu.tw²

Effect of the Relative Feed Position on a Triple-Mode Dielectric Resonator Antenna

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Compact Polarization Diversity Dielectric Resonator Antenna Array for WLAN Application

Yuan Gao^{1,2,*}, Ban-Leong Ooi^{1,**} and Alexandre P. Popov¹

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Session: [TB2] UWB and Impulse Radio

Time: 15:30 – 17:30 hrs

Room: Lavender 2

Chairs: Tapan Sarkar, *Syracuse University, USA*
Hiroshi Shirai, *Chuo University, Japan*

Verifying the Effectiveness of the Stored Channel Simulation in Evaluating UWB System Performance

Huynh Thi Thanh Trieu¹, Katsuyuki Haneda¹, Jun-ichi Takada^{1,2} and Ken-ichi Takizawa^{2,*}

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Study of Leaf-shaped Element Bowtie Antenna with Flat Reflector for UWB Applications

Michitaka Ameya¹, Manabu Yamamoto¹, Toshio Nojima¹ and Kiyohiko Itoh²

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Printed Circular Disc Monopole Antennas with Notched Ground Plane

Hiroyuki Kobayashi, Takayuki Sasamori, Teruo Tobana and Kohshi Abe

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Compensation for Frequency Characteristics Distortion of Antenna Using Pre-distortion Filter

Haiyan Zhao, Mitoshi Fujimoto and Toshikazu Hori

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Signal Processing to Suppress Multi-Reflection for Level Sensing Using NRD Guide Pulse Radar at 60 GHz

Futoshi Kuroki¹, Takeshi Izuho¹ and Tsukasa Yoneyama²

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Study of Antenna Effect on UWB Pulse Shape in Transmission and Reception

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Session: [TC2] Computational Electromagnetics
Time: 15:30 – 17:30 hrs
Room: Bergamot
Chairs: Chi Hou Chan, *City University of HK, China*
Yilong Lu, *Nanyang Technological University, Singapore*

Electromagnetic Simulations of a W-loop Antenna Attached on a Rear Window of a Car

Taichiro Sato¹, Yoshihide Yamada¹ and Kazushige Ogino²

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A Novel Approach to Remove Singularity of Line-Surface Integral in Higher-Order Algorithms on Triangular Mesh

Fu-Gang Hu¹, Chao-Fu Wang¹, Yeow-Beng Gan¹ and Le-Wei Li²

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Comparison of Nonorthogonal FDTD and Yee's Algorithm in Modelling Photonic Bandgap Structures

W Song, Y Hao* and C G Parini

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Analyses of Nonlinearly Loaded Antennas and Antenna Arrays Using Particle Swarm Algorithm

Kun-Chou Lee

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3-D ADI-FDTD Method with Fewer For-Loops

Eng Leong Tan* and Weiming Fu**

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Antenna Modeling Using 3D Hybrid Finite Element - Finite Difference Time Domain Method

Neelakantam Venkatarayalu^{1,3,*}, Yeow-Beng Gan¹, Robert Lee² and Le-Wei Li³

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Session: [TD2] Reflector Antennas and Antenna Arrays
Time: 15:30 – 17:30 hrs
Chairs: Hyo Joon Eom, KAIST, Korea
Yoshihide Yamada, National Defense Academy, Japan

Absolute Arrays of Arrays Principle

Hiroaki Miyashita* and Shigeru Makino

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A Small Steerable-Beam Antenna

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High Resolution Timing Vector for FPGA Implementation of a Phased Array DBF

T. Salim, J. Devlin and J. Whittington

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Antenna Array for a 24-GHz Automotive Radar with Dipole Antenna Element Patches

Johan Wernehag and Henrik Sjöland

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Calibration-Free DOA-Estimation by the Differential Array Antenna

Hiromi Matsuno* and Hiroyuki Arai

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EM Performance Improvement of a Large A-type Sandwich Radome

Yoshio Inasawa*, Toshio Nishimura, Jun Tsuruta, Naofumi Yoneda and Shigeru Makino

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Session: [TE2] **Antenna Design and Measurement**
Time: 15:30 – 17:10 hrs
Room: Neroli, Level 2
Chairs: Qiang Chen, *Tohoku University, Japan*
Esmat A Abdallah, *Electronic Research Institute, Egypt*

A Novel Dual-Band LTCC Chip Antenna

Qing-Xin Chu¹ and Hai-Ying Zou²

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Multi-Band Rectangular Dielectric Resonator Antenna with Crank-Shape Feed-Line

Pejman Rezaei^{1,2}, Mohammad Hakkak^{1,2} and Keyvan Forooraghi¹

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Radiation Analysis of Parabolic Cylindrical Reflector Antenna with Horn Array as Feed

Guodong Liu^{1,2}, Zhihui Chen^{1,2} and Qin-Xin Chu^{1,*}

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A Novel Folded T-matched Dipole in Base Station

Lan Wang and Qing-Xin Chu*

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Electromagnetic Field Polarization Parameters Measuring Method

Protsenko M.B. and Nesteruk S.V.*

*Odessa National Academy of Telecommunication, Odessa 65029, Ukraine. E-mail:*dj_decibell@mail.ru*

Session: [POSTER]
Room: Foyer
Chairs: Eng Leong Tan, *Nanyang Technological University, Singapore*

Analytic Solution for the Problem of Excited Coupled Exponential Transmission Lines

Mohammad Khalaj-Amirhosseini¹ and Ahmad Cheldavi²

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Performance Enhancement of Optical Fiber Communication Systems using Convolution Codes

H.S.Mruthyunjaya^{1,*}, G.Umesh² and M.Sathish Kumar¹

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Analysis of Coupled Nonuniform Transmission Lines Through Analysis of Uncoupled Ones

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Broadband Circularly Polarized Curl Antenna Using a Planar Metal Feed

Shih-Keng Huang¹, Che-Wei Su² and Ching-Her Lee³

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Multi-Polarization Array for C-Band

Sanjeev Gupta¹ and Uttam L. Bombale²

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Two Resistors Loaded Ultra-Wideband Small Spiral Antenna Backed by a Cavity

Satoshi Yamaguchi¹, Hiroaki Miyashita, Kazushi Nishizawa, Kenichi Kakizaki and Shigeru Makino

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CPW-Fed Ground Short-Circuited Staircase Rectangular Monopole UWB Antenna

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RF-MEMS Reconfigurable U-Slotted Patch Antennas for Dual Polarization

Kyosuke Mochizuki^{1*}, Kazushi Nishizawa¹, Hiromoto Inoue², Yasuhiko Urata³, Yukihisa Yoshida², Hiroaki Miyashita¹ and Shigeru Makino¹

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Compact Monopole Antenna with a 1-D EBG Radiator

S. H. Kim, K. H. Oh, D. J. Kim, J. I. Song and J. H. Jang*

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A Metal-plate Monopole Antenna for UMTS Mobile Phones with E911 Function

Yung-Tao Liu¹, Fa-Shian Chang², Che-Wen Su³, and Hong-Twu Chen²

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A Dual Band FR4 PCB Antenna

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Control of Radiation Pattern in UWB Antenna using an EBG Structure

Takeshi Fukusako¹ and Keisuke Tanaka¹

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Design of A UWB Slot Antenna with Frequency Band-notched Characteristic

S.J. Kim, J.W. Baik and Y.-S. Kim

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A Study of Printed Monopole Antenna for Ultra Wideband Systems

Y.-C. Lee, W.-J. Huang and J.-S. Sun

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Wideband Fractal Monopole Antennas

Y.-C.Lee, X.-Y. Shao, S.-C. Lin and J.-S. Sun

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A Small Sized Tunable Antenna with Using Modified U-Slot PIFA

Se-keun Oh, Yong-sun Shin and Seong-ook Park

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Vivaldi Antenna Push-Pull Power Amplifier Design

Loïc Marnat, Dominique Lo Hine Tong*, Philippe Minard** and Ali Louzir⁺

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Printed Type Inverted F Antenna for Beam-steering

Hyung-Suk Ham¹, Young-Ro Kim² and Jong-Myung Woo³

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Integration of Antenna in IC Package for UWB Single-chip Radios

Sang-Hyuk Wi¹, Yueping Zhang², Mei Sun² and Jong-Gwan Yook¹

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Friday, 3 November 2006

Session: [FA1] Multiband/Wideband Antennas
Time: 08:30 – 10:00 hrs
Room: Lavender 1
Chairs: Dau-Chyrh Chang, *Oritetal institute of Technology and Yuan Ze University, Taiwan*
Kazunori Uchida, *Fukuoka Institute of Technology, Japan*

Recent Progress in Broadband Antennas

H. Nakano

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A Novel Dual-band Patch Antenna for Zigbee System

Jung N. Lee¹, Hwa Y. Jang², Hyo W. Song² and Jong K. Park^{2,*}

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Broadband Folded Notch Antenna with a Parasitic Notch on a Rectangular Planar Conductor

Noriaki Oodachi¹, Syuichi Sekine and Hiroki Shoki

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Internal Meandered Loop Antenna for GSM/DCS/PCS Multiband Operation in a Mobile Phone

Chun-I Lin¹, Yun-Wen Chi and Kin-Lu Wong

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Session: [FB1] Ubiquitous Networks, Intelligent Transport Systems
& Subsurface Sensing
Time: 08:30 – 10:10 hrs
Room: Lavender 2
Chairs: Ban Leong Ooi, *National University of Singapore, Singapore*
Alphones Arokiaswami, *Nanyang Technological University, Singapore*

Impedance Matching of a Loaded Microstrip Transmission Line Using a Double Parasitic Element

H. Matzner¹, S. Ouzan² and H. Moalem³

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Design of a High-pass Filter Based on a Paired-strips Transmission Line

H. Matzner¹, A. Averbuch, Y. Kucherenco² and S. Levy³

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Long Range Passive RFID-Tag System for Hyperbolic Localization

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Studies on a Super-Regenerative Detector using Harmonics of an Oscillator

Ken Horikawa¹, Hitoshi Shimasaki¹, Masahiro Akiyama¹ and Toshiro Kodera²

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Long Range Yagi-Uda UHF RFID Tag Antennas with Very Small Back-lobe

Kyounghwan Lee and You Chung Chung

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Session: [FC1] Microstrip and Printed Antennas
Time: 08:30 – 10:10 hrs
Room: Bergamot
Chairs: Jiro Hirokawa, *Tokyo Institute of Technology, Japan*
Shih-Yuan Chen, *National Taiwan University, Taiwan*

RFID Microstrip Antenna for Supply Chain at Ultra High Frequency (UHF) Band

Nithipark Sangkharak, Rattapong Suwalak and Chuwong Phongcharoenpanich*

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Design of Differentially-Driven Microstrip Antennas

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Miniaturized CPW-fed Inductively Coupled Slot Antennas Using Stepped Impedance Resonator With Tuning Slot Stub Loading

Sarawuth Chaimool¹ and Prayoot Akkaraekthalin

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Microstrip Slot Antenna for Wireless LAN Application

M.K.A Rahim¹, M.S. Ismail², A. Asrokin³, M.H. Jamaluddin⁴ and M.R. Ahmad⁵

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A Wide Band Rectangular Dielectric Resonator Antenna for S-Band Applications

T.G.Aboelnaga¹, D.A.Salem², E.A.F.Abdallah³ and H.El-Hinawy⁴

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Session: [FD1] Array Antennas, Phased Arrays and Feeding Circuits
Time: 08:30 – 10:10 hrs
Room: Jasmine
Chairs: Yoshio Karasawa, *The University of Electro-Communications, Japan*
Ban Leong Ooi, *National University of Singapore, Singapore*

Simulation Study of Partly Excited Parasitic Elements for an Aperture Array

Damri Radenamad¹, Taizo Isono² and Tadashi Takano^{1,3}

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Reduction of AOA Estimation Error Due to Perturbation in Array Response by Spatial Smoothing Preprocessing

Panarat Cherntanomwong¹, Jun-ichi Takada¹ and Hiroyuki Tsuji²

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Experimental Study on a Partially Driven Array with Simplified Dipole Elements

Midori Okumura¹, Yukio Kamata², Takehiro Imura³, Kazuhiro Kumamaru⁴
and Tadashi Takano^{2,3}

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On The Design of Sequential-Rotation Arrays Composed of CP-EMCP Elements

Kwok L. Chung

Department of Electronic and Information Engineering, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, China. E-mail: klchung@ieee.org

Quantization Analysis for Reconfigurable Phased Array Beamforming

T. Salim, J. Devlin and J. Whittington

Department of Electronic Engineering, La Trobe University Bundoora, VIC 3086 Australia

Session: [FE1] Propagation, Complex/Random Media & Scattering
Time: 08:30 – 10:10 hrs
Room: Neroli, Level 2
Chairs: John Volakis, *The Ohio State University, USA*
 Qun Wu, *Harbin Institute of Technology, China*

Path Loss Estimation of 2 GHz and 5 GHz Band FWA within 20 km in Rural Area

Mamoru Akimoto, Tatsuya Shimizu and Masashi Nakatsugawa

NTT Access Network Service Systems Laboratories, NTT Corporation, 1-1 Hikari-no-oka Yokosuka-shi, Kanagawa 239-0847, Japan. E-mail:{akimoto.mamoru, shimizu.tatsuya, nakatsugawa.masashi}@lab.ntt.co.jp

Performance of WCDMA Downlink FDD Mode at 10 MHz Bandwidth

Suyeb Ahmed khan*, Jasvir Singh** and Mahmood Mian***

* *Research Scholar*

** *Department of Electronics Technology, GND University, Amritsar, India*

*** *Department of Applied Physics, GND University, Amritsar, India*

Study of MUD on Capacity of WCDMA System with Different Parameters

Suyeb Ahmed khan^{1*}, Jasvir Singh^{2**} and Mahmood Mian³

¹*Research Scholar, ²Professor, ³Professor, GNDU, Amritsar, Punjab.*

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Satellite Observation of Electromagnetic Signatures in the Ionosphere Over the Nicobar Islands, Indian Region

A.K. Gwal^{1*}, Abhishek Shrivastava¹, Kalpana Malhotra¹ and M. Parrot²

¹*Space Science Laboratory, Department of Physics, Barkatullah University, Bhopal- 462026, India*

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Variation of Rain Induced Zenith Path Attenuation with Rain

Parshotam Sharma¹, Muneer Ahmad², I.S. Hudiara³, M.L. Singh⁴ and R. Thangaraj⁵

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| | |
|-----------|-------------------|
| Tea Break | 10:10 – 10:30 hrs |
|-----------|-------------------|

Session: [FA1] Multiband/Wideband Antennas
Time: 10:30 – 12:30 hrs
Room: Lavender 1
Chairs: Dau-Chyrh Chang, *Oritetal institute of Technology and Yuan Ze University, Taiwan*
Kazunori Uchida, *Fukuoka Institute of Technology, Japan*

Internal Multiband Antenna for WLAN/WiMAX Dual-Network Operation for Laptop Applications

Liang-Che Chou¹, Yuan-Chih Lin and Kin-Lu Wong

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Unique Tunable RLC Ring Resonators to Improve the Patch Antenna Bandwidth

Lin Hao¹ and Xingping Peter Lin²

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Multiband Circular MSA with Half-ring Slots Fed by an L-Probe

Ridho Chayono*, Yuichi Kimura and Misao Haneishi

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Characteristics of Folded Antenna for Handsets with a Parasitic Element

Yongho Kim^{1,*}, Hisashi Morishita^{1,**} and Jun Ito²

¹*Department of Electrical Engineering, National Defense Academy, 1-10-20 Hashirimizu, Yokosuka-shi 239-8686, Japan. E-mail:***g45071@nda.ac.jp, **morishita@nda.ac.jp*

²*R&D Group, HARADA INDUSTRY CO. LTD., 4-17-13 Minamiohi, Shinagawa-ku, Tokyo, 140-0013, Japan. E-mail:**jun-itou@harada.co.jp*

Parallel Calculation Algorithm for Multi-mode Antenna Design

Tamami Maruyama* and Keizo Cho

*NTT DoCoMo, Inc., 3-5 Hikari-no-oka, Yokosuka-shi, Kanagawa-ken, 239-8536 Japan. E-mail:***maruyamatam@nttdocomo.co.jp*

Broadband Circularly Polarized Cylindrical Dielectric Resonator Antenna

Kah-Wee Khoo, Yong-Xin Guo* and Ling-Chuen Ong

*Radio Systems Department, Institute for Infocomm Research, 20 Science Park Road #02-21/25 Singapore 117674. E-mail:***guoyx@i2r.a-star.edu.sg*

Session: [FB1] Multiband/Wideband Antennas
Time: 10:30 – 12:30 hrs
Room: Lavender 2
Chairs: Young-Ro Kim, *Chungnam National University, Korea*
Alphones Arokiaswami, *Nanyang Technological University, Singapore*

Various UHF RFID Tag Antennas for Metallic Object

Sang-Gon Lee¹ and You Chung Chung²

Information and Communication Engineering Dept, Daegu University, Kyungsan, Kyungbuk 712-714 Korea. E-mail:cyberlsg@nate.com¹, youchung@daegu.ac.kr²

Efficient Design Approach of RF-DC Conversion Circuit Including Undesirable Radiation

Tatsuya Takagaki, Tsunayuki Yamamoto, Kazuhiro Fujimori, Minoru Sanagi and Shigeji Nogi

The Graduate School of Natural Science and Technology, Okayama University, 3-1-1 Tsushima-Naka, Okayama, 700-8530, Japan. E-mail:{takagaki, yamamoto, fujimori, sanagi, nogi}@micro.elec.okayama-u.ac.jp

Cooperative MIMO Transmission Scheme for Intelligent Transport System

Sarit Konkaew^{1,*}, Monchai Chamchoy^{1,2} and Sathaporn Promwong^{1,2}

*¹Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang, Chalongkrung Rd., Ladkrabang, Bangkok 10520, Thailand. E-mail:*nochsarit@yahoo.com*

²Research Center for Communications and Information Technology (ReCCIT), King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand

Performance Analysis of Space-frequency Block Coded WiMax Services

Chia-Sheng Tsai* and Chao-Wei Chang

*Computer Science and Engineering, Tatung University, 40 ChungShan North Road, 3rd Section Taipei 104, R.O.C. E-mail:*cstsai@ttu.edu.tw*

Adaptive GPR Antenna for Multiple Pulse Transmissions

A.A. Lestari^{1,*}, Y. Wahyu^{2,**}, A.G. Yarovoy¹ and L.P. Ligthart¹

*¹International Research Centre for Telecommunications and Radar, Delft University of Technology, Mekelweg 4 2628 CD Delft, The Netherlands. E-mail:*a.lestari@ircr.tudelft.nl*

*²Research Center for Electronics and Telecommunication, Indonesian Institute of Sciences, Jl. Sangkuriang, Bandung 40135. E-mail:**yuyu@ppet.lipi.go.id*

A Three-Dimensional Feature Vector for Identification of Buried Landmines Using GPR Data

Masahiko Nishimoto*, Yusuke Kimura and Takaaki Tanaka

Graduate School of Science and Technology, Kumamoto University, 2-39-7 Kurokami, Kumamoto 860-8555, Japan. E-mail: nisimoto@cs.kumamoto-u.ac.jp*

Session: [FC1] Microstrip and Printed Antennas
Time: 10:30 – 12:30 hrs
Room: Bergamot
Chairs: Jiro Hirokawa, *Tokyo Institute of Technology, Japan*
Shih-Yuan Chen, *National Taiwan University, Taiwan*

CPW-fed Circular Fractal Slot Antenna for Dualband Applications

Ji-Chyun Liu¹, Dau-Chyrh Chang², Bing-Hao Zeng³, Ching-Yang Wu⁴
and Chin-Yen Liu⁵

¹Department of Electrical Engineering, Ching Yun University, Jung-Li, Taoyuan, 32097, Taiwan. E-mail:jichyun@cyu.edu.tw

²Department of Communications Engineering, Oriental Institute of Technology, Banciao, Taipei, 220, Taiwan. E-mail:dcchang@mail.oit.edu.tw

³Department of Communications Engineering, Yuan Ze University, Jung-Li, Taoyuan, 320, Taiwan. E-mail:aben911@gmail.com

⁴Microwave Lab., Department of Electrical Engineering, Ching Yun University, Jung-Li, Taoyuan, 32097, Taiwan. E-mail:chingyang.wu@gmail.com

⁵Department of Electronic Engineering, Ta Hwa Institute of Technology, Chung-Lin, Hsin-chu, 30740, Taiwan

Compact Double-ring Slot Antenna with Ring-fed for Multiband Applications

Dau-Chyrh Chang¹, Ji-Chyun Liu², Bing-Hao Zeng¹, Ching-Yang Wu³
and Chin-Yen Liu⁴

¹Dept. of Communications Engineering, Yuan Ze University, Jung-Li, Taoyuan, 32097, Taiwan. E-mail:aben911@gmail.com

²Dept. of Electrical Engineering, Ching Yun University, Jung-Li, Taoyuan, 32097, Taiwan. E-mail:jichyun@cyu.edu.tw

³Microwave Lab., Dept. of Electrical Engineering, Ching Yun University, Jung-Li, Taoyuan, 32097, Taiwan. E-mail:chingyang.wu@gmail.com

⁴Dept. of Electronic Engineering, Ta Hwa Institute of Technology, Chung-Lin, Hsin-chu, 30740, Taiwan. E-mail:fannie@thit.edu.tw

Fundamental Study on Matching Stubs-Incorporated Probe-Fed Microstrip Patch Antenna

Takashi Yanagi*, Yasuhiro Nishioka, Masataka Ohtsuka and Shigeru Makino
Mitsubishi Electric Corporation, 5-1-1 Ofuna, Kamakura, KANAGAWA, 247-8501 Japan.
E-mail:*Yanagi.Takashi@bp.MitsubishiElectric.co.jp

Hybrid-fed Equilateral Triangular Antenna with Tuning Stub for Circularly Polarized Bandwidth Enhancement

Eko Tjipto Rahardjo¹, Munawar² and Djoko Hartanto³

Antenna Propagation and Microwave Research Group, Center for Information and Communication Research, Department of Electrical Engineering, University of Indonesia, Depok. E-mail:¹eko@ee.ui.ac.id, ²Munawar_tektel@yahoo.com, ³djoko@ee.ui.ac.id

Design of a Planar Antenna Cover for Optimal Antenna CharacteristicsHironori Kakefuda¹ and Hiroyuki Arai²¹*Nihon Dengyo Kosaku Co., Ltd., 7-4 Nissai-Hanamizuki, Sakado-shi, Saitama, 350-0269 Japan. E-mail:kakefuda@ndk-k.co.jp*²*Department of Electrical and Computer Engineering, Yokohama National University, 79-5 Tokiwadai, Hodogaya-ku, Yokohama-shi 240-8501, Japan. E-mail:arai@ynu.ac.jp***Uni-directional CPW-fed Slot Antennas Using Loading Metallic Strips and a Widened Tuning Stub on Modified-Shape Reflectors**Sarawuth Chaimool¹, Prayoot Akkaraekthalin¹ and Monai Krairiksh²¹*Department of Electrical Engineering, Faculty of Engineering, King Mongkut's Institute of Technology North Bangkok, Bangkok 10800, Thailand. E-mail:*sarawuth@kmitnb.ac.th*²*Faculty of Engineering and Research Center for Communications and Information Technology, King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand*

Session: [FD1] **Array Antennas, Phased Arrays and Feeding Circuits**
Time: 10:30 – 12:30 hrs
Room: Jasmine
Chairs: Yoshio Karasawa, *The University of Electro-Communications, Japan*
 Ban Leong Ooi, *National University of Singapore, Singapore*

Four-Way Butler Matrix of Double-Layer Rectangular Waveguides using Broad-Wall Slit CouplingJiro Hirokawa^{1,*}, Hiroyuki Hoshi^{2,**}, Minoru Furukawa², Keizo Cho³
and Naohisa Goto¹¹*Dept. of Electrical & Electronic Eng., Tokyo Institute of Technology, 2-12-1 O-okayama, Meguro, Tokyo 152-8552, Japan. E-mail:*jiro@antenna.ee.titech.ac.jp*²*Microwave Circuit Div., Nihon Dengyo Kosaku Co., Ltd., 3 Takenouchi, Sakado, Saitama 350-0264, Japan. E-mail:h-hoshi@ndk-k.co.jp*³*Research Laboratories, NTT DoCoMo, Inc, 3-5 Hikarinooka, Yokosuka, Kanagawa 239-8538. Japan. E-mail:cho@nttdocomo.co.jp***A Circular Aperture Array Configuration with a Small Antenna Radius**Takanori Noro¹, Yasuhiro Kazama², Masaharu Takahashi³ and Koichi Ito⁴¹*Graduate School of Science and Technology, Chiba University, 1-33 Yayoicho, Inage-ku, Chiba-shi, 263-8522, Japan. E-mail:noro.takanori@graduate.chiba-u.jp*²*Lab., Japan Radio Co., Ltd, 1-1 Shimorenjyaku, 5 Chome Mitaka-shi, Tokyo, Japan*³*Research Center for Frontier Medical Engineering, Chiba University*⁴*Department of Medical System Engineering, Chiba University***An Alternative Approach to Decoupling of Arrays with Reduced Element Spacing**

J.C. Coetzee* and Y. Yu

*Department of Electrical and Computer Engineering, National University of Singapore, 4 Engineering Drive 3, Singapore 1117576, E-mail:*elejcc@nus.edu.sg, eleyy@nus.edu.sg*

Broadband Circularly Polarized Microstrip Antenna Element and Array with a New Feed

Nasimuddin¹ and Karu P. Esselle²

¹*Institute for Infocomm Research, Singapore 119613. E-mail:nasimuddin@i2r.a-star.edu.sg*

²*Department of Electronics, ICS Division, Macquarie University, Sydney, Australia. E-mail:karu@ieee.org*

Miniaturized Microwave Meander Coupled-Line Two-Way Wilkinson Power Divider

Mazlina Esa*, Nicholas Philip, Ikhwan Peranggi Pohan and Noor Asniza Murad

Department of Radio Communication Engineering, Universiti Teknologi Malaysia, Faculty of Electrical Engineering, Universiti Teknologi Malaysia, 813 UTM Skudai, Johor, Malaysia.

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Small Reflection Source Impedance Design for Maximum Power Feed Efficiency of MIMO Antenna

Gang Yan*, Zhengwei Du and Ke Gong

*State Key Lab on Microwave and Digital Communications, Dept. of Electronic Engineering, Tsinghua University, Beijing 100084, China. E-mail:*yangang00@mails.tsinghua.edu.cn*

Session: [FE1] Propagation, Complex/Random Media & Scattering
Time: 10:30 – 12:30 hrs
Room: Neroli, Level 2
Chairs: John Volakis, *The Ohio State University, USA*
Qun Wu, *Harbin Institute of Technology, China*

A Propagation Study of the 28 GHz LMDS System Performance Under Rain Fading

K.S. Chen and Chih-Yuan Chu

Center for Space and Remote Sensing, National Central University, Chung-Li, Taiwan 32054

Mitigation of Earthquake Hazards using Satellite Measurements

A.K. Gwal*, Kalpana Malhotra and Abhishek Shrivastava

*Space Science Laboratory, Department of Physics, Barkatullah University, Bhopal-462026, India. E-mail:*splakg@sancharnet.in*

A Double Negative Medium Supporting Backward Waves with Application to Microstrip Antennas

Qun Wu^{1,*}, Ming-Feng Wu¹, Fan-Yi Meng¹ and Le-Wei Li^{1,2,**}

¹*Department of Electrical and Communication Engineering, Harbin Institute of Technology, Harbin 150001, China. E-mail:*qwu@hit.edu.cn*

²*Department of Electrical and Computer Engineering, National University of Singapore, Kent Ridge Crescent, Singapore 119260. E-mail:**LWLi@nus.edu.sg*

FDTD Study of the Mutual Coupling between Microstrip Antennas for Diversity Wireless Systems

Lamia M. Khashan¹, Hala A. Elsadek² and Essam A. Hashish³

¹*Department of Electronics & Communications, Faculty of Engineering, Misr International University (MIU), Cairo, Egypt. E-mail:lamia.khashan@miuegypt.edu.eg*

²*Microstrip Department, Electronics Research Institute, ElTahrir st., Dokki, Giza, Egypt*

³*Department of Electronics & Communications, Faculty of Engineering, Cairo University, Giza, Egypt*

The FDTD Algorithm for Scattering from a Three-Dimensional Model of an Object over Random Rough Surface

Ya-Qiu Jin* and Lei Kuang

*Key Laboratory of Wave Scattering and Remote Sensing Information (Ministry of Education), Fudan University, Shanghai 200433, China. E-mail:*yqjin@fudan.ac.cn*

Backscattering of Laser from Targets in Random Media for E-Wave Polarization

Hosam El-Ocla

Department of Computer Science, Lakehead University, 955 Oliver Road, Thunder Bay, Ontario, Canada P7B 5E1, E-mail:hosam@lakeheadu.ca

Lunch Break

12:30 – 13:30 hrs

Session: [FA2] **Multiband/Wideband Antennas**
Time: 13:30 – 15:10 hrs
Room: Lavender 1
Chairs: Ryo Yamaguchi, *NTT DoCoMo, Inc., Japan*
 Zhi Ning Chen, *Institute for Infocomm Research, Singapore*

Experimental Study of Sleeve Antennas Using Variable Capacitors

Kengo Nishimoto*, Ryosuke Umeno, Nobuyasu Takemura, Toru Fukasawa, Masataka Ohtsuka and Shigeru Makino

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A Multiband Double Square Slot Antenna with Fractal Geometry

Chatree Mahatthanajatuphat* and Prayoot Akkaraekthalin

*Department of Electrical Engineering, King Mongkut's Institute of Technology, North Bangkok, 1518 Pibulsongkram Rd., Bangsue, Bangkok 10800, Thailand. E-mail:*cmp@kmitnb.ac.th*

Microstrip Slot Array Antennas Fed by a Microstripline with a Multi Tuning Stubs for Multi-Wideband

Eko Tjipto Rahardjo* and Iskandar Fitri**

*Antenna Propagation and Microwave Research Group, Center for Information and Communication Research, Department of Electrical Engineering, University of Indonesia, Depok, Indonesia. E-mail:*eko@ee.ui.ac.id, **tektel2001@yahoo.com*

Wideband Characteristics of Rounded Circular and Semi-Circular Monopole Antennas

Mana Hounoki*, Toshikazu Hori and Mitoshi Fujimoto

*Graduate School of Engineering, University of Fukui, 3-9-1, Bunkyo, Fukui, 910-8507 Japan.
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Wideband Characteristics of Planar Loop Antennas

Noriyuki Oomura*, Toshikazu Hori and Mitoshi Fujimoto

*Graduate School of Engineering, University of Fukui, 3-9-1, Bunkyo, Fukui, 910-8507 Japan.
E-mail:*foomura@wireless.fuis.fukui-u.ac.jp*

Session: [FB2] Mobile and Indoor Propagation & Millimetre-Wave Propagation
Time: 13:30 – 15:10 hrs
Room: Lavender 2
Chairs: Toru Uno, *Tokyo University of Agriculture and Technology, Japan*
Stanislav Zvanovec, *Czech Technical University, Czech Republic*

3-D Angular Spectrum Measurements in a Residential House at 5GHz

H. Iwai^{1,*}, T. Sakata¹, A. Yamamoto¹, K. Ogawa¹, K. Sakaguchi² and K. Araki²

¹*Network Development Center, Matsushita Electric Industrial Co., Ltd., 1006 Kadoma, Kadoma-shi, Osaka, 571-8501 Japan. E-mail:*iwai.hiroshi@jp.panasonic.com*

²*Graduate School of Science and Engineering, Tokyo Institute of Technology, 2-12-1, Ookayama, Meguro-ku, Tokyo, 152-8550 Japan*

Finite Element Formulation of Radio Wave Propagation in Tunnels

Kamran Arshad*, Ferdinand Katsriku and Aboubaker Lasebae

*School of Computing Science, Middlesex University, London, United Kingdom
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Accurate Prediction of Available Path Number and Delay Spread Considering Path Existence Probability in Wideband Mobile Propagation

Yoshichika Ohta* and Teruya Fujii

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E-mail:*yoshichika.ota@japan-telecom.co.jp*

An Open Waveguide by Tightly Coupled Patch Array for Short Range Wireless Access

Kunsun Eom* and Hiroyuki Arai

*Graduate School of Engineering, Yokohama National University, 79-5, Tokiwadai, Hodogaya-ku, Yokohama, 240-8501, Japan. E-mail:*sun@arailab.ynu.ac.jp*

Analysis of Polarization Diversity Gain at Base Station in W-CDMA System

Masaru Fukushima* and Tetsuro Imai

*Radio Access Network Development Department, NTT DoCoMo, Inc., 3-5 Hikari-no-oka, Yokosuka-shi, Kanagawa 239-8536, Japan. E-mail:*fukushige@nttdocomo.co.jp*

Session: [FC2] Millimeter Wave Antennas & Antenna Measurements
Time: 13:30 – 15:00 hrs
Room: Bergamot
Chairs: Ruediger Vahldieck, *ETH Zurich, Switzerland*
 Fujiang Lin, *Institute of Microelectronics, Singapore*

Planar Arrays for Indoor and Outdoor Millimeter Wave Systems “Tokyo Tech Wireless Fiber Project”

Makoto Ando*, Jiro Hirokawa and Yasutake Hirachi

*Department of Electrical & Electronic Engineering, Tokyo Institute of Technology,
 2-12-1 Ookayama, Meguro-ku, Tokyo, 152-8552, Japan.
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Dielectric Leaky-Wave Antenna with Planar Feed Immersed in the Dielectric Substrate

Takashi Kawamura^{1,*}, Aya Yamamoto¹, Tasuku Teshirogi¹ and Yuki Kawahara²

Anritsu Corporation, 5-1-1 Onna, Atsugi-shi, Kanagawa, 243-8555 Japan.

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A Fundamental Study on a Switched-Beam Sector Slot-Array Antenna in 60 GHz Band

Nobuyuki Tenno, Amane Miura, Takashi Itoh, Makoto Taromaru and Takashi Ohira

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 Japan. E-mail: {tenno, amane, takashi.itoh, taromaru, ohira}@atr.jp*

Design of an Alternating-Phase Fed Single-Layer Slotted Waveguide Array with a Latticed Plate

Yuichi Kimura*, Tomihiro Ohmuro and Misao Haneishi

*Department of Electrical and Electronic Systems, Saitama University, 255 Shimo-ohkubo,
 Sakura-ku, Saitama 338-8570, Japan. E-mail:ykimura@aplabb.ees.saitama-u.ac.jp**

Session: [FD2] Biological Effects and Medical Applications & Scattering
Time: 13:30 – 15:00 hrs
Room: Jasmine
Chairs: Koichi Ito, *Chiba University, Japan*
 Kwok Chung, *Hong Kong Polytechnic University, China*

Antenna Technology for Medical Applications

Koichi Ito¹

¹Faculty of Engineering, Chiba University, 1-33 Yayoi-cho, Inage-ku, Chiba, 263-8522, Japan.

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A Formula for Predicting Whole-Body Average SAR in Japanese Models for Far-field Exposures

Akimasa Hirata^{1,*}, Yoshio Nagaya¹, Osamu Fujiwara^{1,**}, Tomoaki Nagaoka¹ and Soichi Watanabe²

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²EMC Group, National Institute of Information and Communications Technology, Nukuikitamachi 4-2-1, Koganei, Tokyo 184-8795, Japan. E-mail: wata@nict.go.jp

Correlation between Peak SAR and Maximum Temperature Increase Due to Dipole Antenna above 3GHz

Akimasa Hirata¹, Osamu Fujiwara¹ and Toshiyuki Shiozawa²

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An Ultra Wideband Microwave Imaging System for Breast Cancer Detection

Wee Chang Khor¹, Marek E. Bialkowski¹, Amin Abbosh¹, Norhudah Seman¹ and Stuart Crozier¹

¹School of Information Technology and Electrical Engineering, The University of Queensland, St Lucia, Queensland 4072, Australia. E-mail: khor, meb, abbosh, norhudah and stuart@itee.uq.edu.au

Session: [FE2] EM Applications
Time: 13:30 – 15:10 hrs
Room: Neroli, Level 2
Chairs: Kang Wook Kim, *Gwangju Institute of Science and Technology, Korea*
Zhongxiang Shen, *Nanyang Technological University, Singapore*

Fabry-Perot Resonator Printed Antennas Employing EBG and AMC Substrate

Wen-Xun Zhang, Ying-Ying Gu and Zhi-Chen Ge

State Key Lab. of Millimeter Waves, Southeast University, Nanjing, 210096, China.

Z-Transform PML Algorithm for Truncating Metamaterial FDTD Domains

Omar Ramadan

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Highly Accurate FDTD Analysis of Bend Microstrip Lines Using Quasi-static Approximation

Takuji Arima* and Toru Uno

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Analysis of Electromagnetic Scattering by an Object Located on a Rough Surface Using Time-Domain Integral Equations

Min Zhang^{1,*}, Lewei Li² and Zhensen Wu¹

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A Method for 3D Breast Cancer Imaging using Microwave Holography

D. Smith^{1,*}, M. Elsdon¹, M. Leach¹, M. Fdo¹ and S. J. Foti²

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| Tea Break |
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|-------------------|
| 15:10 – 15:30 hrs |
|-------------------|

Session: [FA2] Multiband/Wideband Antennas

Time: 15:30 – 17:30 hrs

Room: Lavender 1

Chairs: Ryo Yamaguchi, *NTT DoCoMo, Inc., Japan*

Zhi Ning Chen, *Institute for Infocomm Research, Singapore*

Analysis of Planar Sleeve Antenna

Mitsuo Taguchi¹ and Rohadi Erfan²

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Proposal and Investigation of a Flat Type Small Volcano Smoke Antenna

Fukuro Koshiji¹, Toshiya Eguchi¹, Koichi Sato¹ and Kohji Koshiji²

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Wide-band Slot Antenna for WLAN Application

W. Kueathawikun¹, P. Thumwarin¹, N. Anantrasirichai¹ and T. Wakabayashi²

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Dual-Band Monopole Antenna with Wide Bandwidths for WLAN Applications

Maahesh P. Abegaonkar^{*,1}, Krishna Aditya V^{**}, Ananjan Basu^{*} and
Shiban K. Koul^{*,2}

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High Integration Internal GSM/DCS Monopole Antenna for Mobile Phone

Chia-Lun Tang^{*}, Tzu-Hao Lu and Shih-Huang Yeh

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Optimization of Loaded Broadband HF Antenna via Genetic Algorithm

Xin Hong^{*,1}, Li JianYing¹ and Gan Yeow Beng¹

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Session: [FB2] Mobile and Indoor Propagation & Millimetre-Wave Propagation
Time: 15:30 – 16:50 hrs
Room: Lavender 2
Chairs: Toru Uno, *Tokyo University of Agriculture and Technology, Japan*
Stanislav Zvanovec, *Czech Technical University, Czech Republic*

A Study on Inter-vehicle Communication at 60GHz in NLOS Junction

Atsuo Kitano^{1,*}, Toshitaka Kojima², Masaaki Kobayashi³ and Yiwei He⁴

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Measurements and Models for UWB Path Loss and Penetration Loss in Residential Environment

Monchai Chamchoy^{1,*}, Sathaporn Promwong¹, Suthichai Noppanakeepong¹
and J. Takada²

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On Statistical Distribution of the Largest Eigenvalue of Channel Correlation Matrices in MIMO Multi-Keyhole Environment

Makoto Tsuruta*, Tetsuki Taniguchim and Yoshio Karasawa

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On Millimetre-Wave Propagation Characterisation for Human Bodies at 62.4GHz

Charles S. C. Leong^{1,*}, Jurgen Richter² and Andrew R. Nix¹

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Session: [FC2] Millimeter Wave Antennas & Antenna Measurements
Time: 15:30 – 17:10 hrs
Room: Bergamot
Chairs: Ruediger Vahldieck, *ETH Zurich, Switzerland*
Fujiang Lin, *Institute of Microelectronics, Singapore*

Imaging by 60GHz band Waveguide-type Microscopic Aperture Probe

Tadahiro Negishi¹, Toshitatsu Suzuki², Kazuhiro Mitsugi³ and Yasuo Watanabe⁴

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Ka-band Triangular Patch Antenna on Micromachined High-K Substrate

Preeti Sharma¹, Shibani K. Koul² and Sudhir Chandra³

Centre for Applied Research in Electronics (CARE), Indian Institute of Technology, Hauz Khas, New Delhi – 110016, India. E-mail:preeti5_sharma@yahoo.com¹, shibani.koul@hotmail.com², schandra@care.iitd.ernet.in³

Development of the Monostatic FM-CW Radar at 95GHz

Abe Hideji¹, Yokote Shinichi¹, Kubo Hiroshi¹, Kawamura Youhei², Takano Toshiaki^{1,2,3,*}, Kumagai Hiroshi⁴, Takamura Tamio⁵ and Nakajima Teruyuki⁶

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Analysis on the Reflection Method for the Radiation Efficiency Measurement Using the Transmission Line Model

Yasuo Katagiri¹, Nozomu Ishii^{2,*} and Michio Miyakawa²

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A Gain Measurement in the Liquid Based on Friis Transmission Formula in the Near-Field Region

Takuhei Akagawa¹, Nozomu Ishii^{2,3,*}, Ken-ichi Sato⁴, Lira Hamada³ and Soichi Watanabe³

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Session: [FD2] **Biological Effects and Medical Applications & Scattering**
Time: 15:30 – 17:10 hrs
Room: Jasmine
Chairs: Koichi Ito, *Chiba University, Japan*
Kwok Chung, *Hong Kong Polytechnic University, China*

Experimental Estimation of Cooling Effect due to Blood Flow in a Thick Blood Vessel

Atsushi Hiroe^{1,*}, Kazuyuki Saito², Masaharu Takahashi² and Koichi Ito³

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A Uniform Asymptotic Analysis for Transient Scattered Fields by a Cylindrically Curved Open Surface with Varying Radius of Curvature

Keiji Goto*, Toshihide Ajiki, Toru Kawano and Toyohiko Ishihara

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An Approximate Solution in Spectral Domain for Plane Wave Scattering by a Thick Half-Plane

Mayumi Nakagawa^{1,*}, Hironori Fujii¹ and Kazunori Uchida¹

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Solution of Combined Field Volume Integral Equation using Adaptive Integral Method

Wei-Bin Ewe¹, Er-Ping Li¹ and Le-Wei Li²

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Scattering of Electromagnetic Waves by Inhomogeneous Dielectric Gratings Loaded with Three Perfectly Conducting Strips

Tsuneki Yamasaki¹, Tatsunori Ujiie and Takashi Hinata

College of Science and Technology, Nihon University, 1-8-14, Surugadai Kanda Chiyoda-ku, Tokyo, 101-8308, Japan. E-mail:yamasaki@ele.cst.nihon-u.ac.jp¹

Session: [FE2] EM Applications

Time: 15:30 – 17:30 hrs

Room: Neroli, Level 2

**Chairs: Kang Wook Kim, *Gwangju Institute of Science and Technology, Korea*
Zhongxiang Shen, *Nanyang Technological University, Singapore***

Time-Domain Investigation of a Family of Symmetrically Modified Square Plate Monopole Antennas for UWB Applications

Qiu Xiaoning and Ananda Sanagavarapu Mohan*

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Modified MSSNR Based Channel Shortening for UWB Receiver Design Simplification

Syed Imtiaz Husain and Jinho Choi

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Performance Enhancement of MIMO WLAN – A Critical Analysis

Jasvir Singh

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A Novel Analysis Method on Satellite Linkage to a Vehicle based on Cost-effective GPS Signal Data Gathering

Masato Takahashi

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A Hybrid Solution for Radiation from Wire Antennas near a Curved Smooth Surface

Wei-Jiang Zhao^{*,1}, Yeow-Beng Gan¹, Chao-Fu Wang¹ and Le-Wei Li²

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Improvement of Stopband Performance OF Microstrip Reconfigurable Band Pass Filter by Defected Ground Structure

Susanta Kumar Parui¹ and Santanu Das²

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Session: [POSTER]

Room: Foyer

Chairs: Xudong Chen, National University of Singapore, Singapore

A Layer Structured Algorithm for Azimuth/Elevation Angle Estimation

Yung-Yi Wang¹ and Ying Lu²

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Multi-Band Antenna for Practical Handset Applications

C.W. Jang^{1,*}, Y.J. Sung¹, J.W. Baik² and Y.-S. Kim²

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Evaluation of Electric Field Distributions in a Car

Kunihiko Yamada^{1,*}, Satoru Horiuchi¹, Shingo Tanaka¹, Yoshihide Yamada² and Naobumi Michishita³

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Dependence of Area-Averaged Rain Rate on PMP System Coverage Planning

Stanislav Zvanovec¹, Pavel Pechac¹, Vaclav Kvicera² and Milos Mazanek¹

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Triple-Band Printed Polygonal Slot Antenna for WiMAX Applications

Wen-Shan Chen^{1,*}, Bao-Hung Kao¹ and Fa-Shian Chang²

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Extended Ellipse Model for Multi-Polarized MIMO Antennas

Sewoong Kwon¹, Hyun-Wook Moon¹, Jae-Woo Lim², Cheol Mun³ and Young Joong Yoon¹

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Switched-Beam Slot Antenna over Electromagnetic Band-Gap Reflector

Hiroyuki Uno^{1,*}, Yutaka Saito¹, Yoshio Koyanagi², Satoshi Yagitani³ and Isamu Nagano⁴

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An Estimation of Channel Characteristics for SVD-MIMO Antenna Array

Chul-Keun Park* and Kyeong-Sik Min

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60-GHz Sequentially-Rotated 1×4 Circular Patch Array Antenna Fed by Microstrip Line

Shih-Yuan Chen¹, Wei-Yu Mu¹, and Powen Hsu^{2,*}

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Performance Study of DOA-based Indoor Location Positioning Utilizing MIMO Wireless LAN System

Abdul Hafiizh¹, Futa Imai¹, Michiko Minami¹, Kazuki Ikeda¹, Shigeki Obote^{1,*} and Kenichi Kagoshima¹

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Enhancement of Both Gain and Bandwidth of LTCC Microstrip Patch Antenna with Metallic Bar

Woojin Byun, Bong-Su Kim, Kwang-Seon Kim and Myung-Sun Song

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Post-Wall Waveguide Circuit Consisting of π -junctions for a Center-Feed Parallel Plate Slot Array

Koh Hashimoto*, Jiro Hirokawa and Makoto Ando

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Post-wall Waveguide Slot Arrays with Water Repellent Coating and Estimation of Effective Dielectric Constant of Wall-thickness Region

Taro Yaguchi*, Jiro Hirokawa and Makoto Ando

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Grating-Lobe Suppression in a Linear Array of a Hollow Waveguide Transverse Slots by a Layer of Parasitic Dipole-Quartets

Mitsuru Kirita*, Jiro Hirokawa and Makoto Ando

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Performance Analysis on the Effect of the Adjacent Channel Interference in OFDM systems

Ho-kyung Son* and Heon-Jin Hong

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Determination of Image Sources to Predict LOS Propagation in an Urban Microcell

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Phase Detection of Horn Antenna arrays

Ling-Yun Luo^{1,2} and Qing-Xin Chu^{1,*}

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Session: [Keynote]
Time: 18:20 – 19:00 hrs
Room: Ballroom 2
Chairs: Zhi Ning Chen, *Institute for Infocomm Research, Singapore*

Anisotropic Periodic Assemblies and Metamaterials for Applications to Antennas and Microwave Devices

John L. Volakis* and Kubilay Sertel

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Saturday, 4 November 2006

Session: [SA1] Adaptive and Smart Antennas
Time: 08:30 – 10:10 hrs
Room: Lavender 1
Chairs: Monai Krairiksh, *King Mongkut's Institute of Technology, Thailand*
 Hiroyoshi Yamada, *Niigata University, Japan*

Dual Rectangular S antenna for Switched Beam Applications

A. Mehta^{1,*}, J. Elmirghani¹ and D. Mirshekar-Syahkal²

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Rank Selection Algorithm with a Cross-Correlation Coefficient for the Multistage Wiener Filter

Junichiro Suzuki¹, Yoshikazu Shoji², Hiroyoshi Yamada³, Yoshio Yamaguchi³
 and Masahiro Tanabe¹

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Antenna Impedance Tuning Unit for DVB-H Front-End

Peter Sjöblom¹ and Henrik Sjöland²

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A Downlink Transmission Method for MIMO Systems with Whitening Filters to Reduce Interference from both Inner and Outer Cells

Manabu Mikami^{1,2} and Teruya Fujii^{1,2}

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Transmitter Weight Control by DOA Estimation for Multi-user MIMO

Taihei Michihata^a and Hiroyuki Arai

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Session: [SB1] Remote Sensing, SAR & Mobile Channel Characterization
Time: 08:30 – 10:10 hrs
Room: Lavender 2
Chairs: Tat Soon Yeo, *National University of Singapore, Singapore*
Mitsuru Tanaka, *Oita University, Japan*

Modeling of Bright Band Having a Smooth Connection to Snowfall for Observation of Rain from Space

Jun Awaka^{1,*}, Nobuhiro Takahashi² and Toshio Iguchi²

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Estimation of Raindrop Size Distribution Parameter with TRMM Precipitation Radar

Toshiaki Kozu¹, Toshio Iguchi², Yukari Takayabu³, Hiroshi Hnado⁴ and Naofumi Yoshida⁵

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Raindrop Size Distributions of Tropical Precipitation over West Sumatra

Marzuki¹, Toshiaki Kozu² and Toyoshi Shimomai³

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Observations of Clouds in the Pacific Ocean with the Millimeter-wave FM-CW Radar

Takano Toshiaki^{1,2,3,*}, Akita Ken-ichi¹, Futaba Ken-ichi¹, Abe Hideji¹, Yamaguchi Jun¹, Hirai Akihito¹, Kawamura Youhei², Kumagai Hiroshi⁴, Ohno Yuichi⁴, Takamura Tamio⁵, Nakanishi Yuji^{1,6}, Sugimoto Nobuo⁷, Matsui Ichiro⁷, Fujiyoshi Yasushi⁸, Okamoto Hajime⁹ and Nakajima Teruyuki¹⁰

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Decomposition of POLSAR Image Applied to Wet Land Monitoring

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Session: [SC1] Microstrip Antennas & Computational Electromagnetics
Time: 08:30 – 10:10 hrs
Room: Bergamot
Chairs: Mitsuo Taguchi, *Nagasaki University, Japan*
 Said Zouhdi, *Supelec, France*

Miniaturized Cross Meander-Line Antenna Etched on Both Sides of Dielectric Substrate

Futoshi Kuroki* and Hiroshi Ohta

Department of Electrical Engineering, Kure National College of Technology, 2-2-11 Aga-Minami Kure 737-8506, Hiroshima, Japan. E-mail:*kuroki@kure-nct.ac.jp

Bandwidth Increment of Microstrip Patch Antenna Array with Opposite Double-E EBG Structure for Different Feed Positions

Manik Gujral^{1,*}, Tao Yuan¹, Cheng-Wei Qiu¹, Le-Wei Li^{1,**} and Ken Takei²

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Dual-Frequency Microstrip-Fed Basic-Structured Slot Antennas for Wireless LAN Applications

P. Wiriyacosol¹, N. Anantrasirichai¹, C. Benjangkaprasert¹ and T. Wakabayashi²

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Small Circular Loop Antenna for RFID Tag

Hong-Kyun Ryu¹ and Jong-Myung Woo²

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Design of Microstrip Antennas with Folded Structure

Hee-Moo Heo¹ and Jong-Myung Woo²

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Session: [SD1] Metamaterials, Band-Gap Structures & Advanced Materials

Time: 08:30 – 10:00 hrs

**Chairs: Le-Wei Li, National University of Singapore, Singapore
Kun-Shan Chen, National Central University, Taiwan**

Why Periodic Surfaces Cannot be Used to Synthesize Negative Indices of Refraction

Benedikt A. Munk

ElectroScience Laboratory, The Ohio State University 1320 Kinnear Road, Columbus, OH 43212, USA

Left-Handed Waveguide with Variable Phase Constant Composed of Planar Resonator Patterns

Hiroshi Kubo¹, Hidetaka Kuwahara² and Atsushi Sanada³

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Radiation from a Ferrite Filled Parallel Plate Waveguide with a Finite Periodic Slot Array in the Upper Plate

Kazuo Nishimura

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Tea Break

10:10 – 10:30 hrs

Session: [SA1] Adaptive and Smart Antennas
Time: 10:30 – 12:30 hrs
Room: Lavender 1
Chairs: Monai Krairiksh, *King Mongkut's Institute of Technology, Thailand*
Hiroyoshi Yamada, *Niigata University, Japan*

Direction of Arrival Estimation of the Maximum Incoming Wave for Number of Arrival Waves Exceeding Degree of Freedom

Naoki Ito* and Hiroyuki Arai

*Department of Electrical and Computer Engineering, Yokohama National University, 79-5 Tokiwadai Hodogaya-ku Yokohama 240-8501 Japan. E-mail: *naoki@arailab.dnj.ynu.ac.jp*

FastICA-Based Blind Separation of Digital Modulation signals for Radio Surveillance

Mitsuharu Imai¹, Koichi Ichige¹ and Hiroyuki Arai¹

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DOA Estimation of Coherent Waves by Using Spatial Smoothing Pre-processings in Transmitter

Natsumi Endo¹, Hiroyoshi Yamada² and Yoshio Yamaguchi²

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Simple Calibration Technique for Arrays with Single-mode Elements Based on Mutual Impedance Matrix

Hiroyoshi Yamada¹, Masayuki Morishita² and Yoshio Yamaguchi¹

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Experimental Study of MUSIC-Based DOA Estimation by Using Universal Steering Vector

Qiaowei Yuan¹, Qiang Chen² and Kunio Sawaya²

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²Department of Electrical Communications, Faculty of Engineering, Tohoku University, 6-6-05 Aoba, Aramakiaza, Aoba-ku, Sendai, 980-8579, Japan*

IQ Modulator-based Phase Shifters Combined with Butler Matrix for Smart 2.4 GHz Antennas

Joko Suryana

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Session: [SB1] Remote Sensing, SAR & Mobile Channel Characterization
Time: 10:30 – 12:30 hrs
Room: Lavender 2
Chairs: Tat Soon Yeo, *National University of Singapore, Singapore*
Mitsuru Tanaka, *Oita University, Japan*

Seasonal Change Investigation of Water Area in Lake Sakata Based on POLSAR Image Analysis

Ryoichi Sato¹, Yuki Yajima², Yoshio Yamaguchi³ and Hiroyoshi Yamada³

¹ *Faculty of Education and Human Sciences, Niigata University, 8050, 2-no-cho, Ikarashi, Niigata, 950-2181 Japan. E-mail:sator@ed.niigata-u.ac.jp*

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Recent Developments of Radar Remote Sensing Air- and Space-borne Multimodal SAR Remote Sensing in Geophysics: Advances in POL-SAR, INSAR, POLinSAR and POL-DIFF-IN-SAR Sensing and Imaging with Applications to Environmental and Geodynamic Stress-change Monitoring

Wolfgang-Martin Boerner* and Jorge J. Morisaki

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Implementation of Differential Repeat-Pass SAR Interferometry for the Search for Earthquake Precursory Land-Cover Deformation in Taiwan

Kun-Shan Chen* and Wolfgang-Martin Boerner

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Characterization of Radio Path Loss in Seaport Environment for WiMAX Applications

Ming-Tuo Zhou^{1,*}, Joe Jurianto², Jaya Shankar² and M. Fujise¹

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An Analytical Model of Multi-rate Channel for IEEE 802.11e EDCAF

Bih-Hwang Lee* and Hui-Cheng Lai**

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VHF and UHF Propagation through a Coconut Plantation

Yee Hui Lee¹ and Yu Song Meng²

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²*meng0006@ntu.edu.sg*

Session: [SC1] Microstrip Antennas & Computational Electromagnetics

Time: 10:30 – 12:30 hrs

Room: Bergamot

Chairs: Mitsuo Taguchi, *Nagasaki University, Japan*

Said Zouhdi, *Supelec, France*

Compact Rectangular Microstrip Antenna with Open End Meandering Slots in the Ground Plane for Bandwidth Enhancement

Usha Kiran K.¹, R. M. Vani², Ravi M. Yadahalli¹, P. V. Hunagund^{1,*} and Sara F. Farida³

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A Printed UWB Diversity Antenna

Haiping Zhao^{1,*}, Libiao Liu¹, Terence S. P. See^{2,**}, Zhi Ning Chen^{1,2,+} and Max J. Ammann³

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Modified Truncated Patch Antenna for S-Band Wireless Power Transmission Rectenna

Mazlina Esa^{1,*}, Ikhwan Peranggi Pohan¹, Jasmy Yunus² and Noor Asniza Murad¹

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A Parallel Multilevel Fast Multipole Algorithm for GRID Computing Allowing Optical Full-wave Simulations

Jan Fostier and Femke Olyslager*

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Investigation of Application of Higher-Order Elements in FEM

Davoud Ansari O.B.*, Zhang Ya Qiong, Leong Mook Seng and Ooi Ban Leong

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A Fast Iterative Algorithm by Using Current/Voltage Unknowns for Small Antenna Design with Finite Ground Plane

Ken Takei*, Youhei Shirakawa and Morihiko Ikegaya

*Cross Technology Development Center. Hitachi Cable Ltd., 880, Isagozawa-cho, Hitachi-shi, Ibaraki-ken, Japan. E-mail: *takei.ken@hitachi-cable.co.jp*

Session: [SD1] **Metamaterials, Band-Gap Structures & Advanced Materials**
Time: 10:30 – 12:30 hrs
Room: Jasmine
Chairs: Le-Wei Li, *National University of Singapore, Singapore*
Kun-Shan Chen, *National Central University, Taiwan*

Modal Field Analysis of Meanderline Polarizer with Finite Thickness

Chan Kwok Kee^{1,*}, Chio Tan Huat² and Yeo Tat Soon³

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Comparative Analysis of Defect-Ground Type Electromagnetic Band-Gap Structures

Ozgur Isik^{1,*}, Yuehe Ge¹ and Karu P. Esselle¹

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Formulation of Two-Dimensional Electromagnetic Scattering from Circular Cylinder Backed by Periodic Circular Cylinder Array

Koki Watanabe

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EBG-Embedded UWB Bandpass Filter with Widened Upper-Stopband

Sai Wai Wong and Lei Zhu*

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E-mail:*ezhul@ntu.edu.sg*

Safety Threshold Predictions of On-Chip Interconnects and Devices Illuminated by High-Power Electromagnetic Pulse (HP-EMPs)

Wen-Yan Yin^{1,*}, J. F. Xu¹, X. T. Dong², Jun-Fa Mao¹ and Le-Wei Li²

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Lunch Break 12:30 – 13:30 hrs

Session: [SA2] Adaptive and Smart Antennas & Active Antennas

Time: 13:30 – 15:10 hrs

Room: Lavender 1

Chairs: Hiroki Shoki, *Toshiba, Japan*
Mook Seng Leong, *National University of Singapore, Singapore*

Ultrawideband Modeling of Transmit and Receive Antenna Systems

Tapan K. Sarkar

Department of Electrical Engineering and Computer Science, 323 Link Hall, Syracuse University, Syracuse, New York 13244-1240, E-mail:tk Sarkar@syr.edu

On Downlink Space Division Multiplexing in Partial Cooperation Multiple Access Point Systems

Riichi Kudo*, Yasushi Takatori, Atsushi Ohta, Kentaro Nishimori and Shuji Kubota

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Experiment and Simulation Results of Adaptive Antenna Array System at Base and Mobile Stations in Mobile Environment

Kenta Okino*, Chiharu Yamazaki, Masanori Kato, Fangwei Tong, Tohru Sunaga and Shigeru Kimura

*Yokohama R&D Center, Kyocera Corporation, Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku, Yokohama-shi, Kanagawa, 224-8502, Japan. E-mail:*kenta.okino.cy@kyocera.jp*

Mobile Station Location Measurement by MUSIC Algorithm using Mode Vectors Considering Angular Spread

Hideki Omote*, Yoshichika Ota, Manabu Mikami and Teruya Fujii

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Robust Beamforming Method for Frequency Offsets in Uplink Multiuser OFDM-MIMO

Yasushi Takatori*, Riichi Kudo, Atsushi Ohta, Koichi Ishihara, Kentaro Nishimori and Shuji Kubota

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Session: [SB2] Slot Antennas & Time Domain Techniques
Time: 13:30 – 15:10 hrs
Room: Lavender 2
Chairs: Tasuku Teshirogi, *Anritsu Corporation, Japan*
Jacob C. Coetzee, *National University of Singapore, Singapore*

LOD-FDTD Analysis of Optical Waveguides with Nondispersive and Dispersive Media

Jun Shibayama*, Ryo Takahashi, Junji Yamauchi and Hisamatsu Nakano

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Broadband Active Imaging Method Using Auto-Correlation Pulse Response

Hiroyasu Sato and Kunio Sawaya

Graduate School of Engineering, Tohoku University, Aza-Aoba 05, Aramaki, Aobaku, Sendai, 980-8579, Japan. E-mail: {sahiro, sawaya}@ecei.tohoku.ac.jp

On Extrapolated Absorbing Boundary Condition Based on CIP Method

Kazunori Uchida^{1,*}, Xue-Feng Li¹, Hiroshi Maeda¹ and Kwang-Yeol Yoon²

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Full-Model Analysis of a Large Number of Waveguide Slot Antenna Elements and Its Design

Miao Zhang*, Jiro Hirokawa and Makoto Ando

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Radiation of a Hertzian Dipole in a Conducting Circular Cylinder with Narrow Circumferential Slots

Jang S. Ock and Hyo J. Eom*

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Session: [SC2] Waveguides, HF Techniques & Inverse Problems
Time: 13:30 – 15:00 hrs
Room: Bergamot
Chairs: Kunio Sawaya, *Tohoku University, Japan*
 Lei Zhu, *Nanyang Technological University, Singapore*

GPS Feasibility in the Study of the Received Land Mobile Satellite Signal Quality due to an Obstacle

Wan Azlan W.Z. Abidin¹, Kiyotaka Fujisaki² and Mitsuo Tateiba²

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UTD Analysis of an Inclined Rectangular Aperture Antenna Mounted on an Open-Ended Cavity Excited by a Probe

Sanchai Eardprab and Chuwong Phongcharoenpanich

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A Novel Implementation of Thin High-Impedance Surfaces

Hang Wang, Wei Tang and Zhongxiang Shen*

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Consideration on Undesired Radiation in Dielectric-Supported Tri-plate Line Filter

Futoshi Kuroki* and Kazuya Miyamoto

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Session: [SD2] Mobile and Base Station Antennas, High-Power Applications & Theoretical Electromagnetics
Time: 13:30 – 15:10 hrs
Room: Jasmine
Chairs: Femke Olyslager, *Ghent University, Belgium*
 Yue Ping Zhang, *Nanyang Technological University, Singapore*

Tilted Beam Characteristics of a Cylindrical Dielectric Rod Periodically Covered with Metals

Junji Yamauchi, Issey Chigusa and Hisamatsu Nakano

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A Polarization Diversity Antenna for Wireless Terminal

Hideyuki Soutome*, Takeshi Oshima, Masataka Ohtsuka, Yasuhiro Nishioka and Shigeru Makino

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Performance of Bidirectional and Unidirectional Elliptical Ring Antennas Fed by Circular Disc Monopole

Krittaya Chawanonphithak, Chuwong Phongcharoenpanich*, Sompol Kosulvit and Monai Krairiksh

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Novel Broadband Aperture-Coupled Patch Antenna using Bow-Tie Shaped Slot

Huiling Jiang* and Keizo Cho

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A Unidirectional Antenna Using a Probe Excited Concentric Circular Ring above the Reflector

Souphanna Vongsack¹, Chuwong Phongcharoenpanich^{1,*}, Sompol Kosulvit¹ and Toshio Wakabayashi²

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Tea Break

15:10 – 15:30 hrs

Session: [SA2] Adaptive and Smart Antennas & Active Antennas

Time: 15:30 – 17:10 hrs

Room: Lavender 1

Chairs: Hiroki Shoki, *Toshiba, Japan*

Mook Seng Leong, *National University of Singapore, Singapore*

Adaptive Beamforming for MIMO Space-Time Block Coding over Fast Fading Channel

¹Supawan Annanab, ¹Tetsuki Taniguchi and ¹Yoshio Karasawa

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Subband Adaptive Array for Space-Time Block Coded Multirate Multicode MIMO CDMA System

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Active and Passive Aperture Coupled Microstrip Antenna Design

M.K.A Rahim¹, Z.W Low², P.J.Soh³, A. Asrokin⁴, M.H. Jamaluddin⁵ and M.R. Ahmad⁶

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Simulation Analysis for Broadbanding of Planar Antenna with Three-Frequency Bands

Hiroyasu Matsui¹, Kazuki Miyajima², Herman Hideyuki Uchida³ and Toshio Wakabayashi^{2,*}

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Square Shaped Dual Band Active Integrated Antenna and Passive Antenna

A. Asrokin¹, M. K. A. Rahim², M. H. Jamaluddin³ and T. Masri⁴

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Session: [SB2] Slot Antennas & Time Domain Techniques
Time: 15:30 – 17:10 hrs
Room: Lavender 2
Chairs: Tasuku Teshirogi, *Anritsu Corporation, Japan*
Jacob C. Coetzee, *National University of Singapore, Singapore*

Tapered Slot Antenna for Near-Field Microwave Imaging

A. M. Abbosh and M.E. Bialkowski

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Radiation and Scattering of a Waveguide Antenna with Aperture Array

Jong W. Zeong¹, Yang H. Kim², Jiro Hirokawa¹, Hyo J. Eom² and Makoto Ando¹

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A Satellite On-Board Radial Line Slot Antenna with Honeycomb Structure

Hideki Ueda¹, Jiro Hirokawa¹, Makoto Ando¹, Yukio Kamata² and Osamu Amano^{3,*}

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Ridged Cross-Junction Power Divider for the Center Feed in a Single-Layer Slotted Waveguide Array

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Investigation of an Arbitrarily Rotated Slot on a Conducting Spherical Cavity

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Session: [SC2] Waveguides, HF Techniques & Inverse Problems

Time: 15:30 – 17:30 hrs

Room: Bergamot

Chairs: Kunio Sawaya, *Tohoku University, Japan*

Lei Zhu, *Nanyang Technological University, Singapore*

Unit-Cell Analysis of Plasma-Excitation Slotted Waveguide Arrays using Measured Electron Density and Temperature

Takuichi Hirano¹, Jiro Hirokawa² and Makoto Ando²

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A Hybrid Resonator Consisting of a Half-Wavelength Stripline Resonator and a Quarter-Wavelength Coplanar Waveguide Resonator and its Application to a Dual-Band Comb-Line Filter

Shoichi Kitazawa¹, Masahiro Geshiro², Kenta Ishimaru², Masaharu Ohashi², Hideaki Fujimoto³ and Kouji Wada⁴

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Physical Optics for Curved Surfaces in Terms of Line Integrals of Equivalent Edge Currents

Koji Yukimasa*, Tetsu Shijo, Luis Rodriguez and Makoto Ando

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Efficient Analysis of Antennas Mounted on Electrically Large Complex Platforms

Nie Xiao Chun^{1,*}, Yuan Ning¹, Gan Yeow Beng¹, Wang Chao Fu¹ and Li Le Wei²

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Microwave Imaging of Dielectric Cylinders using the Multigrid Optimization Method

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Time-reversal Operator by a Single Cylinder Under Two-dimensional Settings

Tingting Rao and Xudong Chen*

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Session: [SD2] **Mobile and Base Station Antennas, High-Power Applications & Theoretical Electromagnetics**
Time: 15:30 – 17:30 hrs
Room: Jasmine
Chairs: Femke Olyslager, *Ghent University, Belgium*
Yue Ping Zhang, *Nanyang Technological University, Singapore*

Effect of Dual Antenna Transmission on Mobile Terminal Specific Absorption Rate

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A Vertically Circular Patch Antenna with Cross Strip above Vertically Rectangular Reflector

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Performance Electromagnetic Bandgap in Core E Type Make High Frequency and Low Ripple

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Analysis of 2D Via-less Artificial Magnetic Conductors Using a Cavity Model

Yading Li and Karu P. Esselle

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A Fast FMM-PSTD Method

Yijing Fan, Ooi Ban Leong and Leong Mook Seng

Department of Electrical and Computer Engineering, National University of Singapore, Kent Ridge, Singapore 119260

Session: [POSTER]
Room: Foyer
Chairs: Wei-Bin Ewe, *Institute of High Performance Computing, Singapore*

Beam Scanning Comb-Line Antenna Loading Movable Dielectric Plate

Kazuhiro Kitatani*, Takahiko Terada and Yasuyuki Okamura**

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Experimental Investigations into Grating Lobe Suppression in Distributed Array Antennas

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Modeling in Education of Antennas

Milos Mazanek^{1*}, Pavel Hazdra^{1**}, Petr Piksa¹, Stanislav Zvánovec¹ and Rastislav Galuscak¹

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A Novel Design of Differential Phase Shifters and Baluns with Arbitrary Bandwidth using Composite Right/Left-Handed Transmission Lines (CRLHTL)

Li Hu¹, Xin Hu^{1,*} and Sailing He^{1,2}

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Experimental Evaluation of Capon's Beam Former Applied to a Non-uniformly Arranged Distributed Array

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Calculation Approach of Effective Permittivity at the Interface of Dielectric Media in FDTD

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Improvement of Accuracy of Fixed Point Arithmetic FDTD Method

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2×2 MIMO Testbed Employing a Semi-Blind Channel Estimation

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Gain Incremental Binomial Array Antenna with Ground Embedded Ring-Sector Slots

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A High-Performance Five-Band Handset Antenna Using a Dielectric Feed

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Technical Analysis for Sharing Frequency Spectrum

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Maximum Transmission Through Slits in Adjacent Parallel Conducting Plates

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Analysis of Mutual Coupling, Correlations, and TARC in MIMO Antenna Array

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Model-Based Inversion of 2-D Scattering Problems

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Numerical Investigation of Effects of Wall Reflection on Indoor MIMO Channel Capacity

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Light Scattering by a Chain of Electrically Small Plasmonic Particles

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Application of Quasi-Static Approximation Technique for Dipole Antenna Analysis to Bioelectromagnetic Problems

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Feasibility Analysis about RCS Reduction Effect to apply RAM on Submarine

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Analogue Phase-Shifter Employing Fluid-Filled Connected Micro-Cavities

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Electromagnetic Scattering Properties in a Multilayered Metamaterial Cylinder

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A Design of Unilateral Microwave Transistor Amplifiers in the CCITL System

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