

FINAL PROGRAM

Oct. 30		
WORKSHOP		Oct. 30, 14:00 - 17:00
1	Characteristic Mode and Characteristic Basis Analyses of Real World Antenna Design Problems	Prof. Raj Mittra University of Central Florida, USA, and KAU, Saudi Arabia
2	Multi-Gbps Massive MIMO for 5G Mobile Devices and MIMO System Performance Verification	Prof. Kin-Lu Wong National Sun Yat-sen University, Taiwan
3	Use of EM Beams for the Efficient Simulation of Antenna and Scattering Problems	Prof. Prabhakar Pathak The Ohio State University, and University of South Florida, USA
4	Satellite Communication Antennas: Challenges for Next Generation Payloads	Dr. Sudhakar Rao Northrop Grumman, USA
IEICE PUBLICATION ACTIVITY SESSION		Oct. 30, 17:00 - 18:00, ROOM: DALAH 1
1	Lecture on Writing, Submission, and Revision of Technical Papers	Prof. Mitoshi Fujimoto University of Fukui, Japan
Oct. 31		
IA1	OPENING CEREMONY	Oct. 31, 08:30 - 09:40, ROOM: ORCHID
IA2	PLENARY SESSION	Oct. 31, 09:40 - 12:00, ROOM: ORCHID
		CHAIR: ASSOC. PROF. MITCHAI CHONGCHEAWCHAMNAN
1	Ultra-Wideband Arrays with Low Cost Beamforming Back-Ends	Prof. John L. Volakis The Ohio State University, USA
2	Real Challenge of Mobile Networks toward 5G: An Expectation for Antennas & Propagation	Dr. Fumio Watanabe KDDI Research Inc., Japan
3	Guidance and Radiation of Metasurface-Waves	Prof. Stefano Maci University of Siena, Italy
POS 1	POSTER SESSION 1 (AWARD)	Oct. 31, 13:00 - 14:00
		SESSION CHAIRS: ASST. PROF. SUTHASINEE LAMULTREE DR. CHATRPOL PAKASIRI
BEST PAPER AWARD FINALISTS		
1. 1033	An Experimental Study on OAM Mode-Multiplexing with Dielectric Lens fed by Uniform Circular Array	Tung Nguyen, Masashi Hirabe, Ryuji Zenkyu, Masaya Uchida, Eisaku Sasaki NEC Corporation, Japan
2. 1060	Compact Antenna for Digital Beamforming with Software Defined Radios	Adam Narbudowicz ¹ , Marek Plotka ² , Lukasz Kulas ² , Krzysztof Nyka ² , Mateusz Rzymowski ² , Max J Ammann ¹ ¹ Dublin Institute of Technology, Ireland ² Gdansk University of Technology, Poland
3. 1063	Electrically Small, Low Profile, Broadside Radiating LP and CP Huygens Dipole Antennas	Wei Lin ¹ , Richard W. Ziolkowski ¹ , Ming-Chun Tang ² ¹ University of Technology Sydney, Australia ² Chongqing University, China
4. 1115	Ultra-High Resolution (0.05 m) SAR Image Formation Processing	Xinhua Mao, Xueli He, Lan Ding, Danqi Li, and He Yan Nanjing University of Aeronautics and Astronautics, China
5. 1180	A Study on Antenna Arrangement Optimization of Massive MIMO	Kiyoaki Itoi, Masanao Sasaki, Hiroaki Nakabayashi Chiba Institute of Technology, Japan
6. 1217	Multiple-Access Coding Technique for Focal Plane Array LIDAR	Fan Xu, Daiyin Zhu, He Yan Nanjing University of Aeronautics and Astronautics, China
7. 1281	A Compound Reconfigurable Microstrip Antenna with Agile Polarizations and Steerable Beams	Pei-Yuan Qin, Shu-Lin Chen, Y. Jay Guo University of Technology Sydney, Australia
8. 1345	Microstrip Antenna with CSRR Ground Structure	Murtala Aminu-Baba, Mohammad Kamal A Rahim, Farid Zubir, Mohd Fairus Mohd Yusoff, and Abdulkadir Bello Shallah Universiti Teknologi Malaysia, Malaysia
9. 1365	Investigation of a Ka-Band Luneburg Lens Made of a Glide-Symmetric Hole Structure	Astrid Algaba Brazalez ¹ , Jingwei Miao ² , Lars Manholm ¹ , Martin Johansson ¹ , Oscar Quevedo-Teruel ² ¹ Ericsson AB, Sweden ² KTH Royal Institute of Technology, Sweden

10. 1376	Dipole Antenna with Sheath-Cover For Seawater Use	Hiroyasu Sato ¹ , Naomichi Fuji ¹ , Qiang Chen ¹ , Nozomu Ishii ² , Masaharu Takahashi ³ , Ryotaro Suga ⁴ , Koichi Uesaka ⁴ , and Hiroshi Yoshida ⁴ ¹ Tohoku University, Japan ² Chiba University, Japan ³ Niigata University, Japan ⁴ Japan Agency for Marine-Earth Science and Technology, Japan
11. 1383	Optical Fiber Connected Passive Primary Surveillance Radar Using Two Receiver Units	Junichi Honda, Masato Watanabe, Takuya Otsuyama Electronic Navigation Research Institute, Japan
12. 1431	Design of Antenna Reflector Using Two Layer Frequency Selective Surfaces for Directivity Enhancement in UWB Application	Pansamon Singsura, Tanan Hongnara, Wanwisa Thaiwirot, and Prayoot Akkaraekthalin King Mongkut's University of Technology North Bangkok, Thailand
13. 1487	Magnetic Resonance Compatible Head Implantable Sensing Antenna with Three-Dimensional Structure	Ahmed Toaha Mobashsher, Amin Abbosh The University of Queensland, Australia
14. 1529	Design of Frequency Selective Surface Reflector Using Interdigital Slot and Application for LTE	Pongsathorn Chomtong, Suwaluck Meesomklin, and Prayoot Akkaraekthalin King Mongkut's University of Technology North Bangkok, Thailand
15. 1533	Artificial Magnetic Conductor for Low-Profile and Human-Friendly IoT Antenna	Pornanong Pongpaibool ¹ , Takuji Arima ² , Toru Uno ² ¹ National Electronics and Computer Technology Center, Thailand ² Tokyo University of Agriculture and Technology, Thailand
STUDENT PAPER AWARD FINALISTS		
1. 1080	Localization Method Using Received Signal Strength for Wireless Power Transmission of Capsule Endoscope	Daijiro Hiyoshi, Masaharu Takahashi Chiba University, Japan
2. 1111	Reflectarray Antenna Constructed by Arranging Double Omega-Shaped Resonant Elements with Mirror Image for Circular-Polarization Conversion	Shusuke Sasaki, Teruki Murayama, Daichi Higashi, Hiroyuki Deguchi, Mikio Tsuji Doshisha University, Japan
3. 1196	MM-Wave Phased Array Antenna for Whole-Metal-Covered 5G Mobile Phone Applications	Jihoon Bang, Youngtaek Hong, Jaehoon Choi Hanyang University, Korea
4. 1210	A Hand Gesture Recognition System Based on 24 GHz Radars	Shengchang Lan, Zonglong He, Haoyu Tang, Kai Yao, Wenshuang Yuan Harbin Institute of Technology, China
5. 1308	Ku-Band Car-Borne FMCW Stripmap Synthetic Aperture Radar	Dae-Hwan Jung, Seong-Ook Park Korea Advanced Institute of Science and Technology, Korea
6. 1311	28/38 GHz Dual Band Slotted Patch Antenna with Proximity-Coupled Feed for 5G Communication	Mohamad Khairani Mohamed Amin, Mohd Fais Mansor, Norbahiah Misran, Mohammad Tariqul Islam Universiti Kebangsaan Malaysia (UKM), Malaysia
7. 1352	Performance Improvement of MIMO Radar Using Transmission Beam and Code Diversity	Sota Iwase ¹ , Nobuyoshi Kikuma ² , Kunio Sakakibara ² ¹ Electrical and Mechanical Engineering, Nagoya Institute of Technology, Japan ² Nagoya Institute of Technology, Japan
8. 1357	Far-Field Estimation of Antenna above the Earth Using Hemispherical Source Reconstruction	Yoshiki Sugimoto, Hiroyuki Arai Yokohama National University, Japan
9. 1382	DOA Estimation of Desired Signals Using Radio Holography and Signal Cyclostationarity	Yuto Nakajima, Nobuyoshi Kikuma, Kunio Sakakibara Nagoya Institute of Technology, Japan
10. 1430	Heuristic UTD Corner and Slope Diffractions for Antenna Problem	Awika Pimpatang ¹ , Titipong Lertwiriaprapa ¹ , Chuwong Pongcharoenpanich ² ¹ King Mongkut's University of Technology North Bangkok, Thailand ² King Mongkut's Institute of Technology Ladkrabang, Thailand
11. 1458	A Low-Profile Metamaterial Magneto-Electric Dipole Antenna With Band-Notch Characteristics for 5-G MIMO Base-Stations	Jiexin Lai ¹ , Botao Feng ¹ , Qingsheng Zeng ^{2,3} , Kwok L. Chung ⁴ ¹ Shenzhen University, China ² Shanxi University, China ³ University of Ottawa, Canada ⁴ Qingdao University of Technology, China
12. 1471	An E-Band Antenna-Diplexer Compact Integrated Solution Based on Gap Waveguide Technology	Abbas Vosough ¹ , Milad Sharifi Sorkherizi ² , Ashraf Uz Zaman ¹ , Jian Yang ¹ , Ahmed A. Kishk ² ¹ Chalmers University of Technology, Sweden ² Concordia University, Canada
13. 1480	Gain Enhancement of Millimeter Wave Antenna with Metamaterial Loading	Zamir Wani, Mahesh P Abegaonkar, Shibani K Koul Indian Institute of Technology Delhi, India
14. 1493	A-Low-Profile Unidirectional Beam Antenna Using Dogbone Structure	Tohko Nishiyama, Takeshi Fukusako Kumamoto University, Japan

15. 1503	Waveguide-Type Transmitarray Antennas with a Concave Surface Profile Analogous to Rotman Lens for Spatial Feeding to Radiate Collinear Multi-Beams	Zong-Chen Tsai, Hsi-Tseng Chou National Taiwan University, Taiwan
16. 1513	A High-Gain High-Efficiency Corporate-Fed Slot Array Antenna directly Fed by Ridge Gap Waveguide at 60-GHz	Jinlin Liu, Abbas Vosoogh, Ashraf Uz Zaman, Jian Yang Chalmers University of Technology, Sweden
REGULAR POSTERS		
1. 1039	Low Profile Wideband Planar AMC Surface for X-Band Applications	Qi Liu China Electronics Technology Group Corporation No.38 Research Institute, China
2. 1057	Performance Evaluation of TDD-SVD-MIMO System with Feedback Delays	Fumito Ito, Fumiki Uzawa, Kazuhiko Mitsuyama, Naohiko Iai Japan Broadcasting Corporation (NHK), Japan
3. 1066	A Novel Design Method for Miniaturizing FSS Based on Theory of Meta-materials	Go Itami, Yohei Toriumi, Yoshiharu Akiyama NTT Network Technology Laboratories, Japan
4. 1085	Broadband Carpet Cloak Consisting of Reflectarray with the Ω -Shaped Elements	Yuki Fujimoto, Hiroyuki Deguchi, Mikio Tsuji Doshisha University, Japan
5. 1097	Numerical Studies of Mixed Compact Stencils for Two-Dimensional Helmholtz Equation with Circular Interface	Chun-Yuan Fan, Sin-Yuan Mu, Hung-Wen Chang National Sun Yat-sen University, Taiwan
6. 1109	A Closely Located Dual-Band FSS with Frequency Stability for Multi-Frequency Communication	Nan-Nan Wang ¹ , Tian-Yao Du ¹ , Jun-Xiu Liu ¹ , Bing-Xu Zhao ² ¹ Harbin Institute of Technology, China ² Aerospace Hiwing (Harbin) Titanium Industry Co., Ltd., China
7. 1110	Maltese-Cross Slot-Array Type Frequency Selective Surface for a Submillimeter-Wave Band	Takeshi Manabe ¹ , Satoshi Ochiai ² , Toshiyuki Nishibori ³ , Ken-ichi Kikuchi ⁴ ¹ Osaka Prefecture University, Japan ² National Institute of Information and Communications Technology, Japan ³ Japan Aerospace Exploration Agency, Japan ⁴ National Astronomical Observatory of Japan, Japan
8. 1112	Triple Band Textile Antenna Using Split Annular Ring	Warangkana Chaihongsra, Chuwong Phongcharoenpanich King Mongkut's Institute of Technology Ladkrabang, Thailand
9. 1176	Evaluation of Field Strength Distribution by Modified Edge Representation (MER) in Compact Range Communication with Shadowing Objects	T. Ruckkwaen ¹ , M. Ando ¹ , T. Tomura ¹ , J. Hirokawa ¹ , M. Ali ² ¹ Tokyo Institute of Technology, Japan ² University of Central Florida, USA
10. 1313	Square Loop Frequency Selective Surface with Wide-Passband Properties Using Multi-Period Structures	Ma Xin, Wan Guo Bin, Shen Jing, Mu Yi Fei, Tang Xu Ying Northwestern Polytechnical University, China
11. 1366	Calculation of Residue Error in FDTD Method for Numerical Dosimetry	Jerdvisanop Chakarothai, Kanako Wake, Soichi Watanabe National Institute of Information and Communications Technology, Japan
12. 1391	High-Frequency Asymptotic Solution of Scattering Field by Three-Layered Dielectric Slab for Accurate Propagation Analysis	Ryoichi Sato ¹ , Hiroshi Shirai ² ¹ Niigata University, Japan ² Chuo University, Japan
13. 1446	A Study for Radar Absorbent Material Composed of Dielectric Materials Considering Frequency Dependency	Yuka Ishii, Jun Abiru, Naobumi Michishita, Hisashi Morishita National Defense Academy, Japan
14. 1494	Multi-Frequency Printed Microwave Absorber with Adjacent Absorption Peaks by Dual-Layer Technique	Ekajit Khoomwong ¹ , Chuwong Phongcharoenpanich ² ¹ Rajamangala University of Technology Isan, Thailand ² King Mongkut's Institute of Technology Ladkrabang, Thailand
15. 1539	Development of Compact SLR BPF with Cross-Shaped I/O Coupling	Achmad Munir ¹ , E Edwar ² ¹ Institut Teknologi Bandung, Indonesia ² Telkom University, Indonesia
16. 1554	Dual-Polarized Circular Ring Antenna with Short Pin	Panisa Keowsawat ¹ , Rachen Kanahna ¹ , Chuwong Phongcharoenpanich ² ¹ Phetchaburi Rajabhat University, Thailand ² King Mongkut's Institute of Technology Ladkrabang, Thailand
17. 1555	Detection of the Impure Palmyra Juice Using Short-Time Matrix Pencil Method	Tanawut Tantisoparak Phetchaburi Rajabhat University, Thailand
IA3	SPECIAL SESSION: MODELING ANTENNA-PLATFORM INTEGRATION USING RAY, OR HYBRID, OR CHARACTERISTIC MODE THEORIES I	OCT. 31, 14:00 - 15:40, ROOM: ORCHID SESSION CHAIR: PROF. PRABHAKAR PATHAK
1. 1212	Design of Chassis MIMO Antenna Using Characteristic Mode Theory (Invited)	Dong-woo Kim, Sangwook Nam Seoul National University, Korea
2. 1546	A Reverse Operation Self-consistent Evaluation Approach for Evaluating Singular Integrals in Method of Moments (Invited)	Yongpin Chen ¹ , Xuezhe Tian ² , Shao-Xin Peng ² , Kheng Hwee Lim ² , Jin-Fa Lee ² ¹ University of Electronic Science and Technology of China, China ² The Ohio State University, United States

3. 1542	Adiabatic Floquet Wave Modes for Metasurface Antenna Design	Gabriele Minatti, Francesco Caminita, Enrica Martini, Stefano Maci University of Siena, Italy
I B3 ANTENNAS FOR MOBILE AND WIRELESS APPLICATIONS I		OCT. 31, 14:00 - 15:40, ROOM: DALAH 1 SESSION CHAIRS: PROF. JAEHOON CHOI DR. PORNANONG PONGPAIBOOL
1. 1132	Compact Directive Array Antenna Design for UAV Application	Tsai-Yun Chuang ¹ , Wen-Jiao Liao ¹ , Tzyh-Ghuang Ma ¹ , Yumin Lee ² , Min-Chen Ho ² ¹ National Taiwan University of Science and Technology, Taiwan ² ITE Technologies, Inc., Taiwan
2. 1196	MM-Wave Phased Array Antenna for Whole-Metal-Covered 5G Mobile Phone Applications	Jihoon Bang, Youngtaek Hong, Jaehoon Choi Hanyang University, Korea
3. 1265	A Switch-Beam Circular Array Antenna Using Pattern Reconfigurable Yagi-Uda Antenna for Space Communications	Phaisan Ngamjanyaporn ¹ , Chainarong Kittiyanyunya ² , Monai Krairiksh ² ¹ Rangsit University, Thailand ² King Mongkut's Institute of Technology Ladkrabang, Thailand
4. 1327	Simulation and Analysis of an X-Band Low Sidelobe and High Gain Microstrip Antenna Array	Liu Lu, Lin Shu, Wang Jun, Liu Shoulan, Yang Caitian, Alexander Denisov Harbin Institute of Technology, China
5. 1410	High Gain Spherical Dielectric Resonator Antenna Using Higher-Order Resonant Mode	ByungKwon Ahn, Tae-Dong Yeo, Soo-Chang Chae, Jong-Won Yu Korea Advanced Institute of Science and Technology, Korea
I C3 EURAAP SPECIAL SESSION: ANTENNAS FOR EMERGING SATELLITE AND SPACE TECHNOLOGY		OCT. 31, 14:00 - 15:40, ROOM: DALAH 2 SESSION CHAIRS: DR. ELENA SAENZ DR. ADAM NARBUDOWICZ
1. 1476	Measurements of the 664 GHz Feed Horn for the ICI Instrument of the MetOp-SG Satellite (Invited)	Elena Saenz ¹ , Maurice Paquay ¹ , Luis Rolo ¹ , Eric van der Houwen ¹ , Przemyslaw Radzik ¹ , Peter de Maagt ¹ , Ulf Klein ¹ , Guido Sonnabend ² , David Marote Alvarez ³ ¹ European Space Agency (ESA/ESTEC), Netherlands ² RPG Radiometer Physics GmbH, Germany ³ Airbus Defence and Space, Spain
2. 1275	Multi-Layer Planar Ka-Band Satellite Receive Antenna with Integrated LNA	Wasim Alshrafi, Ralf Wilke, Dirk Heberling RWTH Aachen University, Germany
3. 1169	Polynomial Chaos Expansion as a Tool to Quantify the Performance of the GeReLEO-SMART Satellite Antenna under Uncertainty	Ralf Wilke, Jamal Slim, Wasim Alshrafi, Dirk Heberling RWTH Aachen University, Germany
4. 1482	3.5 THz Dual Feedhorn Quantum Cascade Laser: A Step Towards Achieving a Frequency Stable Supra-THz Heterodyne Local Oscillator	B. Ellison ¹ , T. Rawlings ¹ , N. Brewster ¹ , M. L. Oldfield ¹ , A. Valavanis ² , Y. Han ² , E. H. Linfield ² , A. G. Davies ² , E. Saenz ³ ¹ Rutherford Appleton Laboratory, United Kingdom ² University of Leeds, United Kingdom ³ European Space Agency, The Netherlands
I D3 MIMO ANTENNAS AND APPLICATIONS		OCT. 31, 14:00 - 15:40, ROOM: DALAH 3 SESSION CHAIRS: ASSOC. PROF. MASAHARU TAKAHASHI DR. CHATCHAI CHOKCHAI
1. 1031	A Decoupling Method for Closely MIMO Antennas by Using a Short Stub	Takuya Miyasaka ¹ , Masaharu Takahashi ¹ , Hiroshi Sato ² ¹ Chiba University, Japan ² Panasonic Corporation, Japan
2. 1180	A Study on Antenna Arrangement Optimization of Massive MIMO	Kiyoaki Itoi, Masanao Sasaki, Hiroaki Nakabayashi Chiba Institute of Technology, Japan
3. 1234	Experimental Study of Antenna Selection Methods in Distributed Uplink MU-MIMO	Soichi Ito ¹ , Sho Yoshida ¹ , Kentaro Nishimori ¹ , Tomoki Murakami ² , Koichi Ishihara ² , Yasushi Takatori ² ¹ Niigata University, Japan ² Nippon Telegraph and Telephone Corporation, Japan
4. 1393	Monopole Decagon Fractal Patch Resonator with Defected Ground Plane for WLAN MIMO Antenna	Chatchai Chokchai ¹ , Nattapong Duangrit ² , Prayoot Akkarackthalin ² ¹ Rajamangala University of Technology Thanyaburi, Thailand ² King Mongkut's University of Technology North Bangkok, Thailand
5. 1522	Compact Printed UWB MIMO Antenna with Pattern Diversity Characteristic for Portable Devices	Deepika Sipal, Mahesh P. Abegaonkar, Shibani K. Koul Indian Institute of Technology Delhi, India
I E3 SPECIAL SESSION: ADDITIVE MANUFACTURING: A NEW PLATFORM FOR WIRELESS SENSING AND COMMUNICATION		OCT. 31, 14:00 - 15:40, ROOM: BU-NGA SESSION CHAIRS: ASSOC. PROF. ATIF SHAMIM DR. PANUWAT JANPUGDEE
1. 1071	3D-Printed Graphene and Stretchable Antennas for Wearable RFID Applications	Han He, Mitra Akbari, Lauri Sydänheimo, Leena Ukkonen, Johanna Virkki Tampere University of Technology, Finland

2. 1151	3D Printed System-on-Package (SoP) for Environmental Sensing and Localization Applications	Su Zhen, Rana Muhammad Bilal, Atif Shamim King Abdullah University of Science and Technology, Saudi Arabia
3. 1440	A Novel Investigation on the Influence of the Roughness of 3D Printed Structure on the Performance of Microwave Devices	Hossein Saghlatoon, Rashid Mirzavand, Mohammad Mahdi Honari, Pedram Mousavi University of Alberta, Canada
4. 1208	A 3-D Printed Lightweight Cavity-Backed Mono-Cone Antenna	Seongkyu Lee, Jaehoon Choi Hanyang University, Korea
5. 1359	Flexible Printed Antenna for Digital TV Reception	Teerapong Pratumsiri, Panuwat Janpugdee Chulalongkorn University, Thailand
I A4	SPECIAL SESSION: MODELING ANTENNA-PLATFORM INTEGRATION USING RAY, OR HYBRID, OR CHARACTERISTIC MODE THEORIES II	OCT. 31, 16:00 - 18:00, ROOM: ORCHID SESSION CHAIRS: PROF. PRABHAKAR PATHAK DR. PANUWAT JANPUGDEE
1. 1552	Antenna Placement on Complex Platforms by Using Characteristic Mode Analysis and Characteristic Basis Function Technique	Raj Mittra ¹ , Ashwani Kumar ² ¹ University of Central Florida, USA and KAU, Saudi Arabia ² Delhi University, India and University of Central Florida, USA
2. 1361	Characteristic Discussion of Discrete-Time Uniform Geometrical Theory of Diffraction for PEC Wedge Diffraction Problems	Hsi-Tseng Chou National Taiwan University, Taiwan
3. 1504	A Collective UTD Ray Solution for the Radiation from Conformal Linear Antenna Arrays on a Large Cylinder	Panuwat Janpugdee ¹ , Prabhakar H. Pathak ² ¹ Chulalongkorn University, Thailand ² The Ohio State University, USA
4. 1527	Modeling Small Antennas on Large Convex Metallic Surfaces with a Very Thin Uniform Material Coating	Kittisak Phaebuga ¹ , Prabhakar H. Pathak ² ¹ King Mongkut's University of Technology North Bangkok, Thailand ² The Ohio State University, USA
5. 1445	Characteristic Mode Analysis for Small Handset Antenna	Naoki Akiyama ¹ , Naobumi Michishita ¹ , Hiroshi Satoh ² , Yoshio Koyanagi ² , Hisashi Morishita ¹ ¹ National Defense Academy, Japan ² Panasonic Corporation, Japan
6. 1475	H-Plane SIW Horn Antenna made of Textile for Millimeter-Wave WBAN Application	Sungjoon Yoon, Jaehoon Choi Hanyang, Korea
I B4	ANTENNAS FOR MOBILE AND WIRELESS APPLICATIONS II	OCT. 31, 16:00 - 18:00, ROOM: DALAH 1 SESSION CHAIRS: PROF. ACHMAD MUNIR ASST. PROF. SUTHASINEE LAMULTREE
1. 1244	Effect of Configuration of MIMO Base Station Antenna on Cannel Capacity in Street Cell Environment	Tsukasa Matsuta ¹ , Toshikazu Hori ¹ , Mitoshi Fujimoto ¹ , Koshiro Kitao ² , Tetsuro Imai ² ¹ University of Fukui, Japan ² DOCOMO R&D Center, NTT DOCOMO, INC., Japan
2. 1307	LHCP X-Band Printed Antenna with Ellipse-Shaped Truncation for Microsatellite Data Communication	Farohaji Kurniawan ¹ , Josaphat Tetuko Sri Sumantyo ¹ , M Muijtahid ² , Jaehoon Choi ³ ¹ Chiba University, Japan ² National Institute of Aeronautics and Space, Japan ³ Institut Teknologi Bandung, Indonesia
3. 1423	Bandwidth Enlargement of Lamda/4 Monopole above Ground Plane with Metallic Holes Structure	Rapin Kudpik, Piyaphorn Meesawad, Rangsan Wongsan Suranaree University of Technology, Thailand
4. 1469	Beam Reconfigurable Antenna Using Switchable Parasitic Elements for V2V applications	Sungpeel Kim, Dogu Kang, Jaehoon Choi Hanyang University, Korea
5. 1526	Exponential Horn Antenna Excited by Circular Ring for Bridging Outdoor Wireless LAN Applications	Phairote Wounchoum ¹ , Pitchanun Wongsiritor ² , Sompol Kosolvit ³ , Chuwong Phongcharoenpanich ³ ¹ Prince of Songkla University, Thailand ² Rajamangala University of Technology Rattanakosin, Thailand ³ King Mongkut's Institute of Technology Ladkrabang, Thailand
6. 1329	Cuboid Dielectric Resonator Antenna Array Placed on # Slots for LTE Femtocell Base Stations	Aymen Dheyaa Khaleel, Mohd Fais Mansor, Norbahiah Misran, Muhammad Tariqul Islam Universiti Kebangsaan Malaysia (UKM), Malaysia
I C4	SPECIAL SESSION: ANTENNAS FOR EMERGING SATELLITE AND SPACE TECHNOLOGY	OCT. 31, 16:00 - 18:00, ROOM: DALAH 2 SESSION CHAIRS: DR. PING JACK SOH ASST. PROF. SURAMATE CHALERMWISUTKUL
1. 1556	Communication System Development of the Pioneer Thai CubeSat Project KNACKSAT	Suramate Chalermwisutkul ¹ , Kirote Arpanutud ² , Apiwat Jirawattanaphol ³ , Vasan Jantarachote ¹ ¹ King Mongkut's University of Technology North Bangkok, Thailand ² Kasetsart University, Thailand

2. 1042	A Reflectarray Antenna Design for Installation on a 3U-CubeSat	Tse Tong Chia ¹ , Tan Huat Chio ¹ , Wai Yean Lim ² , Giulio Manzoni ³ , Koen Mouthaan ⁴ ¹ National University of Singapore, Singapore ² QVista Pte Ltd, Singapore ³ microSPACE Rapid Pte Ltd, Singapore ⁴ National University of Singapore, Singapore
3. 1104	Printed Ku-Band Phased Array Designs for CubeSats	Kwok Kee Chan Chan Technologies Inc., Canada
4. 1043	Mechanical Satellite Tracking Free Distributed Array Antenna System for Satellite Base Stations	Yoshinori Suzuki, Kouhei Suzuki, Daisuke Goto, Fumihiro Yamashita, Naoki Kita NTT Corporation, Japan
5. 1172	An Automotive Stacked Ceramic Patch Antenna with an Integrated GNSS and SDARS Antenna	Soo-Chang Chae, ByungKuon Ahn, Tae-Dong Yeo, Jong-Won Yu Korea Advanced Institute of Science and Technology, Korea
6. 1427	Radio Astronomy Network and Geodesy for Development Project: The 40-m Thai National Radio Telescope	Phrudth Jaroenjittichai ¹ , Kamorn Bandudej ¹ , Pitak Kempet ¹ , Songklod Punyawarin ¹ , Dan Singwong ¹ , Pitipong Somboonpon ¹ , Saran Poshychinda ¹ , Busaba Kramer ² ¹ National Astronomical Research Institute of Thailand, Thailand ² Max Planck Institute for Radio Astronomy, Deutschland

I D4	MIMO SYSTEMS AND APPLICATIONS	OCT. 31, 16:00 - 18:00, ROOM: DALAH 3 SESSION CHAIRS: ASSOC. PROF. KENTARO NISHIMORI ASSOC. PROF. PEERAPONG UTHANSAKUL
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1. 1231	Multi-Beam Massive MIMO Using Beam Selection with Only Amplitude Control	Fumiya Muramatsu ¹ , Kentaro Nishimori ¹ , Ryotaro Taniguchi ¹ , Kazuma Ando ¹ , Takefumi Hiraguri ² ¹ Niigata University, Japan ² Nippon Institute of Technology, Japan
2. 1294	Point-to-Point 3 × 3 MIMO Performance Gains with Aperiodic Sparse Arrays in Pure LOS Channels	Andres Alayon Glazunov ¹ , Navid Amani ¹ , Carlo Bencivenni ¹ , Rob Maaskant ^{1,2} , Marianna Ivashina ¹ ¹ Chalmers University of Technology, Sweden ² Eindhoven University of Technology, Eindhoven, The Netherlands
3. 1258	Performance Evaluation of MU-MIMO THP with User Scheduling in Terms of System Capacity and Fairness	Yukiko Shimbo, Nobuhiro Hiruma, Fumiaki Machara Waseda University, Japan
4. 1390	A Study on Channel Capacity of MIMO Systems with a Receiver with Antenna Pattern Modulation	Abderrahmane Dia, Masato Saito University of the Ryukyus, Japan
5. 1204	Resolution Enhancement for MIMO Radar by Using Khatri-Rao Product Virtual Array Processing	Junpei Konishi ¹ , Suguru Ohashi ¹ , Hiroyoshi Yamada ¹ , Michiyo Hiramoto ² , Yoshio Yamaguchi ¹ ¹ Niigata University, Japan ² OKI Electric Industry Co., Ltd., Japan
6. 1500	Experimental Evaluation towards Approximate DoA Estimation Using 2 by 2 MIMO Sensor with Time Correlation of Channel Matrix	Sato Kento ¹ , Nishimori Kentaro ¹ , Honma Naoki ² , Makino Hideo ¹ ¹ Niigata University, Japan ² Iwate university, Japan

I E4	2D AND 3D PRINTED ANTENNAS AND ARRAYS	OCT. 31, 16:00 - 18:00, ROOM: BU-NGA SESSION CHAIRS: ASSOC. PROF. ATIF SHAMIM ASST. PROF. KEISUKE KONNO
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1. 1515	3D Inkjet Printed Flexible and Wearable Antenna Systems (Invited)	Atif Shamim King Abdullah University of Science and Technology, Saudi Arabia
2. 1045	A Printed Array Antenna for Multi-Layer PCB Design	Guan Chai Eu, Mohamed Mansour, Kuniaki Yoshitomi, Haruichi Kanaya Kyushu University, Japan
3. 1228	Scattering Performance of a Reflectarray Using Log-Periodic Dipole Array Element	Keisuke Konno ¹ , Hiroyasu Sato ¹ , Qiang Chen ¹ , Hiroki Itoh ² ¹ Tohoku University, Japan ² KDDI corporation, Japan
4. 1373	Concept for Low Cost CNC Machined Gain Reference Antennas	Korbinian Schraml ¹ , Dirk Heberling ¹ , Kirote Arpanutud ² , Suramate Chalermwitsukul ² ¹ RWTH Aachen University, Germany ² King Mongkut's University of Technology North Bangkok, Thailand
5. 1519	A Rectangular Patch Rectifying Antenna Array for Wireless Power Transmission Applications	Phairote Wounchoum ¹ , Pisit janpangngern ² , Khanet Pookkapund ² , Chuwong Phongcharoenpanich ² ¹ Prince of Songkla University, Thailand ² King Mongkut's Institute of Technology Ladkrabang, Thailand

Nov. 1		
2A I	SPECIAL SESSION: INVITED TALKS ON SPECIAL TOPICS I	NOV. 1, 08:00 - 09:40, ROOM: ORCHID SESSION CHAIR: PROF. PRABHAKAR PATHAK
1	Flat Optics for Surface Waves on Metasurfaces: Geometrical Optics Vs Transformation Optics (Invited)	Prof. Stefano Maci University of Siena, Italy
2	Antenna Design and Hardware Development for Various Satellite Communications Services (Invited)	Dr. Sudhakar Rao Northrop Grumman, USA
2B I	SPECIAL SESSION: RECENT DEVELOPMENTS IN RECONFIGURABLE ANTENNAS I	NOV. 1, 08:00 - 09:40, ROOM: DALAH 1 SESSION CHAIRS: PROF. RAJ MITTRA PROF. DAU-CHYRH CHANG
1. 1483	Various Kinds of Antenna and Their Applications (Invited)	Dau-Chyrh Chang Lorom Institute of New Technology, Taiwan
2. 1422	LP and CP Polarization Reconfigurable Antennas for Modern Wireless Applications	Hang Wong ¹ , Wei Lin ² , Xin Wang ³ , Mingyu Lu ⁴ ¹ City University of Hong Kong, Hong Kong ² University of Technology Sydney, Australia ³ Nanjing University of Aeronautics and Astronautics, China ⁴ West Virginia University Institute of Technology, USA
3. 1177	Wideband Circularly Polarized Antenna and Low-Cost Phase-Shifters Using Partially Transmitting Surface	Ashwani Kumar, Raj Mittra University of Central Florida, United States
4. 1060	Compact Antenna for Digital Beamforming with Software Defined Radios	Adam Narbudowicz ¹ , Marek Plotka ² , Lukasz Kulas ² , Krzysztof Nyka ² , Mateusz Rzymowski ² , Max J Ammann ¹ ¹ Dublin Institute of Technology, Ireland ² Gdansk University of Technology, Poland
2C I	SPECIAL SESSION: ANTENNA TECHNOLOGIES APPLICABLE TO 4G/5G	NOV. 1, 08:00 - 09:40, ROOM: DALAH 2 SESSION CHAIRS: PROF. HSI-TSENG CHOU DR. PORNANONG PONGPAIBOOL
1. 1395	A Ka-band Phased Array of Antennas with Parallel-Plate Parabolic Reflector Feeding Network for High Energy-Efficient Radiation	Zhi-Da Yan ¹ , Hsi-Tseng Chou ¹ , Ying-Shan Chen ² , Chia-Hung Chang ³ ¹ National Taiwan University, Taiwan ² Yuan Ze University, Taiwan ³ Feng-Chia University, Taiwan
2. 1306	Hierarchical MCU Architecture for Dynamic Phase Shifter Controls in Radiation Beamforming by Phased Array of Antennas	Hao-Ju Huang ¹ , Hsi-Tseng Chou ² ¹ Yuan Ze University, Taiwan ² National Taiwan University, Taiwan
3. 1195	Uplink BER Measurement of MIMO Full-Duplex System Using End-Fire Arranged Arrays	Shotaro Heianna ¹ , Masakuni Tsunezawa ¹ , Naoki Honma ¹ , Yoshiyuki Yamamoto ² , Kentaro Nishimori ³ ¹ Iwate University, Japan ² Tohoku University, Japan ³ Niigata University, Japan
4. 1202	Non-Linear Inter-User Interference Reduction for Multi-User Full-Duplex MIMO System	Atsuto Kawagoe ¹ , Yuta Kashino ¹ , Masakuni Tsunezawa ¹ , Naoki Honma ¹ , Nobuyasu Takemura ² ¹ Iwate University, Japan ² Nippon Institute of Technology, Japan
5. 1311	28/38 GHz Dual Band Slotted Patch Antenna with Proximity-Coupled Feed for 5G Communication	Mohamad Khairani Mohamed Amin, Mohd Fais Mansor, Norbahiah Misran, Mohammad Tariqul Islam Universiti Kebangsaan Malaysia (UKM), Malaysia
2D I	SPECIAL SESSION: METASURFACES AND THEIR APPLICATIONS FOR MICROWAVE ANTENNAS I	NOV. 1, 08:00 - 09:40, ROOM: DALAH 3 SESSION CHAIRS: PROF. KWOK L. CHUNG PROF. STEFANO MACI
1. 1450	A Low-Profile Wideband Gradient Refractive Index Lens Antenna Based on Metasurface	Quan Wei Lin, Hang Wong City University of Hong Kong, Hong Kong S.A.R.
2. 1152	A Substrate Integrated Magneto-Electric Dipole Antenna and Its 3D MIMO System with Metasurface for 5G/WiMAX/WLAN/X-Band Applications	Xinbo Chen ¹ , Botao Feng ¹ , Qingsheng Zeng ² , Kwok L. Chung ³ ¹ Shenzhen University, China ² University of Ottawa, Canada ³ Qingdao University of Technology, China
3. 1379	Low-Profile Fabry-Perot Cavity (FPC) Antenna Using Metasurface for Dual-band	Jae-Gon Lee, Jeong-Hae Lee Hongik University, Korea
4. 1289	A Study on the Use of Metasurfaces for Magnetic Resonance Imaging of Human Body Models	Kenneth Lee Ford, Steven Winata University of Sheffield, United Kingdom
5. 1296	A Study into the PIN Diode-Based Active Metasurface for Beam Steering Applications	Kwok L. Chung ¹ , Haiyan Tian ² , Chuanwang Song ¹ , Chunwei Zhang ¹ ¹ Qingdao University of Technology, China ² Beijing University of Aeronautics and Astronautics, China

2E1 INDOOR AND MOBILE PROPAGATION		Nov. 1, 08:00 - 09:40, Room: BU-NGA SESSION CHAIRS: ASSOC. PROF. KENTARO NISHIMORI ASSOC. PROF. CHUWONG PHONGCHAROENPANICH
1. 1064	Improvement of Radio Propagation Estimation Accuracy by Completing Plane-Based 3D Models Obtained with Depth Sensors	Takahiro Hashimoto ¹ , Yoshio Inasawa ¹ , Takayuki Nakanishi ¹ , Naofumi Yoneda ¹ , Yuichi Taguchi ² , Kiyotaka Watanabe ¹ ¹ Mitsubishi Electric Corporation, Japan ² Mitsubishi Electric Research Laboratories (MERL), Japan
2. 1139	Spatial Electric Field Distribution Near the Base Station Antenna Using Ray Tracing	DukSoo Kwon, Ae-Kyoung Lee, Hyung-Do Choi Electronics and Telecommunications Research Institute, Korea
3. 1225	Study on Propagation Channel Characteristics at 20-GHz Band for Outdoor Small Cell	Ngochao Tran ¹ , Tetsuro Imai ¹ , Koshiro Kitao ¹ , Yukihiko Okumura ¹ , Ryotaro Taniguchi ² , Kentaro Nishimori ² ¹ NTT DOCOMO, INC., Japan ² Niigata University, Japan
4. 1370	A Study on Channel Characteristics of Massive MIMO in Urban Street Environments	Shun Kanda, Tokio Taga Kwansei Gakuin University, Japan
5. 1181	Diffuse Scattering Prediction for 26 GHz Band in Indoor Office Environments	Minoru Inomata, Motoharu Sasaki, Mitsuki Nakamura, Yasushi Takatori NTT Corporation, Japan
2A2 SPECIAL SESSION: INVITED TALKS ON SPECIAL TOPICS II		Nov. 1, 10:00 - 12:00, Room: ORCHID SESSION CHAIR: PROF. PRABHAKAR PATHAK
1	Physics and Mathematics of Electromagnetic Wave Propagation in Cellular Wireless Communication (Invited)	Prof. Tapan Sarkar Syracuse University, USA
2	Dual-band Beam-scanning Reflectometer (Invited)	Prof. Monai Krairiksh King Mongkut's Institute of Technology Ladkrabang, Thailand
2B2 SPECIAL SESSION: RECENT DEVELOPMENTS IN RECONFIGURABLE ANTENNAS II		Nov. 1, 10:00 - 12:00, Room: DALAH 1 SESSION CHAIRS: PROF. RAJ MITTRA DR. PEIYUAN QIN
1. 1281	A Compound Reconfigurable Microstrip Antenna with Agile Polarizations and Steerable Beams	Pei-Yuan Qin, Shu-Lin Chen, Y. Jay Guo University of Technology Sydney, Australia
2. 1147	A Reconfigurable Yagi-Uda Antenna Using EGaIn Liquid Metal	Zhang He, Zong Hua, Li Hongmei, Shaowei Fan, Lin Shu, Alexander Denisov Harbin Institute of Technology, China
3. 1341	A Tunable Inverted-L Antenna (TILA) for LTE Mobile Terminals	Surentiran Padmanathan, Azremi Abdullah Al-Hadi, Soh Ping Jack, Mohd Faizal Jamlos Universiti Malaysia Perlis (UniMAP), Malaysia
4. 1496	Hexagonal Monopole Antenna with Reconfigurability between UWB and Band Notched UWB	Dinesh Yadav ¹ , Mahesh P. Abegaonkar ² , Shibani K. Koul ² , Vivekanand Tiwari ¹ , Deepak Bhatnagar ³ ¹ Manipal University Jaipur, India ² Indian Institute of Technology (IIT) Delhi, India ³ University of Rajasthan, India
5. 1136	A Reconfigurable Notch Band UWB Monopole Antenna Based on the Split-Ring Resonators	Zang Zhaorui, Su Ming, Zhang Hongguang, Liu Yuanan, Zhu Kaining Beijing University of Posts and Telecommunications, China
6. 1374	Fixed-Frequency Beam-Steerable Leaky-Wave Antenna Operating Over a Wide Band	Aixin Chen, Keqi Zhao Beihang University, China
2C2 SPECIAL SESSION: 5G/MILLIMETER-WAVE ANTENNA TECHNOLOGIES		Nov. 1, 10:00 - 12:00, Room: DALAH 2 SESSION CHAIRS: PROF. SUNGTEK KAHNG PROF. PRAYOOT AKKARAEKTHALIN
1. 1245	A Flat, Broadband and High Gain Beam-Steering Antenna for 5G Communication	Muhammad Kamran Khattak, Sungtek Kahng, Muhammad Salman Khattak, Abdul Rehman, Changhyeong Lee, Dajung Park, Heejun Park Incheon National University, Korea
2. 1360	Characteristic Examination of Near-Field EM Backscattering from Ground Vehicles by Phased Array Antennas at mmW Frequencies	Hsi-Tseng Chou ¹ , Hsien-Kwei HO ² , Tsang-Pin Chang ² ¹ National Taiwan University, Taiwan ² Yuan Ze University, Taiwan
3. 1046	Toward Wide-Band Low-Loss Gap-Waveguide-Integrated Grid Amplifiers	Ahassan Aljarosha ¹ , Bart Smolders ¹ , Marianna Ivashina ² , Rob Maaskant ¹ ¹ Eindhoven University of Technology, The Netherlands ² Chalmers University of Technology, Sweden
4. 1368	Planar Antenna Array on LTCC and Rogers Substrates for 5G Applications	Rui Zhang ¹ , Xiaoliang Sun ² , José-Manuel Fernández-González ² , Manuel Sierra-Pérez ² ¹ Beijing Institute of Technology, China ² Universidad Politécnica de Madrid, Spain

5. 1226	User Effect on the Efficiency of 4-port Mobile Terminal Antenna at 28 GHz	Rizwan Khan, Azremi Abdullah Al-Hadi, Ping Jack Soh Universiti Malaysia Perlis (UniMAP), Malaysia
6. 1078	Design of a Partial-Corporate-Feed Circuit of a Waveguide Reflection-Canceling Slot Low-Sidelobe Array Antenna in the 60 GHz Band	Mikihiro Aruga, Takashi Tomura, Jiro Hirokawa Tokyo Institute of Technology, Japan
2D2	SPECIAL SESSION: METASURFACES AND THEIR APPLICATIONS FOR MICROWAVE ANTENNAS II	NOV. 1, 10:00 - 12:00, ROOM: DALAH 3 SESSION CHAIRS: PROF. KWOK L. CHUNG PROF. STEFANO MACI
1. 1160	Graphene Reflectarray That Steers Vortex THz Waves	Mengyu Wang ¹ , Xing Xu ¹ , Botao Feng ¹ , Li Deng ² ¹ Shenzhen University, China ² Beijing University of Posts and Telecommunications, China
2. 1191	A Negative Index Metamaterial Lens for Antenna Gain Enhancement	Amit Kumar Singh, Mahesh P. Abegaonkar, Shibani K. Koul Indian Institute of Technology Delhi, India
3. 1458	A Low-Profile Metamaterial Magneto-Electric Dipole Antenna with Band-Notch Characteristics for 5-G MIMO Base-Stations	Jiexin Lai ¹ , Botao Feng ¹ , Qingsheng Zeng ² , Kwok L. Chung ³ ¹ Shenzhen University, China ² University of Ottawa, Canada ³ Qingdao University of Technology, China
4. 1211	Design Method of Meta-surface for Broadband Reflected Wave Reduction	Masaru Nagata, Toshikazu Hori, Mitoshi Fujimoto University of Fukui, Japan
5. 1297	An Ultra-thin Wide-Angle Cross Polarization Conversion Metasurface with Enhanced Bandwidth	Somak Bhattacharyya Indian Institute of Technology (Banaras Hindu University) Varanasi, India
6. 1444	Bistatic RCS Reduction Characteristics of Flat and Curved Metasurfaces	Tomohiro Masaki ¹ , Yuka Ishii ¹ , Naobumi Michishita ¹ , Hisashi Morishita ¹ , Hideki Hada ² ¹ National Defense Academy, Japan ² Fujitsu Ltd., Japan
2E2	MILLIMETER-WAVE, THZ AND OPTICAL PROPAGATION	NOV. 1, 10:00 - 12:00, ROOM: BU-NGA SESSION CHAIRS: PROF. HIROYOSHI YAMADA DR. PEERAMED CHODKAVEEKITYADA
1. 1116	Wide-Angle Isolation Characteristics of Full-Duplex Image-Sensor Visible Light Communication	Tomoki Kondo, Takuya Zinda, and Wataru Chujo Meijo University, Japan
2. 1407	Propagation Characteristics of Laguerre-Gaussian Beams through Atmospheric Turbulence in Optical Wireless Communication	Aya Saito ¹ , Kayo Ogawa ² , Fumiaki Machara ¹ ¹ Waseda University, Japan ² Japan Women's University, Japan
3. 1385	Design of Waveguide to Microstrip Line Transition at 60 GHz	Prashant Mishra, Ananjan Basu, Mahesh P Abegaonkar Indian Institute of Technology Delhi, India
4. 1447	Free-Space Material Measurement of Dielectric Plate in Millimeter Frequency Range	Jin-Seob Kang ¹ , Jeong-Hwan Kim ¹ , Kwang Yong Kang ² , Dae Hwan Yoon ³ , Sung Won Park ³ ¹ Korea Research Institute of Standards and Science (KRISS), Korea ² Panoptics, Korea ³ National Radio Research Agency (RRA), Korea
5. 1240	Simple Squint Angle Compensation for SAR with Millimeter Wave Automotive Radar	Takumi Kobayashi ¹ , Hiroyoshi Yamada ¹ , Yoshio Yamaguchi ¹ , Yuuich Sugiyama ² ¹ Niigata University, Japan ² Fujitsu TEN Limited, Japan
6. 1453	Comparison of Spatial Correlation between Japan and Thailand	Peeramed Chodkaveekityada King Mongkut's Institute of Technology Ladkrabang, Thailand
POS2	POSTER SESSION II	NOV. 1, 13:00 - 14:00 SESSION CHAIRS: DR. PHUNSAK THIENNVIBOON ASST. PROF. SUTHASINEE LAMULTREE
1. 1035	High Efficiency and Broadband Design of Reflectarray and Measured Results	Kento Takeshima ¹ , Shigeru Makino ¹ , Takeshi Shiode ² , Michio Takikawa ² ¹ Kanazawa Institute of Technology, Japan ² Mitsubishi Electric Corporation, Japan
2. 1036	A Miniaturized Wideband Dual-Polarized Antenna for Base-Station Applications	Dong-Ze Zheng, Qing-Xin Chu South China University of Technology, China
3. 1073	Simple Impedance Tuning Technique for Resistive Antennas	Eonsu Noh ¹ , Kangwook Kim ¹ , Jihan Kang ² , Bobae Kim ² , Soonho Choi ² ¹ Gwangju Institute of Science and Technology, Korea ² Hanwha Systems, Korea
4. 1077	Effects of the Common Mode on Radiation Patterns of the Tapered Slot Antenna	Kuniaki Suto, Akinori Matsui Saitama Institute of Technology, Japan

5. 1090	MACKEY Type O with Dual-Band Characteristics When Changing Position of a Dipole Antenna	Ken Hirano, Shigeru Makino, Keisuke Noguchi, Tetsuo Hirota, Kenji Itoh Kanazawa Institute of Technology, Japan
6. 1124	A High Isolation Dual-Band MIMO Antenna for WLAN Application	Wen Jiang, Lijun Yang, Binbin Wang, and Shuxi Gong Xidian University, China
7. 1131	Single Layer Optically Transparent Reflectarray Based on Indium Tin Oxide	Junjie Peng, Shiwei Qu University of Electronic Science and Technology of China, China
8. 1134	A Multilayer-Stacked UWB Yagi Antenna	Kang Wan ¹ , Chao Xie ¹ , Yan Zheng ¹ , Jungang Yin ¹ , Jian Yang ² ¹ Hunan University, China ² Chalmers University of Technology, Sweden
9. 1143	Rectangular Dielectric Resonator Antennas with a Thin Graphene Film	Bohan Zhang, Wei Xia, Jiangwei Zhang, Daping He, Chengguo Liu, Zhi Wu Wuhan University of Technology, China
10. 1184	Compact Segmented Loop Antenna for UAV Applications	Do-Gu Kang, Jaehoon Choi Hanyang University, Korea
11. 1189	Specific Area Communication System using Binomial Coefficients Array	Ayano Mikunide, Mitoshi Fujimoto University of Fukui, Japan
12. 1197	A Low-Profile Spiral Termination Helical Antenna	Seung Hun Cha ¹ , Young Joong Yoon ¹ , Jiheon Ryu ² , Jin Soo Choi ² ¹ Yonsei University, Korea ² Agency for Defense Development, Korea
13. 1200	Axial Mode Helical Antenna with a Circular Parasitic Ring for Gain Enhancement	Jaeyoung Kim ¹ , Seung Hun Cha ¹ , Youngjoong Yoon ¹ , Jiheon Ryu ² , Jin Soo Choi ² ¹ Yonsei University, Korea ² Agency for Defense Development, Korea
14. 1218	A High Gain Fabry-Perot Cavity Antenna with a Double-Layered Partially Reflecting Frequency Selective Surface Structure	Kai Yao, Shengchang Lan, Lingfei Xu Harbin Institute of Technology, China
15. 1232	Blind Beamforming Method by Terminal Station for Downlink Multi-Beam Massive MIMO	Shota Ogawa ¹ , Kentaro Nishimori ¹ , Ryotaro Taniguchi ¹ , Takefumi Hiraguri ² ¹ Niigata University, Japan ² Nippon Institute of Technology, Japan
16. 1243	Ground Clutter Suppression in GPR Using Framing Based Mean Removal and Subspace Decomposition	Budiman Putra Asmaur Rohman ^{1,2} , Masahiko Nishimoto ¹ ¹ Kumamoto University, Japan ² Indonesian Institute of Sciences, Indonesia
17. 1249	Time Saving EM-Simulation Method by Using Passive Frame of DCO	Sang-Sun Yoo, Kap Rai Lee Pyeongtaek University, Korea
18. 1303	Element Pattern Prediction in Mutually-Coupled Arrays Through Isolated Antenna Characterization	Dirk Izak Leon De Villiers ¹ , Rob Maaskant ² ¹ Stellenbosch University, South Africa ² Chalmers University of Technology, Sweden
19. 1304	Dual-Band Patch Antenna Incorporated with SRR for GPS and WLAN Application	Jumail Soba, Chairunnisa, Achmad Munir Institut Teknologi Bandung, Indonesia
20. 1309	Wideband RCS Reduction of Vivaldi Antenna Using Electromagnetic Band Gap Absorbing Structure	Qian Chen, Hongtao Zhang, Xiaolin Zhang, Mouping Jin, Wei Wang East China Research Institute of Electronic Engineering, China
21. 1315	A Wideband Antenna Using Modified Magneto-Electric Curved Strip Dipole	Panhatai Saetia, Piyaporn Krachodnok, Rangsan Wongsan Suranaree University of Technology, Thailand
22. 1319	Smallest Form Factor, High Performance 2 - 18 GHz Cavity-Backed Archimedean Spiral Antenna	Asad Ali ¹ , Muhammad Hamza ² , Wasif Tanveer Khan ² ¹ Michigan State University, USA ² Lahore University of Management Sciences, Pakistan
23. 1321	A High Gain Dielectric Rod Antenna with Small Aperture and Wide Band	Shu Lin, Yu Mao, Yan-Di Bi, Lin Wang, Hao-Tian Zhang Harbin Institute of Technology, China
24. 1323	A Low-Profile Ultra-Wideband Directional Antenna	Shu Lin, Yu Mao, Yan-Di Bi, Shou-Lan Liu, Hao-Tian Zhang, Cai-Tian Yang Harbin Institute of Technology, China
25. 1344	Second Iteration of Slotted Fractal Log Periodic Dipole Antenna (LPDA)	Mohamad Kamal A Rahim, Nur Syahirah Yaziz, Farid Zubir Universiti Teknologi Malaysia (UTM), Malaysia
26. 1348	Compact Circularly Polarized S-Band Antenna for Pico-Satellites	Abdul Halim Lokman ¹ , Ping Jack Soh ¹ , Saidatul Norlyana Azemi ¹ , Mohd Faizal Jamlos ¹ , Azremi Abdullah Al-Hadi ¹ , Suramate Chalermwisutkul ² , Prayoot Akkarakethalin ² ¹ Universiti Malaysia Perlis (UniMAP), Malaysia ² King Mongkut's University of Technology North Bangkok, Thailand
27. 1372	A Novel Ultra-Wideband Quasi-Yagi Antenna for Millimeterwave Applications	Muhammad Awais, Waleed Ahmad, Hafiz Saad Khaliq, Wasif Tanveer Khan Lahore University of Management Sciences, Pakistan

28. 1403	MIMO Monopole Microstrip Antenna for LTE	Fitri Yuli Zulkifli, Nurul Muhtadin, Basari, Eko Tjipto Rahardjo Universitas Indonesia, Indonesia
29. 1414	Sleeve Antenna Composed of Two Coaxial Composite Right/Left-Handed Transmission Lines	Takatsugu Fukushima ¹ , Naobumi Michishita ¹ , Hisashi Morishita ¹ , Naoya Fujimoto ² ¹ National Defense Academy, Japan ² Hitachi Kokusai Electric Inc., Japan
30. 1416	Design of Balanced CPW-Fed L-Shaped CP Antenna	Wen-Jie Chen, Wen-Xuan Chen, Ching-Her Lee National Changhua University of Education, Taiwan
31. 1417	Array Antenna Composed of Microstrip Line Fed Inverted L Antenna Printed on Dielectric Substrate	Mitsuo Taguchi, Tsubasa Kono Nagasaki University, Japan
32. 1510	Dual Band MIMO Antenna Composed of Inverted L Elements Printed on Dielectric Substrate	Mitsuo Taguchi, Shoji Mori Nagasaki University, Japan
33. 1418	Focusing Characteristics of Near-Field Radiations from Multi-Panels of Phased Array of Antennas in Circularly Cylindrical Arrangement	Jen-Wei Liu ¹ , Hsi-Tseng Chou ¹ , Chang-Yi Liu ² , Paolo Nepa ³ ¹ National Taiwan University, Taiwan ² Yuan Ze University, Taiwan ³ University of Pisa, Italy
34. 1420	Slot Antenna Array Unit Cell Directly Fed by Inverted Microstrip Gap Waveguide	Jinlin Liu, Abbas Vosoogh, Ashraf Uz Zaman, and Jian Yang Chalmers University of Technology, Sweden
35. 1424	The Structure Tuning of Plugs-Shaped Monopole Antenna for Wireless Communication Applications	Sarin Chanramard ¹ , Watcharaphon Naktong ¹ , Panuwit Thongbor ¹ , Suwat Sakulchat ¹ , Amnoiy Ruengwaree ¹ , Apirada Namsang ² ¹ Rajamangala University of Technology Thanyaburi, Thailand ² Avionics Division, Civil Aviation Training Center, Thailand
36. 1433	Rotational Circularly Polarized Array Antenna for Mutual Coupling Reduction	Tae-Dong Yeo, Soo Chang Chae, ByungKuon Ahn, Jong-Won Yu Korea Advanced Institute of Science and Technology, Korea
37. 1449	Simulation and Analysis of an Ultra-Wideband TEM Horn Antenna with Ridge	Shu Lin, Shang Yu, Jianlin Jiao, Caitian Yang Harbin Institute of Technology, China
38. 1452	Design of Ultra-Broadband Bidirectional Ring Antenna with Superellipse Slot Using MoM-RWG	Ekajit Khoomwong, Chuwong Phongcharoenpanich King Mongkut's Institute of Technology Ladkrabang, Thailand
39. 1459	Experimental Study of Bell-Shaped Monopole Antenna with Short Stub for UWB Applications	Nobuyasu Takemura, Syunta Ichikawa Nippon Institute of Technology, Japan
40. 1461	Improvement of HF RFID Reader Performance under Metallic Environment Using Ferrite Sheet	Chatrpol Pakasiri, Kittipon Kankhunthod King Mongkut's Institute of Technology Ladkrabang, Thailand
41. 1466	High Isolation Two-Element MIMO Antenna Array Based on Embedded Meta-Material Cells	Yingsong Li ^{1,2} , Kai Yu ¹ ¹ Harbin Engineering University, China ² Chinese Academy of Sciences, China
42. 1468	A Beam-Steering Antenna Array with Improved Gain Using Butler Matrix and UC-EBG Structure	Jaehoon Choi, Guho Jeoung, Youngtaek Hong Hanyang University, Korea
43. 1470	High-Gain and Broadband Antenna Using Microstrip Combined with the Waveguide Antenna	Nuchanart Fhaphiem ¹ , Watcharaphon Naktong ¹ , Apinya Innok ¹ , Amnoiy Ruengwaree ² ¹ Rajamangala University of Technology Isan, Thailand ² Rajamangala University of Technology Thanyaburi, Thailand
44. 1474	O-Shape Monopole Antenna Structure with Etching and Impedance Matching for Digital TV System Application	Suwat Sakulchat ¹ , Sarin Chanramard ¹ , Watcharaphon Naktong ¹ , Amnoiy Ruengwaree ¹ , Apirada Namsang ² ¹ Rajamangala University of Technology Thanyaburi, Thailand ² Avionics Division, Civil Aviation Training Center, Thailand
45. 1477	Step Shape Antenna for MIMO Applications	Vinay Sharma, Madhur Deo Upadhayay, Atul Vir Singh Shiv Nadar University, India
46. 1502	The Ring Antenna with Circular Probe Feeding for MIMO Systems	Supatinee Korsing ¹ , Apinya Innok ¹ , Watcharaphon Naktong ¹ , Amnoiy Ruengwaree ² ¹ Rajamangala University of Technology Isan, Thailand ² Rajamangala University of Technology Thanyaburi, Thailand
47. 1505	A High-Gain Double Reflectors Microstrip-Fed Slot Antenna for WLAN and WiMAX Applications	Thunyawat Limpiti ¹ , Ajalawit Chantaveerod ¹ , Prapan Leekul ² ¹ Walailak University, Thailand ² Rambhai Barni Rajabhat University, Thailand
48. 1507	A Study of Dual-Fed Dual-Polarized Crossed Bowtie Antennas for Radio Astronomy Application	Rassamit Pansomboon, Pornanong Pongpaibool National Electronics and Computer Technology Center, Thailand
49. 1531	Metasurface-Backed Monopole Printed Antenna with Enhanced Bandwidth	Chairunnisa, Sutinah, Achmad Munir Institut Teknologi Bandung, Indonesia
2A3 SPECIAL SESSION: INVITED TALKS ON SPECIAL TOPICS III		NOV. 1, 14:00 – 15:40, ROOM: ORCHID SESSION CHAIR: DR. SUDHAKAR RAO
1	Challenges in Metamaterial and Metasurfaces Design for Practical Antenna Applications (Invited)	Prof. Raj Mittra ¹ , and Prof. Yiannis C. Vardaxoglou ² ¹ University of Central Florida, USA, and KAU, Saudi Arabia ² Loughborough University, United Kingdom

2	Non-conformal Numerical Methods for Computational Electromagnetics (Invited)	Prof. Jin-Fa Lee The Ohio State University, USA
2B3 TUNABLE AND RECONFIGURABLE ANTENNAS		NOV. 1, 14:00 – 15:40, ROOM: DALAH 1 SESSION CHAIRS: ASSOC. PROF. YUICHI KIMURA DR. PING JACK SOH
1. 1255	A Miniaturized Independently Tuning Dual-Band Multi-Mode Antenna Using the Postwall Slotline	Cheng Lu, Xiaoxing Yin, Shunli Li, Li Xie, Xunxun Lu Southeast University, China
2. 1185	A Frequency Reconfigurable Slot Dipole Antenna Using Surface PIN Diodes	Eon-Seok Jo ¹ , Dongho Kim ¹ , Jea Hur ² , Da-Jin Kim ² , Choong-Ki Kim ² , Yang-Kyu Choi ² , Young-Kyun Cho ³ , Cheol Ho Kim ³ , Bong Huck Park ³ , and SeokBong Hyun ³ ¹ Sejong University, Korea ² Korea Advanced Institute of Science and Technology, Korea ³ ETRI, Korea
3. 1340	A Compact Two-Port Tunable Dual-Band Spiral Antenna for MIMO Terminals	Surentiran Padmanathan, Azremi Abdullah Al-Hadi, Soh Ping Jack, Mohd Faizal Jamlos Universiti Malaysia Perlis (UniMAP), Malaysia
4. 1384	Frequency Reconfigurable Compact MIMO Antenna for WLAN application	Vijay Pundalikappa Kambali, Mahesh P Abegaonkar, Ananjan Basu Indian Institute of Technology Delhi, India
5. 1406	A Frequency-Tunable Varactor-Loaded Single-Layer Ring Microstrip Antennas Fed by an L-Probe with a Reduced Bias Circuit	Toru Ikeda, Sakuyoshi Saito, Yuichi Kimura Saitama University, Japan
2C3 MILLIMETER-WAVE, THZ AND OPTICAL ANTENNAS I		NOV. 1, 14:00 – 15:40, ROOM: DALAH 2 SESSION CHAIRS: PROF. JIRO HIROKAWA ASSOC. PROF. RARDCHAWADEE SILAPUNT
1. 1150	A W-Band Directional Radiation Antenna Loading Dielectric Sheet Based on SIW Technology	Nan-Nan Wang ¹ , Bing-Xu Zhao ¹ , Jun-Xiu Liu ² , Tian-Yao Du ¹ ¹ Harbin Institute of Technology, China ² Aerospace Hiwing (Harbin) Titanium Industry Co., Ltd., China
2. 1173	Absorber Integrated Planar Slot Array Antenna for a 120-GHz-Band Close-Proximity Wireless System	Akihiko Hirata ¹ , Jiro Hirokawa ² ¹ Chiba Institute of Technology, Japan ² Tokyo Institute of Technology, Japan
3. 1351	Plane Wave Excitation of Wide Optical Leaky Waveguide Antenna	Hiroshi Hashiguchi, Toshihiko Baba, Hiroyuki Arai Yokohama National University, Japan
4. 1471	An E-band Antenna-Diplexer Compact Integrated Solution Based on Gap Waveguide Technology	Abbas Vosoogh ¹ , Milad Sharifi Sorkherizi ² , Ashraf Uz Zaman ¹ , Jian Yang ¹ , Ahmed A. Kishk ² ¹ Chalmers University of Technology, Sweden ² Concordia University, Canada
5. 1140	Improvement of the Accuracy of the Microstrip-to-Waveguide Transition Model Using Measured Loss Tangent at 76.5 GHz	Yunsu Kang, and Kangwook Kim Gwangju Institute of Science and Technology, Korea
2D3 SPECIAL SESSION: METAMATERIAL/METASURFACE TECHNOLOGIES I		NOV. 1, 14:00 – 15:40, ROOM: DALAH 3 SESSION CHAIRS: PROF. SUNGTEK KAHNG ASSOC. PROF. RANGSAN WONGSAN
1. 1038	Beam-Steering Antennas Using Metalines	Hisamatsu Nakano, Tomoki Abe, Junji Yamauchi Hosei University, Japan
2. 1236	Small-Sized Metamaterial Feeding System Combined Polarization-Reconfigurable Antenna	Changhyeong Lee, Dajung Han, Heejun Park, Abdul Rehman, Muhammad Salman Khattak, Muhammad Kamran Khattak, Sungtek Kahng Incheon National University, Korea
3. 1284	Double Band Switchable Metamaterial Absorber Using Double Square Loop	Lili Liu, Huangyan Li, Zhifeng Jin, Qunsheng Cao, Yi Wang Nanjing University of Aeronautics and Astronautics, China
4. 1432	Enhancement of Bandwidth for a TL Resonator Based CRLH Leaky Wave Antenna	Yujiro Kushiya, Takuji Arima, Toru Uno Tokyo University of Agriculture and Technology, Japan
5. 1514	Design of Geometrical Asymmetry in Phase-Shifting Nonreciprocal CRLH Metamaterials	Tetsuya Ueda Kyoto Institute of Technology, Japan
2E3 COMPUTATIONAL ELECTROMAGNETICS		NOV. 1, 14:00 – 15:40, ROOM: BU-NGA SESSION CHAIRS: PROF. HUNG-WEN CHANG DR. PANUWAT JANPUGDEE
1. 1464	Computation of the Far Field from a Nonuniformly Spaced Antenna Elements Using a Least Square Method (Invited)	Tapan K Sarkar ¹ , Jinhwan Koh ¹ , Magdalena Salazar Palma ² ¹ Syracuse University, USA ² University Carlos III of Madrid, Spain
2. 1070	The A-DGTD Method for a Defect Dielectric Slab	Huiping Li, Yi Wang, Qunsheng Cao Nanjing University of Aeronautics and Astronautics, China

3. 1430	Heuristic UTD Corner and Slope Diffractions for Antenna Problem	Awika Pimpatang ¹ , Titipong Lertwiriaprapa ¹ , Chuwong Pongcharoenpanich ² ¹ King Mongkut's University of Technology North Bangkok, Thailand ² King Mongkut's Institute of Technology Ladkrabang, Thailand
4. 1153	Local Plane Wave Extrapolation Based Compact Transparent Boundary Conditions for the Helmholtz Equation	Hung-Wen Chang, Sin-Yuan Mu, Chun-Yuan Fan National Sun Yat-sen University, Taiwan
5. 1017	Fast Identification of Small Inhomogeneities without Diagonal Elements of MSR Matrix	Won-Kwang Park Kookmin University, Korea
2A4 SPECIAL SESSION: INVITED TALKS ON SPECIAL TOPICS IV		Nov. 1, 16:00 – 16:50, Room: ORCHID SESSION CHAIR: DR. SUDHAKAR RAO
1	Ray Methods for Predicting the Patterns of Small Antennas and Large Phased Arrays on Locally Convex Large Platforms (Invited)	Prof. Prabhakar Pathak ¹ , Dr. Kittisak Phaebua ² , and Dr. Panuwat Janpugdee ³ ¹ The Ohio State University, USA and University of South Florida, USA ² King Mongkut's University of Technology North Bangkok, Thailand ³ Chulalongkorn University, Thailand
2B4 WIRELESS POWER TRANSFER TECHNOLOGIES		Nov. 1, 16:00 – 18:00, Room: DALAH 1 SESSION CHAIRS: PROF. QIANG CHEN DR. KITTISAK PHAEBUA
1. 1448	Selective Wireless Power Transfer for Multiple Receivers by Using Magnetic Resonance Coupling	Takahiro Nakagawa ¹ , Koichi Furusato ² , Takahiro Nozaki ¹ , Toshiyuki Murakami ¹ , Takehiro Imura ³ ¹ Keio University, Japan ² The University of Tokyo (Ex-Graduate School), Japan ³ The University of Tokyo, Japan
2. 1230	A Dual-Axis Wide-Angle Rectenna Using a Triple-Feed Array Antenna	Thet Paing Phyo, Hiroshi Satow, Eisuke Nishiyama, Ichihiko Toyoda Saga University, Japan
3. 1498	5.8 GHz Rectifier Circuit for Electromagnetic Energy Harvesting System	Warayut Samakkhee, Kittisak Phaebua and Titipong Lertwiriaprapa King Mongkut's University of Technology North Bangkok, Thailand
4. 1362	A High Impedance Folded Dipole Antenna with Three Conductors for Energy Harvesting Applications	Takuya Nishio, Keisuke Noguchi, Kenji Itoh, Jiro Ida Kanazawa Institute of Technology, Japan
5. 1214	Power Control Unit for E-Class Power Oscillator of 6.78 MHz Wireless Power Transfer	Darupon Rattanaungam, Kittisak Phaebua and Titipong Lertwiriaprapa King Mongkut's University of Technology North Bangkok, Thailand
6. 1397	Study on Propagation Loss Through Human Body for Wireless Capsule Application	Yang Li, Hiroyasu Sato and Qiang Chen Tohoku University, Japan
2C4 MILLIMETER-WAVE, THZ AND OPTICAL ANTENNAS II		Nov. 1, 16:00 – 18:00, Room: DALAH 2 SESSION CHAIRS: PROF. JIAN YANG ASSOC. PROF. RARDCHAWADEE SILAPUNT
1. 1364	Millimeter Wave Frequency Scanning Antenna for Body Centric Communication	Shakti Singh Chauhan, Mahesh P. Abegonkar, Ananjan Basu Indian Institute of Technology Delhi, India
2. 1439	Aperiodic Isophoric Slotted Waveguide Antenna for Point-to-Point Communications at Ka-Band	Carlo Bencivenni ¹ , Shi Lei ² , Rob Maaskant ¹ , Marianna Ivashina ¹ ¹ Chalmers University of Technology, Sweden ² China Academy of Space Technology, China
3. 1490	Series Feeding Microstrip Patch Array Antenna Design for 77 GHz Automotive Radar	Jae-Ho Lee ¹ , Jong Min Lee ² , Keum Cheol Hwang ² ¹ Electronics and Telecommunications Research Institute, Korea ² Sungkyunkwan University, Korea
4. 1513	A High-Gain High-Efficiency Corporate-Fed Slot Array Antenna Directly Fed by Ridge Gap Waveguide at 60-GHz	Jinlin Liu, Abbas Vosoogh, Ashraf Uz Zaman, Jian Yang Chalmers University of Technology, Sweden
5. 1511	E-band Double Layer Cavity Backed Slot Array Antenna	Peiye Liu, Qihui Hu, Zhixing Chen Guangdong Shenglu Telecommunication Tech. Co. Ltd, China
6. 1155	A Stable Gain Printed Log-Periodic Dipole Antenna	Tong Cheng, Wen Jiang, and Shuxi Gong Xidian University, China
2D4 SPECIAL SESSION: METAMATERIAL/METASURFACE TECHNOLOGIES II		Nov. 1, 16:00 – 18:00, Room: DALAH 3 SESSION CHAIRS: PROF. SUNGTEK KAHNG ASST. PROF. PONGSATHORN CHOMTONG
1. 1047	Fast Design of Low Scattering Metasurface	Dan Wang, Qiang Cheng, Jie Zhao and Cheng Zhang Southeast University, China

2. 1302	Design of a Wide Band Butler Matrix in Groove Gap Waveguide Technology	Felix Julian Gutierrez Bernal ¹ , Eva Rajo-Iglesias ² ¹ University of San Buenaventura, Colombia ² University Carlos III of Madrid, Spain
3. 1472	Single/Dual Band Selectable Metamaterial Absorber	M. M. Gajibo ¹ , M. K. A. Rahim ¹ , N. A. Murad ¹ , O. Ayop ¹ , H. A. Majid ² ¹ Universiti Teknologi Malaysia, Malaysia ² Universiti Tun Hussein Onn Malaysia, Malaysia
4. 1431	Design of Antenna Reflector Using Two Layer Frequency Selective Surfaces for Directivity Enhancement in UWB Application	Pansamon Singsura, Tanan Hongnara, Wanwisa Thaiwiro, Prayoot Akkaraekthalin King Mongkut's University of Technology North Bangkok, Thailand
5. 1248	Performance Improvement of Waveguide to Coaxial Adapter by Using Split Ring Resonator and Wire Medium Structure	Peerasan Khamsalee, Piyaporn Mesawad, Rangsana Wongsan Suranaree University of Technology, Thailand
6. 1065	Noise Figure Evaluation of Metamaterial Structure Including Active Components	Toshiro Kodera Meisei University, Japan
2E4	WEARABLE DEVICE NETWORKS AND MEDICAL APPLICATIONS	NOV. 1, 16:00 – 18:00, ROOM: BU-NGA SESSION CHAIRS: PROF. SELIM SEKER ASST. PROF. SURAMATE CHALERMWISUTKUL
1	Bio-Effects of EM Environment on Human Beings (Invited)	Prof. Selim Seker Bogazici University, Turkey
2. 1488	Implantable Intracranial Pressure Monitoring Sensing Antenna with Magnetic Resonance Compatibility	Ahmed Toaha Mobashsher, Amin Abbosh The University of Queensland, Australia
3. 1080	Localization Method Using Received Signal Strength for Wireless Power Transmission of Capsule Endoscope	Daijiro Hiyoshi, Masaharu Takahashi Chiba University, Japan
4. 1216	A Wearable EEG-Based Control Network and Emergency Medical Assistance System	Kai Yao, Shengchang Lan, Chaofan Xu, Runbing Su, Xuechun Liu Harbin Institute of Technology, China
5. 1301	A Flexible Transmission Line Using Coplanar Waveguide for On-Body Links	Lan Thi Tran, Yuka Shinozaki, Hiroyuki Arai Yokohama National University, Japan
NOV. 2		
3A1	BROADBAND AND MULTIBAND ANTENNAS I	NOV. 2, 08:00 – 09:40, ROOM: ORCHID SESSION CHAIRS: PROF. PRAYOOT AKKARAETHALIN ASSOC. PROF. MANABU YAMAMOTO
1	Compact Multiband Antennas Using Coplanar Structures for Several Wireless Applications (Invited)	Prof. Prayoot Akkaraekthalin King Mongkut's University of Technology North Bangkok, Thailand
2. 1092	Design of a Wideband 6-port MIMO Antenna Using Leaf-Shaped Monopole and Notch Antennas	Jumpei Motohashi, and Manabu Yamamoto Hokkaido University, Japan
3. 1158	Dual-Band Conformal Antenna with Omnidirectional Radiation Pattern On Cylindrical Surface	Ying Suo, Yan Liu, Wei Li Harbin Institute of Technology, China
4. 1209	Compact Monopole Antenna for Bluetooth and UWB Applications	Jang Hwan Bae ¹ , Jun Gi Jeong ¹ , Young Joong Yoon ¹ , Youngwook Kim ² ¹ Yonsei University, Korea ² California State University at Fresno, Korea
3B1	SPECIAL SESSION: HIGH GAIN AND MULTI-BEAM REFLECTOR AND REFLECTARRAY ANTENNAS	NOV. 2, 08:00 – 09:40, ROOM: DALAH I SESSION CHAIRS: PROF. HSI-TSENG CHOU ASSOC. PROF. RANGSAN WONGSAN
1. 1108	Design of Dual-band Metallic Reflectarray Antenna	Nan-Nan Wang ¹ , Hsi-Tseng Chou ² , Li-Qing Wang ¹ , Mu Fang ¹ ¹ Harbin Institute of Technology, China ² National Taiwan University, Taiwan
2. 1215	Element-Staggered, Circularly Polarized Reflectarray with Linearly Polarized Feed for 5G Applications	Nan-Nan Wang ¹ , Mu Fang ¹ , Jun-Xiu Liu ² ¹ Harbin Institute of Technology, China ² Aerospace Hiwing (Harbin) Titanium Industry Co., Ltd., China
3. 1358	Design of Ellipsoidal Reflector Antennas for Near-Field RFID Applications at UHF Band	Hsi-Tseng Chou ¹ , Sheng-Ju Chou ² , Hsiang-Ting Cheng ³ , Paolo Nepa ⁴ , Li-Ruei Kuo ³ ¹ National Taiwan University, Taiwan ² Yuan Ze University, Taiwan ³ Wayu Industrial Corp. Inc., Taiwan ⁴ University of Pisa, Italy
4. 1503	Waveguide-Type Transmitarray Antennas with a Concave Surface Profile Analogous to Rotman Lens for Spatial Feeding to Radiate Collinear Multi-Beams	Zong-Chen Tsai, and Hsi-Tseng Chou National Taiwan University, Taiwan

5. 1034	Assessment of FETI DDM Methodologies for the Simulation of High Gain Ka-Band Transmit Arrays	André Barka ¹ , Sergio Matos ² , Jorge R. Costa ² , Carlos A. Fernandes ² ¹ Université Fédérale de Toulouse, France ² Instituto Universitario de Lisboa, Portugal
3C I ADAPTIVE AND SMART ANTENNAS		Nov. 2. 08:00 – 09:40. ROOM: DALAH 2 SESSION CHAIRS: PROF. MITOSHI FUJIMOTO ASST. PROF. AKKARAT BOONPOONGA
1. 1033	An Experimental Study on OAM Mode-Multiplexing with Dielectric Lens Fed by Uniform Circular Array	Tung Nguyen, Masashi Hirabe, Ryuji Zenkyu, Masaya Uchida, Eisaku Sasaki NEC Corporation, Japan
2. 1199	A Blind Signal Separation Using Eigenvector Synthesis	Takuro Mamiya, Mitoshi Fujimoto University of Fukui, Japan
3. 1402	A Study on Reactance Time Sequence for 2-Element Antenna with Periodically Variable Antenna Pattern	Hikari Tomoda, Kosei Kawano, Masato Saito University of the Ryukyus, Japan
4. 1089	Multi-beam Design Method for Reflectarray Antenna Using Aberration Theory	Yoshimi Sunaga ¹ , Kento Takeshima ¹ , Shigeru Makino ¹ , Takeshi Shiode ² , Michio Takikawa ² ¹ Kanazawa Institute of Technology, Japan ² Mitsubishi Electric Corporation, Japan
5. 1027	A Compact UHF Cross Dipole Antenna with Reconfigurable Radiation Patterns Using Passive Parasitic Elements	Jung-Nam Lee, Yongho Lee, Myung Don Kim, Tae Joong Kim Electronics and Telecommunications Research Institute, Korea
3D I IAET SPECIAL SESSION: ANTENNAS FOR MOBILE COMMUNICATIONS		Nov. 2. 08:00 – 09:40. ROOM: DALAH 3 SESSION CHAIR: DR. SHU-CHUAN CHEN
1. 1129	Switching Beam Antenna for LTE Small Cell Application	Chia-Lun Tang, Gary Chiou Auden Techno Corp., Taiwan
2. 1024	Dual-Band FPC Dipole with Pattern Reconfiguration for WiFi Application	Tsung-Wen Chiu ¹ , Yu-Lin Shih ¹ , Wen-His Lee ² , Jia-Hao Zhang ² ¹ Hongbo Wireless Communication Technology Co., Ltd., Taiwan ² National Cheng Kung University, Taiwan
3. 1087	Integration of Very-Low-Profile Slot Antenna into Notebook Metal Cover with Narrow Bezel	Saou-Wen Su ¹ , Yi-Ting Hsieh ¹ , Shu-Chuan Chen ² ¹ ASUS, Taiwan ² National Defense University, Taiwan
4. 1083	A Dual-Band LHCP Stacked Patch Antenna Array	Yueh-Lin Tsai, Chia-Ching Huang Industrial Technology Research Institute, Taiwan
3E I EMC/EMI TECHNOLOGIES		Nov. 2. 08:00 – 09:40. ROOM: BU-NGA SESSION CHAIRS: PROF. VIKASS MONEBHURRUN ASSOC. PROF. TITIPONG LERTWIRIYAPRAPA
1	Review of the Antennas and Propagation Standards	Prof. Vikass Monebhurrun EXPOSE/PIEM/GEEPS, Centralesupelec, France
2. 1130	TE-Wave Scattering and Transmission From Misaligned Dual-Metallic Grating Screens	Hyun Ho Park The University of Suwon, Korea
3. 1332	An Analysis of Signal Environment on 1030/1090 MHz Aeronautical L-band Systems	Takuya Otsuyama, Junichi Honda, Junichi Naganawa, Hiromi Miyazaki Electronic Navigation Research Institute, Japan
4. 1378	Microwave Electromagnetic Field Characteristic Evaluations in Aircrafts Containing Lossy Materials Based on Quality Factor of a Reverberation Chamber	Shunichi Futatsumori ¹ , Takashi Hikage ² ¹ Electronic Navigation Research Institute, Japan ² Hokkaido University, Japan
5. 1434	Mutual Coupling Reduction for 5 GHz PIFAs in MIMO Terminal	Che Muhammad Nor Che Isa ¹ , Azremi Abdullah Al-Hadi ¹ , Saidatul Norlyana Azemi ¹ , Muhammad Ezanuddin Abdul Aziz ¹ , Herwansyah Lago ¹ , Faizal Jamlos ¹ , Nornikman Hassan ² , Badrul Hisham Ahmad ² ¹ Universiti Malaysia Perlis (UniMAP), Malaysia ² Universiti Teknikal Malaysia Melaka (UteM), Malaysia
3A2 BROADBAND AND MULTIBAND ANTENNAS II		Nov. 2. 10:00 – 12:00. ROOM: ORCHID SESSION CHAIRS: PROF. SURYA PAL SINGH ASSOC. PROF. CHUWONG PHONGCHAROENPANICH
1. 1363	Characteristics of a Dual-Broadband Antenna with Crossed Elliptical Probes and L-Shaped Slits	Ekajit Khoomwong, Chuwong Phongcharoenpanich King Mongkut's Institute of Technology Ladkrabang, Thailand
2. 1457	Dual-Band Horizontally Polarized Sector Antenna Using Frequency Selective Reflector and Bent Dipole Element	Masato Hasegawa ¹ , Keizo Cho ¹ , Atsuya Ando ² ¹ Chiba Institute of Technology, Japan ² NTT Corporation, Japan
3. 1398	A Flower-Shaped Stub Slot Antenna with Dual Band-Notched Characteristics for UWB Applications	Wanwisa Thaiwirot, Patchadaporn Sangpet, and Prayoot Akkarakethalin King Mongkut's University of Technology North Bangkok, Thailand

4. 1523	Leaf-Shaped Log-Periodic Slot Antenna for Broadband Applications	Situ Rani Patre, S P Singh Indian Institute of Technology (Banaras Hindu University) Varanasi, India
5. 1538	A Planar Reversed Log-Periodic UHF Near-Field Antenna for RFID Application	Zijian Xing, Haotian Li Northwestern Polytechnical University, China
6. 1524	Size Reduction of Log-Periodic Dipole Array Antenna Using Folded Planar Helix Elements	Geonyeong Shin ¹ , Myeongjun Kong ¹ , Su-Hyeon Lee ¹ , Ick-Jae Yoon ¹ , and Sang-Tae Kim ² ¹ Chungnam National University, Korea ² HURA Co., Ltd., Korea
3B2	SPECIAL SESSION: ANTENNAS AND PROPAGATION IN ASEAN COMMUNITY	NOV. 2, 10:00 – 12:00, ROOM: DALAH 1 SESSION CHAIRS: PROF. MONAI KRAIRIKSH PROF. EKO TIPTO RAHARDJO
1. 1404	L-Band Propagation Measurement at Tropical Environment	Eko Tjipto Rahardjo, Diaz Reza Bhaskara, Yulianto La Elo, Catur Apriono Universitas Indonesia, Indonesia
2. 1547	Wireless Sensor Node with UHF RFID for Monitoring System	Norsaidah Muhamad Nadzir, M.K.A.Rahim, and F.Zubir Universiti Teknologi Malaysia, Malaysia
3. 1401	Complex Relative Permittivity Analysis for Monitoring Watermelon	Paiboon Yoiyod Rangsit University, Thailand
4. 1428	The Effect of Flange Connectors on the Radiation Performance of Narrow Wall Slotted Waveguide Antenna at X-Band Frequency	Moh. Amanta Kumala Sakti Lubis, Derry Permana Yusuf, Catur Apriono, Eko Tjipto Rahardjo Universitas Indonesia, Indonesia
5. 1175	Specific Absorption Rate Investigation on Multiple Antennas	Nur Ilham Aliyaa Ishak, Norhudah Seman, Muhammad Ramlee Kamarudin, Noor Asmawati Samsuri Universiti Teknologi Malaysia, Malaysia
3C2	SMALL ANTENNAS AND RF SENSORS	NOV. 2, 10:00 – 12:00, ROOM: DALAH 2 SESSION CHAIRS: PROF. RICHARD ZIOLKOWSKI DR. AHMED TOAHA MOBASHSHER
1. 1063	Electrically Small, Low Profile, Broadside Radiating LP and CP Huygens Dipole Antennas	Wei Lin ¹ , Richard W Ziolkowski ¹ , Ming-Chun Tang ² ¹ University of Technology Sydney, Australia ² Chongqing University, China
2. 1233	Miniaturization and Broadbanding of an Open Terminated Folded Inverted-L Antenna with Slits	Fumiya Osaki, Keisuke Noguchi, Shigeru Makino, Tetsuo Hirota, Kenji Itoh Kanazawa Institute of Technology, Japan
3. 1436	Comparison of Meander Line and NFRP Miniaturization Techniques for RFID On-chip Antennas	Vasan Jantarachote ¹ , Suramate Chalermwisutkul ¹ , Korbinian Schraml ² , Dirk Heberling ² ¹ King Mongkut's University of Technology North Bangkok, Thailand ² RWTH Aachen University, Thailand
4. 1487	Magnetic Resonance Compatible Head Implantable Sensing Antenna with Three-Dimensional Structure	Ahmed Toaha Mobashsher, Amin Abbosh The University of Queensland, Australia
5. 1493	A-Low-Profile Unidirectional Beam Antenna Using Dogbone Structure	Tohko Nishiyama, Takeshi Fukusako Kumamoto University, Japan
6. 1535	Impedance Effect of Elliptical Curved Surface on RFID Tag Performances	Rattapong Suwalak ¹ , Chuwong Phongcharoenpanich ² ¹ King Mongkut's Institute of Technology Ladkrabang Prince of Chumphon Campus, Thailand ² King Mongkut's Institute of Technology Ladkrabang, Thailand
3D2	SPECIAL SESSION: RECENT ADVANCES IN CIRCULARLY POLARIZED ANTENNAS	NOV. 2, 10:00 – 12:00, ROOM: DALAH 3 SESSION CHAIRS: PROF. TAKESHI FUKUSAKO ASST. PROF. PANISA KEOWSAWAT
1. 1207	Experimental Study of Double-Balanced-Multiplier Integrated Circularly Polarized Microstrip Antenna with Nonlinear Characteristics	Eisuke Nishiyama, Takahiro Ino, Ichihiko Toyoda Saga University, Japan
2. 1220	Broadband Linear to Circular Polarization Reflector Using Modified Metasurface	Koichi Furuya, Takeshi Fukusako Kumamoto University, Japan
3. 1145	A Circularly Polarized and Low-Profile Surface Wave Antenna with Bi-Directional Beam Pattern	Kittima Lertsakwimarn ¹ , Takeshi Fukusako ² ¹ King Mongkut's University of Technology North Bangkok, Thailand ² Kumamoto University, Japan
4. 1262	Circularly Polarized Single-Fed Wide-Slot Antenna for UHF RFID Reader	Pisit Janpangngern, Chuwong Phongcharoenpanich King Mongkut's Institute of Technology Ladkrabang, Thailand

5. 0004	Circularly Polarized Pyramid Dielectric Resonator Antenna with Single Aperture Fed	Beijia Liu ¹ , Jinghui Qiu ¹ , Nannan Wang ¹ , Guoqiang Li ² ¹ Harbin Institute of Technology, China ² Harbin Kejia General Mechanical and Electrical Company, China
6. 1238	A Printed Inverted-F Antenna for Circular Polarization – Part 2	Takafumi Fujimoto, Keigo Shimizu, Natsuki Onoue Nagasaki University, Japan
3E2 ACTIVE AND ON-CHIP ANTENNAS		Nov. 2. 10:00 – 12:00, Room: BU-NGA SESSION CHAIRS: PROF. JIRO HIROKAWA PROF. HOSUNG CHOO
1. 1536	Design of Implantable On-Chip Antenna for Bio-Telemetry Applications at ISM 2.45 GHz	Harshavardhan Singh, Sujit Kumar Mandal National Institute of technology Durgapur, India
2. 1356	Circuit-Electromagnetic Co-Simulation in Designing a Negative Impedance Circuit at VHF Band	Jong-Gyu Go, Jae-Young Chung Seoul National University of Science and Technology, Korea
3. 1438	Gain Measurement of 60 GHz CMOS On-Chip Dipole Antenna by Proton Irradiation	Takuichi Hirano ¹ , Ning Li ² , Takeshi Inoue ³ , Hirochika Yagi ³ , Kenichi Okada ¹ , Akira Matsuzawa ¹ ¹ Tokyo Institute of Technology, Japan ² Chuo University, Japan ³ SHI-ATEX Co., Ltd., Japan
4. 1371	Active Element Pattern and Array Pattern of Patch Array Antenna Including Ground Edge Effect	Sun-Gyu Lee, and Jeong-Hae Lee Hongik University, Korea
5. 1048	Feasibility on Multiplexing Antenna System Based on Rectangular-coordinate Orthogonality by Using Two-Dimensional 180-Degree Hybrid	Ryotaro Ohashi, Takashi Tomura, Jiro Hirokawa Tokyo Institute of Technology, Japan
6. 1250	Design of Small CRPA Arrays with Circular Loop Antennas for Frequency-Insensitive Properties	Jun Hur, Gangil Byun, Hosung Choo Hongik University, Korea
POS3 POSTER SESSION III		Nov. 2. 13:00 – 14:00 SESSION CHAIRS: DR. EKASIT NUGOOLCHAROENLAP DR. PHUNSAK THIENNVIBOON
1. 0002	Raytracing Analysis of DME Ranging Error Variation Due to Atmospheric Change	Atsushi Kezuka, Takayuki Yoshihara, Naoki Fujii Electronic Navigation Research Institute, Japan
2. 1021	Removing Phase Outliers in POA Based Landslide Monitoring Using Cumulative Residues	Takeshi Amishima, Tadashi Oshima, Tsubasa Terada, Nobuhiro Suzuki Mitsubishi Electric Corporation, Japan
3. 1029	SAR Moving Target Imaging Using Semi-Blind Two-Dimensional Autofocus Algorithm	Chenqin Wang, Xueli He, Xinhua Mao Nanjing University of Aeronautics and Astronautics, China
4. 1040	Experimental Results of Displacement Measurement on a Slope Using 920-MHz-Band Radio Waves	Tsubasa Terada, Tadashi Oshima, Takeshi Amishima, Nobuhiro Suzuki Mitsubishi Electric Corporation, Japan
5. 1049	Mode Matching/FEM Hybrid Analysis for a Short-Slot 2-Plane Coupler Considering the Structural Symmetry	Masahiro Wakasa, Dong-Hum Kim, Takashi Tomura, Jiro Hirokawa Tokyo Institute of Technology, Japan
6. 1067	Multi-Polarization Reconfigurable Omnidirectional Antenna	Changlong Qi, Yuehui Cui, RongLin Li South China University of Technology, China
7. 1068	A Simple Circularly Polarized Antenna Array for Millimeter-Wave Applications	Zhicheng Zhao, Yuehui Cui, RongLin Li South China University of Technology, China
8. 1079	Path-Loss Prediction Considering Human-Body Shadowing of Multi-Path Components in Crowded Area at 4.7 and 26.4 GHz	Mitsuki Nakamura, Motoharu Sasaki, Minoru Inomata, Yasushi Takatori NTT Corporation, Japan
9. 1095	Channel Sounding Method for Dynamic Plasma Sheath and Ground Experiment Verification	Xiaotong Liu, Lei Shi, Yanming Liu, Xiaoping Li, Bo Yao Xidian University, China
10. 1101	Metasurface Beam Splitter Based on All-Dielectric Elliptic Resonators	Ali Mohamed Yahyaoui ^{1,2} , Hatem Rmili ^{1,3} , T. Aguil ¹ , Raj Mittra ^{3,4} ¹ University of Tunis El Manar, Tunisia ² University of Jeddah, Saudi Arabia ³ King Abdulaziz University, Saudi Arabia ⁴ University of Central Florida, USA
11. 1102	Study of Integrated THz Antenna Geometries Using Metasurface for Imaging Applications	Nicolas Monnier ¹ , Jean-Alain Nicolas ¹ , Gilles Sicard ¹ , Francois Gallee ² , Michel Ney ² ¹ University Grenoble Alpes, France ² IMT Atlantique, France
12. 1126	E-Band One-Step 45° Double-Wing Gap Waveguide Twist for Waveguide WR12	Jian Yang Chalmers University of Technology, Sweden
13. 1133	An Autofocus Algorithm for Multi-Rotor UAV SAR	Wei Shen, Xueli He, Xinhua Mao, He Yan Nanjing University of Aeronautics and Astronautics, China
14. 1187	Influence of Channel Prediction Using Theoretical Autocorrelation on MIMO Capacity in Line-of-Sight Environment	Naoto Setoguchi, Hiroaki Nakabayashi, Keizo Cho Chiba Institute of Technology, Japan

15. 1190	Improvement of Object Position Estimation Accuracy Using Hyperbola and Ellipse	Takuya Iwata, Mitoshi Fujimoto, Takuro Mamiya University of Fukui, Japan
16. 1206	Evaluation of Human Body Shadowing Loss in an Indoor Environment	Yuki Ito, Kai Yoshida, Hisato Iwai, Hideichi Sasaoka Doshisha University, Japan
17. 1219	Evaluation of Vital Sign Distribution Using Array Antenna	Kazuma Kishimoto, Shinya Yonezawa, Nobuyuki Shiraki, Dai Sasakawa, Naoki Honma Iwate University, Japan
18. 1223	A Circular Polarization Antenna with Square Ring Slot Loaded on Ground Plane	Muhammad Asad Rahman, Eisuke Nishiyama, Ichihiko Toyoda Saga University, Japan
19. 1224	Evaluation of Analog OAM Transmission Using Dual-Circular Polarized Antenna Array	Kazunori Yuri, Naoki Honma, Minoru Sasaki Iwate University, Japan
20. 1227	28 GHz Microstrip Yagi Antenna Stacked with Optical Modulator for 5G Wireless Communication	Yusuf Nur Wijayanto ¹ , Yahya Syukri Amrullah ¹ , Fajri Darwis ¹ , Hiroshi Murata ² , Atsushi Kanno ³ , Tetsuya Kawanishi ⁴ , Pamungkas Daud ¹ , Dadin Mahmudin ¹ , Purwoko Adhi ¹ ¹ Indonesian Institute of Sciences, Indonesia ² Osaka University, Japan ³ National Institute of Information and Communications Technology, Japan ⁴ Waseda University, Japan
21. 1229	Feasible Calibration of DOD-Based BLE Beacon for Indoor Localization Application	Kota Kikuchi ¹ , Ryota Tazawa ¹ , Naoki Honma ¹ , Atsushi Miura ² , Hiroto Minamizawa ² ¹ Iwate University, Japan ² Embedded Resource Integration, Inc., Japan
22. 1235	Performance Evaluation on NOMA and Transmit BF with User Selection by the Number of Beams	Yoshiki Shirasawa, Kentaro Nishimori, Hideo Makino Niigata University, Japan
23. 1251	Comparison of Three Compact-SAR Mode Through Rice Phenology Monitoring	Tomoro Watanabe, Yuta Izumi, Josaphat Tetuko Sri Sumantyo Chiba University, Japan
24. 1252	2D Antenna Array Design with WINNER-Based Antenna Simulator	Shih-Hao Fang ¹ , Jen-Yuan Hsu ¹ , Hsi-Tseng Chou ² , Yu-Chia Hsu ³ , and Chang-Lin Yang ³ ¹ Industrial Technology Research Institute, Taiwan ² National Taiwan University, Taiwan ³ Wha Yu Industrial Co., Ltd., Taiwan
25. 1257	Temperature and SAR Distribution in Human Head From Mobile Phone of 2G, 3G, 4G Using FEM Modeling	Caner Gunduz ¹ , Saban Selim Seker ¹ , Fulya Callalp Kunter ² , Osman Cerezci ³ ¹ Bogazici University, Turkey ² Marmara University, Turkey ³ Sakarya University, Turkey
26. 1271	Influence of Leaves, Branches and Trunks on the Propagation Loss in 920-MHz on a Mulberry Farm	Chihiro Yamada, Takumi Nishimura, Ryosuke Yoshimura, Hitoshi Shimasaki, Yuichi Kado, Masatoshi Ichida Kyoto Institute of Technology, Japan
27. 1272	Hyperthermia Performance of Conformal Applicator for Limb Tumor in Presence of Water Bolus	Soni Singh, Bhagirath Sahu, Surya Pal Singh Indian Institute of Technology (Banaras Hindu University), India
28. 1287	Use of Coordinate Rotation Angle for Improving PolSAR Based Man-Made Target Detection	Fang Shang ¹ , Akira Hirose ² ¹ University of Electro-Communications, Japan ² The University of Tokyo, Japan
29. 1288	A Polarization Reconfigurable Textile Patch Antenna for Wearable IoT Applications	Hojoo Lee, Jaehoon Choi Hanyang University, Korea
30. 1298	Emulating SCME Power Delay Profile in Reverberation Chamber	Tien Manh Nguyen ¹ , Jae-Young Chung ¹ , Jong-Hwa Kwon ² ¹ Seoul National University of Science and Technology, Korea ² Electronics and Telecommunications Research Institute, Korea
31. 1300	Design and Performance Test of LTE-Fi Channel Emulator	Nianzu Zhang ¹ , Zhenbo Jiang ¹ , Guangxing Li ² , and Jianhong Xie ² ¹ Southeast University, China ² Transcom Instruments Co., Ltd., China
32. 1320	Design of a Multi-band Orthomode Transducer for Radiometers	Enze Zhang, Pengyu Zhang, Jinghui Qiu Harbin Institute of Technology, China
33. 1324	Evaluation of Filtering Technique for Human Activity Identification Using MIMO Radar	Dai Sasakawa ¹ , Naoki Honma ¹ , Takeshi Nakayama ² , Shoichi Iizuka ² ¹ Iwate University, Japan ² Panasonic Corporation, Japan
34. 1330	Suppressing Multi-Component Interference in Chirp Signal for Spaceborne SAR Based on FRFT	Heli Gao ¹ , Jie Chen ¹ , Wei Yang ¹ , Xiaocong Ma ¹ , Fei Zou ² , Chunsheng Li ¹ ¹ Beihang University, China ² Beijing Institute of Remote Sensing Information, China

35. 1347	A Fast 3-D Ray Tracing Method for Wave Propagation Prediction Using a Reflection Tube Tree	Hae-Won Son ¹ , Jung-Woong Yoo ¹ , Gwang-Ja Jin ² , Byungtae Jang ² ¹ Chonbuk National University, Korea ² Electronics and Telecommunications Research Institute, Korea
36. 1355	Distributed Source DOA Estimation for More Sources Than Sensors Using Sparse Circular Arrays	Thomas Basikolo, Koichi Ichige, Hiroyuki Arai Yokohama National University, Japan
37. 1381	Design of a Wideband Circularly Polarized 2 × 2 Array with Shorted Annular Patches at X-Band on a CubeSat	Robert Lehmensiek Cape Peninsula University of Technology, South Africa
38. 1386	Antenna on Silicon with Bandwidth Improvement	Nikhil Gupta, Mahesh P. Abegaonkar, Shibani Kishan Koul, Ananjan Basu Indian Institute of Technology Delhi, India
39. 1387	Paper Moisture Content Determination from Microwave Reflection Measurement	Tawatchai Koedudom, Paiboon Yooyod Rangsit University, Thailand
40. 1388	Study of Dielectric Properties in Sphere for Fruit Quality Classification	Weerachai Songsuree, Paiboon Yooyod Rangsit University, Thailand
41. 1392	Ultra-Wideband Millimeter-Wave Bowtie Antenna	Sadegh Mansouri Moghaddam, Jian Yang, Andres Alayon Glazunov Chalmers University of Technology, Sweden
42. 1394	Short Dipole Antenna Array for On-Ship NVIS Application	Vigyanshu Mishra, Ananjan Basu Indian Institute of Technology Delhi, India
43. 1396	Broadband Design Using Matrix Analysis of Frequency Selective Surface Inserted at the Center of Dielectric Plate in Millimeter-wave Band	Tomihiko Ikegami ¹ , Goro Nomoto ¹ , Kunio Sakakibara ¹ , Nobuyoshi Kikuma ¹ , Yutaka Aoki ² ¹ Nagoya Institute of Technology, Japan ² DENSO Corporation, Japan
44. 1409	Novel Integration-Time Conversion of Rain-Rate Statistics for Rain Attenuation Prediction Models	Phunsak Thiennviboon ¹ , Soraut Intarawichian ¹ , Zhen-Wei Zhao ² , Le-Ke Lin ² , Chang-Sheng Lu ² ¹ Kasetsart University, Thailand ² China Research Institute of Radiowave Propagation, China
45. 1484	Simulating the MIMO Efficiency of Antennas	Andres Alayon Glazunov, Sadegh Mansouri Moghaddam, Jian Yang Chalmers University of Technology, Sweden
46. 1512	Portable Wide-band Channel Sounder Based Software Defined Radio for Studying the Radio Propagation in an Outdoor Environment	Tossaporn Srisooksai, Jun-ichi Takada, Kentaro Saito Tokyo Institute of Technology, Japan
47. 1543	Compact Asymmetrical Patch Dipole Antenna for Indoor Digital Terrestrial Television Reception	Naruedom Bangkaew ¹ , Rapee Wunnaleart ¹ , Supakit Kawdungta ¹ , Chuwong Phongcharoenpanich ² ¹ Rajamangala University of Technology Lanna Chiang Mai, Thailand ² King Mongkut's Institute of Technology Ladkrabang, Thailand
48. 1548	On-Body Transmission for Dual-band Antenna Incorporated with Dual-band AMC Waveguide Jacket	M. A. Abdullah, M. K. A. Rahim, N.A. Samsuri and Osman Ayop Universiti Teknologi Malaysia, Malaysia
3A3 REMOTE SENSING AND RADAR APPLICATIONS I		Nov. 2, 14:00 - 15:40, Room: ORCHID SESSION CHAIRS: PROF. HIROYOSHI YAMADA ASST. PROF. AKKARAT BOONPOONGA
1. 1041	Acceleration for RPM-Based Three-Dimensional Imaging for 140 GHz-Band Millimeter Wave Radar	Yoshiki Akiyama, Shouhei Kidera University of Electro Communications, Japan
2. 1076	Moving Target Echo Simulation of Video Synthetic Aperture Radar (ViSAR)	He Yan ¹ , Jindong Zhang ¹ , Xinhua Mao ¹ , Daiyin Zhu ¹ , Wei Gao ² ¹ Nanjing University of Aeronautics and Astronautics, China ² Avic Radar Electronic Technology Research Institute, China
3. 1203	Fundamental Study on Angular Resolution Improvement of SAR Tomography by Using Khatri-Rao Product Virtual Array Processing	Kenichiro Suzuki ¹ , Masanori Gocho ¹ , Hiroyoshi Yamada ¹ , Motofumi Arii ² , Shoichiro Kojima ³ , Ryoichi Sato ¹ , Yoshio Yamaguchi ¹ ¹ Niigata University, Japan ² Mitsubishi Electric Corporation, Japan ³ National Institute of Information and Communications Technology, Japan
4. 1246	A Down-Conversion Method for Attenuation of Leakage Signal in FMCW Radar	Junhyeong Park, Seong-Ook Park Korea Advanced Institute of Science and Technology, Korea
5. 1328	Investigation of the Electrical Property of Multi-Layer Soil Using Short-Time Matrix Pencil Method	Nattawat Chantasen ¹ , Akkarat Boonpoonga ¹ , Kamol Kaemarungsi ² , Krit Athikulwongse ² , Lakkhana Bannawat ³ , Prayoot Akkaraekthalin ¹ ¹ King Mongkut's University of Technology North Bangkok, Thailand ² National Science and Technology Development Agency, Thailand ³ Rajamangala University of Technology Rattanakosin, Thailand

3B3 ULTRA-WIDEBAND ANTENNAS		NOV. 2, 14:00 - 15:40, ROOM: DALAH 1 SESSION CHAIRS: ASST. PROF. WANWISA THAIWIROT DR. AHMED TOAHA MOBASHHER
1. 1135	Half Space Radiation Antenna for UWB Ranging and Localization Application	Hao Li, Lijia Chen, Jinghui Qiu, Shengchang Lan, Caitian Yang Harbin Institute of Technology, China
2. 1171	A Miniaturized Antipodal Vivaldi Antenna for Microwave Imaging	Lijia Chen, Changlei Wang, Hao Li, and Shengchang Lan Harbin Institute of Technology, China
3. 1264	Ultra-Compact Microstrip UWB Bandpass Filter with Improved Performance	Bhagirath Sahu, Soni Singh, Manoj Kumar Meshram, Surya Pal Singh Indian Institute of Technology (Banaras Hindu University) Varanasi, India
4. 1267	A Compact Folded Crossed Omnidirectional Ultra-Wideband Antenna	Wei Li, Ying Suo, Xiaopeng Xu, Jinghui Qiu Harbin Institute of Technology, China
5. 1322	An Ultra-wideband Omnidirectional Radiation Dipole Antenna with Klopfenstein Curve Boundary	Shu Lin, Yan-di Bi, Yu Mao, Hao-tian Zhang, Shou-lan Liu, Cai-tian Yang Harbin Institute of Technology, China
3C3 ANTENNA RELATED TOPICS		NOV. 2, 14:00 - 15:40, ROOM: DALAH 2 SESSION CHAIRS: PROF. KEISUKE NOGUCHI ASST. PROF. PONGSATHORN CHOMTONG
1. 1119	Study of Dual-Frequency Absorbing Materials Based on Frequency Selective Surfaces	Xinyu Yin, Alexander Denisov, Jinghui Qiu, Nannan Wang Harbin Institute of Technology, China
2. 1114	High-Efficiency Broadband Cross-Dipole Antenna for Wireless Energy Harvesting	Gidong Sa ^{1,2} , Junghyun Kim ^{1,2} , Seongjae Moon ^{1,2} , Jayeon Kim ¹ , Youngwoo Kim ¹ , Yeongseog Lim ² ¹ Korea Photonics Technology Institute, Korea ² Chonnam National University, Korea
3. 1491	Compensation of Antenna Effects for Stepped-Frequency Radar Identification Systems	Feaveya Kheawprae ¹ , Akkarat Boonpoonga ¹ , Lakkhana Bannawat ² , and Santana Burintramart ³ ¹ King Mongkut's University of Technology North Bangkok, Thailand ² Rajamangala University of Technology Rattanakosin, Thailand ³ Defence Technology Institute (Public Organization), Thailand
4. 1508	A Power Divider with Tunable Power	Hanchi Ma, Jinghui Qiu Harbin Institute of Technology, China
5. 1141	Beam-Tilted Lens-Corrected Horn Antennas for Wide-Angle Radiation	Junya Tozawa, Kazuki Morimoto, Hiroyuki Deguchi, Mikio Tsuji Doshisha University, Japan
3D3 SPECIAL SESSION: LINEAR CELL TECHNOLOGY		NOV. 2, 14:00 - 15:40, ROOM: DALAH 3 SESSION CHAIRS: ASSOC. PROF. BAO VO NGUYEN QUOC ASST. PROF. TUPTIM ANGKAEW
1. 1499	Radio over Fiber Network Technologies for Linear Cell Systems in Millimeter-Wave Bands	Atsushi Kanno ¹ , Pham Tien Dat ¹ , Naokatsu Yamamoto ¹ , Tetsuya Kawanishi ² ¹ National Institute of Information and Communications Technology, Japan ² Waseda University, Japan
2. 1534	Instantaneous Frequency Measurement for Broadband Radio Signals Using Optical Single Sideband Modulation	Tetsuya Kawanishi ¹ , Hideki Hayashi ¹ , Keizo Inagaki ² , Atsushi Kanno ² , Naokatsu Yamamoto ² ¹ Waseda University, Japan ² National Institute of Information and Communications Technology, Japan
3. 1383	Optical Fiber Connected Passive Primary Surveillance Radar Using Two Receiver Units	Junichi Honda, Masato Watanabe, Takuya Otsuyama Electronic Navigation Research Institute, Japan
4. 1382	DOA Estimation of Desired Signals Using Radio Holography and Signal Cyclostationarity	Yuto Nakajima, Nobuyoshi Kikuma, Kunio Sakakibara Nagoya Institute of Technology, Japan
5. 1518	Outage Analysis of Energy-Harvesting based Multihop Cognitive Relay Networks with Multiple Primary Receivers and Multiple Power Beacons	Nguyen Toan Van, Tran Trung Duy, Tan Hanh, and Vo Nguyen Quoc Bao Posts and Telecommunications Institute of Technology, Vietnam
3E3 RFID AND APPLICATIONS		NOV. 2, 14:00 - 15:40, ROOM: BU-NGA SESSION CHAIRS: DR. KITTISAK PHAEBUA DR. CHATCHAI CHOKCHAI
1. 1103	Electro-Textile Glove-Tags for Wearable RFID Applications	Xiaochen Chen ¹ , Han He ¹ , Jinxiong Xu ² , Tao Wang ² , Lianglun Cheng ² , Leena Ukkonen ¹ , Johanna Virkki ¹ ¹ Tampere University of Technology, Finland ² Guangdong University of Technology, China

2. 1516	A Small UHF RFID Passive Tag Antenna Using Modified Split Ring Resonator	Piyapong Dangkhom, Chuwong Phongcharoenpanich King Mongkut's Institute of Technology Ladkrabang, Thailand
3. 0003	Meander Line Tag Antenna with Inductively Coupled Parasitic Element and T-Loop Feed	Sudhir Bhaskar, Amit Kumar Singh Indian Institute of Technology (Banaras Hindu University) Varanasi, India
4. 1375	Design of RFID Tag with Electromagnetic Band Gap Applying for Metallic Objects	Nuchanart Fhaphiem ¹ , Wacharapool Naktong ¹ , Piyaporn Krachodnok ² , Samran Santalunai ² ¹ Rajamangala University of Technology Isan, Thailand ² Suranaree University of Technology, Thailand
5. 1495	Study of Multiple Repeater Antennas for High Frequency (HF) RFID Reader	Pinitnai Sittithai, Titipong Lertwiriypapa, Kittisak Phaebua King Mongkut's University of Technology North Bangkok, Thailand
3A4 REMOTE SENSING AND RADAR APPLICATIONS II		NOV. 2, 16:00 - 18:00, ROOM: ORCHID SESSION CHAIRS: PROF. THOMAS FICKENSCHER ASST. PROF. AKKARAT BOONPOONGA
1. 1138	A Ground-Based Synthetic Aperture Radar System Using Portable VNA for Landslide Monitoring	Yohandri ¹ , Bambang Setiadi ² , Yee Kit Chan ³ , Voon Chet Koo ³ ¹ Universitas Negeri Padang, Indonesia ² Lembaga Ilmu Pengetahuan Indonesia (LIPI), Indonesia ³ Multimedia University, Indonesia
2. 1241	Digital Beamforming Technique with High Resolution Digital Phase Shifter and Digital Phase Calibration Using SDR	Dong-Chan Kim, and Seong-Ook Park Korea Advanced Institute of Science and Technology, Korea
3. 1334	Configuration of an X-Band FMCW Radar Targeted for Drone Detection	Seungwoon Park, Seong-Ook Park Korea Advanced Institute of Science and Technology, Korea
4. 1062	Impact of Yaw Angle of Wind Turbines on Diffraction Loss of Radar Signals	Muhammad Bilal Raza, Thomas Fickenscher Helmut Schmidt University, Germany
5. 1443	Resolution Improvement of GPR Image Using Antenna Calibration for Object Detection	Lakkhana Bannawat ¹ , Akkarat Boonpoonga ¹ , and Santana Burintramart ² ¹ King Mongkut's University of Technology North Bangkok, Thailand ² Defence Technology Institute (Public Organization), Thailand
6. 1492	Effect of Antenna Frequency Bands on the Resolution of GPR Images	Kiattisak Yochanang ¹ , Akkarat Boonpoonga ¹ , Prayoot Akkaraekthalin ¹ , Lakkhana Bannawat ² , Chuwong Phongcharoenpanich ³ ¹ King Mongkut's University of Technology North Bangkok, Thailand ² Rajamangala University of Technology Rattanakosin, Thailand ³ King Mongkut's Institute of Technology Ladkrabang, Thailand
3B4 ANTENNA THEORY AND DESIGN		NOV. 2, 16:00 - 18:00, ROOM: DALAH 1 SESSION CHAIRS: PROF. QING-XIN CHU ASSOC. PROF. RANGSAN WONGSAN
1. 1437	Gain Enhancement of Microstrip Patch Antenna Using I-Shaped Mushroom-Like EBG Structure for WLAN Application	Pongpat Ketkuntod, Tanan Hongnara, Wanwisa Thaiwirot, Prayoot Akkaraekthalin King Mongkut's University of Technology North Bangkok, Thailand
2. 1091	A Broadband Circularly-Polarized Antenna with Wide Axial-Ratio Beamwidth	Ke-Ke Zheng, Qing-Xin Chu South China University of Technology, China
3. 1247	Reading Distance Extension of Original RFID Reader with Technique of Metamaterial Structure	Pornpat Pramerudeechaisak, Piyaporn Mesawad, Rangsan Wongsan Suranaree University of Technology, Thailand
4. 1314	Design of the Modified WDRA for SAR Indication of the Breast Tumor Location	Pavinee Suwanta, Piyaporn Krachodnok, Rangsan Wongsan Suranaree University of Technology, Thailand
5. 1517	Graphene-Based Tag Antenna for Universal UHF-RFID System Using Modified Single Loop-Matching Techniques	Sitthichai Dentr ¹ , Pitchanun Wongsiritor ² , Pornanong Pongpaibool ¹ ¹ National Electronics and Computer Technology Center, Thailand ² Rajamangala University of Technology Rattanakosin, Thailand
6. 1253	Design of Small CRPA Arrays with High-Dielectric Ceramic Superstrates for Gain Enhancement	Tae Heung Lim, Gangil Byun, Hosung Choo Hongik University, Korea
3C4 ANTENNA MEASUREMENTS		NOV. 2, 16:00 - 18:00, ROOM: DALAH 2 SESSION CHAIRS: PROF. TORU UNO DR. JERDVISANOP CHAKAROTHAI
1. 1165	A Hybrid Diagnosis Method for Defective Array Elements Based on Compressive Sensing and Iterative Shrinkage Thresholding Algorithm	Wei Li, Weibo Deng, Qiang Yang, Ying Suo Harbin Institute of Technology, China

2. 1317	Near-Field Measurement of Transmit Antenna Factor of Small Dipole Antenna in Saline Solution	Nozomu Ishii, Jerdvisanop Chakarothai, Kanako Wake, Lira Hamada, Soichi Watanabe National Institute of Information and Communications Technology, Japan
3. 1380	An Improved Current Reconstruction Technique for Internal Field Assessment of Dielectric Phantoms	Shuntaro Omi ¹ , Toru Uno ¹ , Takuji Arima ¹ , Joe Wiart ² ¹ Tokyo University of Agriculture and Technology, Japan ² Telecom ParisTech, Japan
4. 1353	High Efficiency with Low X-Pol Compact Antenna Test Range	Yao-Xiang Cheng ¹ , Hsin-An Chen ¹ , Lik-Suong Chen ² , Linus Lau ² , Meng-Shiue Wu ¹ , and Dau-Chyrh Chang ³ ¹ Atenlab, Taiwan ² RF Station, Kuala Lumpur, Malaysia ³ Lorom Institute of New Technology, Taiwan
5. 1415	Antenna Gain and Phase Center Estimation for Broadband Antenna Using Metal Ground Plane	Satoru Kurokawa, Masanobu Hirose, Michitaka Ameya, Sayaka Matsukawa and Yuanfeng She National Institute of Advanced Industrial Science and Technology, Japan
6. 1242	Experimental Validation for Millimeter-Wave Channel Measurement in Reverberation Chamber	Seong-Jin Park, Dong-Chan Kim, Seong-Ook Park Korea Advanced Institute of Science and Technology, Korea
3D4 INVERSE AND IMAGING TECHNIQUES		Nov. 2, 16:00 - 18:00, Room: DALAH 3 SESSION CHAIRS: ASSOC. PROF. SHOUHEI KIDERA ASST. PROF. FULYA CALLIALP KUNTER
1. 1113	Acceleration of RPM-Based Microwave Imaging for Non-Destructive Testing	Shuto Takahashi, Shouhei Kidera The University of Electro-Communications, Japan
2. 1115	Ultra-High Resolution (0.05 m) SAR Image Formation Processing	Xinhua Mao, Xueli He, Lan Ding, Danqi Li, and He Yan Nanjing University of Aeronautics and Astronautics, China
3. 1274	Processing of Ultra-High Resolution Spaceborne Spotlight SAR Data Based on One-Step Motion Compensation	Tianshun Xiang, Daiyin Zhu Nanjing University of Aeronautics and Astronautics, China
4. 1357	Far-Field Estimation of Antenna above the Earth Using Hemispherical Source Reconstruction	Yoshiki Sugimoto, Hiroyuki Arai Yokohama National University, Japan
5. 1088	Accurate Breast Surface Imaging Method with FDTD-Based Waveform Correction for Microwave Mammography	Kazuki Noritake, Shohei Kidera University of Electro Communications, Japan
6. 1259	Analysis of Cancerous Tissue Temperature in the Breast During Hyperthermia	Krailuk Limsawan ¹ , Panuwat Janpugdee ¹ , Fulya Callialp Kunter ² ¹ Chulalongkorn University, Thailand ² Marmara University, Turkey
3E4 PASSIVE AND ACTIVE COMPONENTS		Nov. 2, 16:00 - 18:00, Room: BU-NGA SESSION CHAIRS: DR. APIRADA NAMSANG DR. CHATRPOL PAKASIRI
1. 1278	Miniaturization of Power Dividers Using Quarter-Wave-Like Transformers (QWLTs)	Sorawis Korananan ¹ , Panuwat Janpugdee ¹ , Danai Torrungrueng ² ¹ Chulalongkorn University, Thailand ² Asian University, Thailand
2. 1454	Reconfigurable Dual-Pole Waveguide Bandpass Filter with Multiple Transmission Zeros	Amit Bage, and Sushrut Das Indian institute of Technology (Indian School of Mines), India
3. 1481	A 433 MHz Compact Complex Impedance-Transforming Balun	Chatrpol Pakasiri, Kittipong Nithiporndecha King Mongkut's Institute of Technology Ladkrabang, Thailand
4. 1489	Dual-Band Bandpass Filter with Double-Step Impedance Dumbbells for the Second Band Improving	Reungyot Lertwanittip, and Apirada Namsang Civil Aviation Training Center, Thailand
5. 1532	A Novel Design of Non-Foster Circuit Using Dispersive Transmission Line Resonator	Au Ngoc Duc, and Seo Chul Hun Soongsil University, Korea
6. 1261	Wide-Band Spatially Distributed TE ₁₀ Substrate Integrated Waveguide Transition for High-Power Generation at mm-Wave Frequencies	Artem Roev ¹ , Rob Maaskant ² , Marianna Ivashina ¹ , Anders Höök ³ ¹ Chalmers University of Technology, Sweden ² Eindhoven University of Technology, The Netherlands ³ SAAB AB, Sweden