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ON  
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APACE 2010**

9-11 NOVEMBER, 2010  
TIARA BEACH RESORT, PORT DICKSON, MALAYSIA

**PROCEEDINGS**

**Editors:**

**M Esa, A. S. Mohd Supaat, and A. S. Khan**

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## **APACE 2010 PROCEEDINGS EDITORS' MESSAGE**

*Selamat Datang to APACE 2010! Selamat Datang to MALAYSIA!*

We are most pleased to have received all participants to the Tiara Beach Resort, Port Dickson, in the state of Negeri Sembilan, in the APACE series of conferences. *SELAMAT DATANG* is our national Malay language, simply means *WELCOME*. This series of meetings is organized by the IEEE Antennas and Propagation/Microwave Theory and Techniques/Electromagnetic Compatibility (AP/MTT/EMC) Chapter of Malaysia. It is supported by IEEE Malaysia Section, with the cooperation of several Malaysia universities. The conference Secretariat is located at the Faculty of Electrical Engineering, Universiti Teknologi Malaysia. We are honored that the 4<sup>th</sup> APACE 2010 received technical co-sponsorship from IEEE MTT Society and IEEE AP Society. APACE is the first in the series of highly successful conferences organized by the Chapter since 2003.

APACE 2010 is now successfully concluded with the publication of the Final Proceedings. Over 150 preliminary manuscripts from 67 organizations in 16 countries; 55 academic institutions (39 international, 16 local), 12 industries (7 international, 5 local) have been received by APACE 2010. The countries were Canada, China, India, Indonesia, Iran, Japan, Korea, Malaysia, Pakistan, Philippines, Taiwan, Algeria, Germany, UK, Italy, and Greece. The Technical Program Committee has been assisted by invited Reviewers from 12 countries who have voluntarily invested their precious time to carefully evaluate papers which reflect current developments in the related areas. Decision was made to only admit over 70% accepted papers for oral presentation. Registered papers were presented in 11 technical Sessions that spread over parallel tracks from 9 to 11 November. Our heartfelt appreciation goes to the paper presenters for their willingness to share their findings and ideas at APACE 2010. May the work flourish into greater research and development.

APACE 2010 has been graced by the presence of a reknown expert, Prof. Atef Z Elsherbeni, of The University of Mississippi, United States of America, to deliver a Keynote Presentation and Tutorial. He is a Fellow of IEEE and ACES. The conference has been made possible with the untiring effort of members of the Organizing Committee of APACE 2010. Our utmost appreciation to Universiti Teknologi Malaysia, Universiti Teknologi MARA, Universiti Tun Hussein Onn Malaysia, and Universiti Putra Malaysia, for their support. Special acknowledgment is conveyed to the conference Exhibitors and Sponsors.

Last but not least, we wish readers happy reading.

**M Esa, SMIEEE**

**A. S. Mohd. Supaat, MIEEE**

**A. S. Khan, StMIEEE**

**Universiti Teknologi Malaysia**

# APACE 2010 PROCEEDINGS

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# APACE 2010 TECHNICAL PROGRAM SCHEDULE

## TUESDAY, 9 NOVEMBER 2010

<b>TIME /VENUE</b>	<b>MORNING SESSION</b>		
<b>0900- 1700</b>	<b>REGISTRATION (FULL DAY)</b>		
<b>0930- 1700</b>	<b>INDUSTRIAL EXHIBITION (FULL DAY)</b>		
<b>0900- 1000</b>	<b>WELCOME REFRESHMENT</b>		
<b>VENUE</b>	<b>TIARA 1</b>	<b>TIARA 2</b>	<b>TIARA 3</b>
<b>1000- 1240</b>	<p style="text-align: center;"><b>TUTORIAL</b> <i>Efficient use of the FDTD Technique for Antenna Design</i></p> <p>Prof. Dr Atef Z Elsherbeni, Fellow IEEE, Fellow ACES <i>Center for Applied Electromagnetics Systems Research (CAESR), The University of Mississippi, USA</i></p>	<p style="text-align: center;"><b>SESSION TU1 COMPUTATIONAL ELECTROMAGNETICS AND ELECTROMAGNETIC MODELLING</b></p> <p style="text-align: center;">85, 96, 97, 123</p> <p style="text-align: center;"><b>BIOLOGICAL EFFECTS AND MEDICAL APPLICATIONS</b></p> <p style="text-align: center;">84</p>	<p style="text-align: center;"><b>SESSION TU2 ELECTROMAGNETIC COMPATIBILITY AND DEVICES</b></p> <p style="text-align: center;">27, 71, 93, 112, 120, 22</p>
<b>1240- 1430</b>	<b>LUNCH</b>		
<b>1430- 1630</b>	<b>AFTERNOON SESSION</b>		
	<b>TIARA 1</b>	<b>TIARA 2</b>	<b>TIARA 3</b>
	<p style="text-align: center;"><b>SESSION TU3 ANTENNAS AND SYSTEMS</b></p> <p style="text-align: center;">70, 90, 62, 125, 136, 140</p>	<p style="text-align: center;"><b>SESSION TU4 MICROWAVE/RF DEVICES</b></p> <p style="text-align: center;">114, 119, 126, 127, 137, 138</p>	<p style="text-align: center;"><b>SESSION TU5 WIRELESS/CELLULAR/ SATELLITE COMMUNICATION TECHNOLOGIES</b></p> <p style="text-align: center;">57, 89, 147</p>
<b>1630- 1700</b>	<b>REFRESHMENT</b>		
	<b>END OF DAY 1</b>		



# APACE 2010 TECHNICAL PROGRAM SCHEDULE

## WEDNESDAY, 10 NOVEMBER 2010

TIME /VENUE	MORNING SESSION		
0930-1700	INDUSTRIAL EXHIBITION (FULL DAY)		
0930-1000	REFRESHMENT		
1000-1115	PLENARY SESSION (KEYNOTE PRESENTATION) <i>Chair: Prof. Dr Mazlina Esa, SMIEEE (Universiti Teknologi Malaysia, Malaysia)</i> <b><i>The Role of Computer Graphics Cards in Advancing Electromagnetics Education</i></b> Prof. Dr Atef Z Elsherbeni, Fellow IEEE, Fellow ACES <i>Center for Applied Electromagnetics Systems Research (CAESR)</i> <i>The University of Mississippi, USA</i>		
1115-1130	SHORT BREAK		
1130-1215	INDUSTRIAL APPLICATION SESSION <i>Chair: Prof. Dr Zaiki Awang, SMIEEE (Universiti Teknologi MARA, Malaysia)</i> Hunt Ng, Axomic (M) Sdn. Bhd. Dr Linus Lau, Computer Simulation Technology (M) Sdn. Bhd		
1215-1230	GROUP PHOTO SESSION		
1230-1430	LUNCH		
	AFTERNOON SESSION		
	TIARA 1	TIARA 2	TIARA 3
1430-1630	SESSION WE1 <b><i>MICROWAVE/RF DEVICES</i></b>  19, 31, 42, 50, 67	SESSION WE2 <b><i>RADIOWAVE, PROPAGATION AND SYSTEMS</i></b>  20, 24, 26, 52, 66	SESSION WE3 <b><i>RF/ MICROWAVES INTEGRATED CIRCUITS</i></b> 8, 12, 48, 108  <b><i>COGNITIVE RADIO, ADAPTIVE AND RECONFIGURABLE SYSTEM</i></b> 6, 9
1630-1700	REFRESHMENT		
2030-2300	Conference Banquet and Awards Night		
	END OF DAY 2		

# APACE 2010 TECHNICAL PROGRAM SCHEDULE

THURSDAY, 11 NOVEMBER 2010

<b>TIME /VENUE</b>	<b>MORNING SESSION</b>		
<b>0930- 1400</b>	<b>REGISTRATION (HALF DAY)</b>		
<b>0930- 1700</b>	<b>INDUSTRIAL EXHIBITION (FULL DAY)</b>		
<b>0930- 1000</b>	<b>REFRESHMENT</b>		
<b>VENUE</b>	<b>TIARA 1</b>	<b>TIARA 2</b>	<b>TIARA 3</b>
<b>1000- 1240</b>	<b>SESSION TH1</b> <b>ANTENNAS AND SYSTEMS</b>  23, 41, 44 59, 124, 15, 30  <b>HIGH SPEED</b> <b>TECHNOLOGIES AND</b> <b>COMPUTING</b>  145	<b>SESSION TH2</b> <b>ACTIVE AND PASSIVE</b> <b>ANTENNAS</b>  7, 37, 39 141, 2, 117  <b>MILLIMETER-WAVES,</b> <b>PHOTONICS, TERRAHERTZ,</b> <b>PENTAHERTZ</b> 10, 74	<b>SESSION TH3</b> <b>CAD ALGORITHMS,</b> <b>MODELLING AND</b> <b>MEASUREMENT TECHNIQUES</b>  55, 129, 118 106, 76, 144, 36, 143
<b>1240- 1430</b>	<b>LUNCH</b>		
<b>1430- 1700</b>	<b>FREE SESSION</b>		
	<b>APACE 2010 ENDS</b>		

## **APACE 2010 TECHNICAL PROGRAM DETAILS**

**TUESDAY 9 NOVEMBER 2010**

<b>Session TU1</b>	<b>COMPUTATIONAL ELECTROMAGNETICS AND ELECTROMAGNETIC MODELLING; 85, 96, 97, 123 BIOLOGICAL EFFECTS AND MEDICAL APPLICATIONS; 84</b>
<b>Date</b>	<b>9 November 2010 (Tuesday)</b>
<b>Time</b>	<b>1000 - 1240</b>
<b>Venue</b>	<b>Tiara 2</b>
<b>Chair</b>	<b>Ahmad Faizal Mohd. Zain, MALAYSIA</b>
<b>Co-Chair</b>	<b>Mudrik Alaydrus, INDONESIA</b>

### **PAPERID**

<b>63</b>	<b>Numerical Computation of Eigenvalues of Cylindrical Dielectric Waveguide A. Maalik, M.Kamran, S.A. Mohsin, PAKISTAN (NOT PRESENTED)</b>
<b>85</b>	<b>Performance analysis of the mushroom-like-EBG structure integrated with a microstrip patch antenna G.Gnanagurunathan and U.G.Udofia, MALAYSIA</b>
<b>96</b>	<b>Forward Modeling of Seabed Logging with Controlled Source Electromagnetic Method using Multilayer Perceptron Agus Arif, Vijanth S. Asirvadam, M. N. Karsiti, MALAYSIA</b>
<b>97</b>	<b>Comparison of Several Hybrid Methods in Analyzing Sierpinski Gasket Antennas with Finite Ground Mudrik Alaydrus, INDONESIA</b>
<b>123</b>	<b>Modified Asymmetric Explicit Group (AEG) FDTD Method for TM Waves Propagation Nooraini Md Nusi, Mohamed Othman, Mohamed Suleiman, Fudziah Ismail, Norma Alias, MALAYSIA</b>
<b>84</b>	<b>Impact of SAR on Human head modeling in Elevators using IFA S .Jemima Priyadarshini, T .Anita Jones Mary, D.Sugumar, C.S Ravichandran, INDIA</b>

## **APACE 2010 TECHNICAL PROGRAM DETAILS**

**TUESDAY 9 NOVEMBER 2010**

<b>Session</b> TU2	<b>ELECTROMAGNETIC COMPATIBILITY AND DEVICES;</b> 27, 71, 93, 112, 120, 22
<b>Date</b>	<b>9 November 2010 (Tuesday)</b>
<b>Time</b>	<b>1000 - 1240</b>
<b>Venue</b>	<b>Tiara 3</b>
<b>Chair</b>	<b>Ally Y. Simba, JAPAN</b>

### **PAPERID**

<b>27</b>	<b>Reducing EMI from a Rectangular Enclosure by Loading the Slots with Metal Wires</b> Sana Iqbal, Muhammad Amin, Irfan Majid, Kashif Nadeem, Muhammad Inam Abbasi, PAKISTAN (NOT PRESENTED)
<b>71</b>	<b>STRIDE's 3 Meters EMC Semi-anechoic Chamber Design Considerations and Compliance to Standards</b> A. Faridz A. Ghafar, M. Razali M. Yassin, W. Salwa W. Hassan, MALAYSIA
<b>93</b>	<b>Basic Investigation of the Measurements of W-CDMA Signal From Mobile Phone Base Station</b> Ally Y. Simba, Lira Hamada, and Soichi Watanabe, JAPAN
<b>112</b>	<b>Interference Limit Proposal for ADSL2+ Using APD Methodology</b> A.N Zainal Abidin, W.R Wan Abdullah, A.Ramli, M.Z.M Jenu, MALAYSIA
<b>120</b>	<b>Transmission Loss Study at Various Connections in Copper Cable Network Due to Corrosion and Environmental Stress Effect</b> N. Hashim, W.R.W. Abdullah, R. M. Yunus, A.N. Z. Abidin, A. M. Ramli, MALAYSIA
<b>22</b>	<b>The Improvement of VCO Performance based upon In/Out Common Frequency Tuning</b> Jeong-Seok Jang, Hyuk Jung, Kyoung-Whoan Suh, KOREA

## **APACE 2010 TECHNICAL PROGRAM DETAILS**

**TUESDAY 9 NOVEMBER 2010**

<b>Session</b>	<b>ANTENNAS AND SYSTEMS;</b>
<b>TU3</b>	<b>70, 90, 62, 125, 136, 140</b>
<b>Date</b>	<b>9 November 2010 (Tuesday)</b>
<b>Time</b>	<b>1430 - 1630</b>
<b>Venue</b>	<b>Tiara 1</b>
<b>Chair</b>	<b>Mohd. Yusof Ismail, MALAYSIA</b>
<b>Co-Chair</b>	<b>Mohd. Kamal A. Rahim, MALAYSIA</b>

### **PAPERID**

<b>70</b>	<b>Analysis of Reflectarrays Printed Above Variable Substrate Thicknesses M. Inam, M. Y. Ismail, A.F. M. Zain, M.A.Mughal, MALAYSIA, PAKISTAN</b>
<b>90</b>	<b>An Investigation on Three Element Multilayer Cylindrical Dielectric Resonator Antenna Excited by a Coaxial Probe for Wideband Applications Raghendra Kumar Chaudhary, Kumar Vaibhav Srivastava, Animesh Biswas, INDIA</b>
<b>62</b>	<b>An Antenna Apertured in Metal Housing Wall of Electronic Equipment Fukuro Koshiji and Kohji Koshiji, JAPAN (NOT PRESENTED)</b>
<b>125</b>	<b>Dual-Polarized Dipole Array Antenna for CDMA 450 Base Station Application Anas Abas, Azhari Asrokin, Rizal Helmy Basri, Norman Jamlus, MALAYSIA</b>
<b>136</b>	<b>A New Band Notched UWB Monopole Antenna Guomei Liu, Chengjiang Guo, Puchao Zheng, CHINA</b>
<b>140</b>	<b>Simulation on the 4 x 5 Antenna Arrays at 450 MHz Azhari Asrokin, Anas Abas, Rizal Helmy Basri, Norman Jamlus, MALAYSIA</b>

## **APACE 2010 TECHNICAL PROGRAM DETAILS**

TUESDAY 9 NOVEMBER 2010

Session TU4	MICROWAVE/ RF DEVICES; 114, 119, 126, 127, 137, 138
Date	9 November 2010 (Tuesday)
Time	1430 - 1630
Venue	Tiara 2
Chair	Chan-Wang Park, CANADA

### **PAPERID**

114	Compact Two Pole Bandpass Filter Using Symmetrical Composite Right/Left Handed Transmission Line with Vias Viveka Nand Mishra, Raghvendra Kumar Chaudhary, Kumar Vaibhav Srivastava, Animesh Biswas, INDIA
119	A Novel Method for Designing an Inverse Class F Power Amplifier by Controlling Up To Fifth Harmonic Shengjie Gao, Chan-wang Park, CANADA
126	Design of Interdigital Band Pass filter for WLAN applications using LTCC technology Zulkifli Ambak, Muhammad Redzuan Saad, Rosidah Alias, Azmi Ibrahim, Sabrina Mohd Shapee, Mohd Zulfadli, Mohammed Yusof and Mohammed Razman Yahya, MALAYSIA
127	Characterization of Wideband Square Spiral Inductors Based on 0.15 $\mu\text{m}$ GaAs pHEMT Technology Norhapizin Kushairi, M. N Osman, A.I. Abdul Rahim, Asban Dolah, Yusnita Rahayu, MALAYSIA
137	Single-Mode Ring Resonator for Bandpass Filter Application Sameh Kh. M. Khanfar, M. K. Mohd Salleh, Z. Awang, MALAYSIA
138	2.4 GHz Medium Power Amplifier for Wireless LAN Applications using GaAs PHEMT Amiza Rasmi, M. Rafie Che Rose, and Ahmad Ismat Abd Rahim, Arjuna Marzuki, MALAYSIA

## **APACE 2010 TECHNICAL PROGRAM DETAILS**

**TUESDAY 9 NOVEMBER 2010**

<b>Session TU5</b>	<b>WIRELESS/ CELLULAR/ SATELLITE COMMUNICATIONS TECHNOLOGIES; 57, 89, 147</b>
<b>Date</b>	<b>9 November 2010 (Tuesday)</b>
<b>Time</b>	<b>1430 - 1630</b>
<b>Venue</b>	<b>Tiara 3</b>
<b>Chair</b>	<b>Su Heng Tiong, MALAYSIA</b>

### **PAPERID**

<b>57</b>	<b>Time-Scale Domain Characterization of Nonstationary Wideband Vehicle-to-Vehicle Propagation Channel Uche A.K. Chude Okonkwo, Siti Zaiton Mohd Hashim, Razali Ngah, N.F. Nanyan and Tharek Abd. Rahman, MALAYSIA</b>
<b>89</b>	<b>DGPS Positional Improvement by Mitigating the Ionospheric Horizontal Gradient and Elevation Angle Effects K Nagarajoo and Ahmad Faizal Mohd Zain, MALAYSIA</b>
<b>147</b>	<b>Application of OFDM on Integrated System of Visible Free Space Optic with PLC Sayed Ehsan Alavi, Hoda Rezaie, Abu Sahmah M. Supa'at, MALAYSIA</b>

## **APACE 2010 TECHNICAL PROGRAM DETAILS**

WEDNESDAY 10 NOVEMBER 2010

Session WE1	MICROWAVE/ RF DEVICES; 19, 31, 42, 50, 67
Date	10 November 2010 (Wednesday)
Time	1430 - 1630
Venue	Tiara 1
Chair	Mohd Kamal A. Rahim, MALAYSIA

### **PAPERID**

19	Parametric Investigation of Multilayer Ring Resonator Filters N. S. Mohamad, M. K. M. Salleh, S. Sulaiman and Z. Awang, MALAYSIA
31	Performance of a Configurable Microstrip Filter using Triple Mode Resonator and RF-MEMS Switches Ker Chia Lee, Hieng Tiong Su, and Manas Kumar Haldar, MALAYSIA
42	A Miniaturized Dual-Frequency Wilkinson Power Divider Using Defected Ground Structure Mahsa Keshavarz Hedayati, Gholamreza Moradi, Abdolali Abdipour, Mohamad Mosalanejad, IRAN
50	The Influence of Periodic Discontinuities on Propagation Characteristic of Substrate Integrated Waveguide Elnaz Abaei, Esfandiar Mehrshahi, Hamidreza Sadreazami, IRAN
67	Multiband Matched Bandstop Filter Siti Yuszaini Muhamad Hamzah, Badrul Hisham Ahmad, Peng Wen Wong, MALAYSIA



## **APACE 2010 TECHNICAL PROGRAM DETAILS**

WEDNESDAY 10 NOVEMBER 2010

Session WE2	RADIOWAVE, PROPAGATION AND SYSTEMS; 20, 24, 26, 52, 66
Date	10 November 2010 (Wednesday)
Time	1430 - 1630
Venue	Tiara 2
Chair	Kyoung-Whoan Suh, KOREA

### **PAPERID**

20	The Calculation of Field Strength for DTV Receiver by Rec. ITU-R P.1546 Kyoung-Whoan Suh, Hyuk Jung, Joo-Hwan Lee, Jeong-Seok Jang, KOREA
24	The effects of foliage on 5.8GHz Broadband Fixed Wireless Access (BFWA) N.A. Muhammad, T.A.Rahman, and S.K.A.Rahim, MALAYSIA
26	Hydraulic Pressure Distribution For Pipeline Networks By Wireless Sensor Networks Reza Aminzadeh, Feraydune Kashefi, Hamideh Alee, IRAN
52	The Effects of Rain Attenuation and Interference to BFWA System Performance Using Site Diversity-Adaptive Coded Modulation in Indonesia Area Syahfrizal Tahcfullloh, INDONESIA
66	Application of the SC EXCELL Model for Rain Attenuation Prediction in Tropical and Equatorial Regions H.Y. Lam, L.Luini, Din.J, C.Capsoni, A.D.Panagopoulos, MALAYSIA, ITALY, GREECE

## **APACE 2010 TECHNICAL PROGRAM DETAILS**

WEDNESDAY 10 NOVEMBER 2010

Session WE3	RF/ MICROWAVES INTEGRATED CIRCUITS; 8, 12, 48, 108 COGNITIVE RADIO, ADAPTIVE AND RECONFIGURABLE SYSTEM; 6,9
Date	10 November 2010 (Wednesday)
Time	1430 - 1630
Venue	Tiara 3
Chair	Chan-Wang Park, CANADA

### **PAPERID**

8	Miniaturized Microwave Central-Slit Meander Power Divider with Harmonic Suppression M. Esa, L. Perumal, M. S. Abdullah, N. N. N. Abd. Malik, N. Asniza Murad, MALAYSIA
12	A Novel RF Tunable Impedance Matching Network for Correcting the Tested Result Deviation from Simulated Result Shengjie Gao, Zhebin Wang, and Chan-Wang Park, CANADA
48	Quarter Wavelength Matching in Dielectric Resonator Bandpass Filter A. A. Sulaiman, A. Othman, M. F. Ain, Z. A. Ahmad, M.A. Othman, I. A. Zubir, S. D. Hutagalung, MALAYSIA
108	A Novel X-Band Bandpass Filter Using Substrate Integrated Waveguide Resonators Faezeh Tork Ladani, Shahrokh Ja, Reza Safian, IRAN
6	Evaluation on Optimum Geometrical of Linear Node Array for Self-Organization in a Wireless Sensor Network N. N. N. Abd Malik, M. Esa, S. K. Syed Yusof and S. A. Hamzah, MALAYSIA
9	Reduced Size Harmonic Suppressed Fractal Dipole Antenna with Integrated Reconfigurability S. A. Hamzah, M. Esa and N. N. N. Abd Malik, MALAYSIA

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Session TH1	ANTENNAS AND SYSTEMS; 23, 41, 44, 59, 124, 15, 30 HIGH SPEED TECHNOLOGIES, NETWORKING AND COMPUTING; 145
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Chair	Yuli Fitri Zulkifli, INDONESIA

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41	Multiband Microstrip Antenna for RFID Application Fitri Yuli Zulkifli, Subroto Fajar Siddiq , Eko Tjipto Rahardjo, INDONESIA
44	Coaxial feed Archimedean Spiral Antenna for GPS Application M. F. Mohd Yusop, K. Ismail, S. Sulaiman and M.A. Haron, MALAYSIA
59	Analysis of Dual Layer Unit Cell with Minkowski Radiating Shape for Reflectarray Antenna on Different Substrate Properties A. Wahid, M. K. A. Rahim, F. Zubir, MALAYSIA
124	Circular Polarization Fractal Koch Microstrip Patch Antenna using Single-fed EM Coupled Ring Resonators M. A. M. Yusop, M. K. A. Rahim, M. F. Ismail, A. Wahid, MALAYSIA
15	Antenna with DGS for Improved Performance M. Esa, U. Jamaluddin, M. S. Awang, MALAYSIA
30	Compliance Assessments of GSM Base Station Towers in UPM Serdang A D Usman, W F Wan Ahmad, M Z A Ab Kadir, M Mokhtar, MALAYSIA (NOT PRESENTED)
145	An Improved Authentication Key Management Scheme for Multihop Relay in IEEE 802.16m Networks A. S. Khan, N. Fisal, S. K. S. Yusof, S. H. S. Ariffin, M. Esa, N. N. Maarof, M. Abbas, MALAYSIA

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THURSDAY 11 NOVEMBER 2010

Session TH2	ACTIVE AND PASSIVE ANTENNAS; 7, 37, 39, 141, 2, 117 MILIMETER-WAVES, PHOTONICS, TERRAHERTZ, PENTAHERTZ; 10, 74
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Time	1000 - 1240
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Chair	Mohd. Khairul Mohd. Salleh, MALAYSIA
Co- Chair	Badrul Hisham Ahmad, MALAYSIA

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7	Design and Simulation of a Sierpinski Carpet Fractal PIFA for WLAN and HiperLAN Application Ismahayati, P.J Soh and F. Malek, MALAYSIA
37	Wide-Band Rectangular Dielectric Resonator Antenna Design Mohsen Khalily, Mohamad Kamal A.Rahim, Muhammad Ramlee Kamarudin, M.F.Ismail, MALAYSIA
39	A novel P-Shape Dielectric Resonator Antenna for Wideband Application Mohsen Khalily, Mohamad Kamal A.Rahim, and Muhammad Ramlee Kamarudin, MALAYSIA
141	A Compact & High Gain Series Array Planar Antenna for 60-GHz WPAN Applications Ali M Qasim, Tharek Abdul Rahman, MALAYSIA
2	Graphical Approximation Approach in Designing a Dual-Band Printed Antenna M. Esa, M. K. H. Ismail and N. N. N. Abd. Malik, MALAYSIA
117	Simulation of Frequency Modulated Continuous Wave Ground Penetrating Radar Using Advanced Design System Intan Suraya Shahdan, Mardeni Roslee, Khazaimatol Shima Subari, MALAYSIA
10	Preliminary Design of Rectangular Nano-Antenna at PHz M. K. H. Ismail and M Esa, MALAYSIA
74	Low Loss LTCC Passive Transmission Line at Millimetre-wave Frequency Mohd Fadzil Amiruddin, Salizul Jaafar, Suhandi Bujang, Azzemi Ariffin, Azlan Sulaiman and Noor Aisyah Mohd Akib, Young Chul Lee, MALAYSIA, KOREA

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Session TH3	CAD ALGORITHMS, MODELLING AND MEASUREMENT TECHNIQUES; 55, 129, 118, 106, 76, 144, 36, 143
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Time	1000 - 1240
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129	Measurements and Modeling of Temperature Compensated Surface Acoustic Wave Resonators Zainab Mohamad Ashari, Fatini Sidek and Anis Nurashikin Nordin, MALAYSIA
118	Analysis of In-Building Coverage System Measurements in a Commercial Building in Malaysia Nadiyah Zainol Abidin, Wan Nor Liza Mahadi, MALAYSIA
106	Magnitude vs Low Frequency EM Waves for Sea Bed Logging Applications Hanita Daud, Noorhana Yahya, Vijanth Sagayan, Ahmad Muizuddin Talib, MALAYSIA
76	Thermographic Evidences in the Usages of Bluetooth Hands Free W F Wan Ahmad, T H Su, A D Usman, M Mokhtar, A Rusnani, MALAYSIA (NOT PRESENTED)
144	Occurrence of Space VLF Due To The Earthquake Events Norsuzila Ya'acob, Azita Laily Yusof, Mohd Tarmizi Ali, Suhaila Subahir and Wan Norsyafizan Wan Muhamad, MALAYSIA
36	A new multi-slot and multi-level coding technique for high capacity communication system R. Talib, M. F. L. Abdullah , A. Malekmohammadi , and M. K. Abdullah MALAYSIA
143	Performance Evaluation of Soft Handover Parameters in WCDMA System Muhammad Ibrahim, Norsuzila Ya'acob, Suhaila Subahir and Wan Nazirah Wan Md Adnan, MALAYSIA

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7	Design and Simulation of a Sierpinski Carpet Fractal PIFA for WLAN and HiperLAN Application Ismahayati, P.J Soh and F. Malek, MALAYSIA
8	Miniaturized Microwave Central-Slit Meander Power Divider with Harmonic Suppression M. Esa, L. Perumal, M. S. Abdullah, N. N. N. Abd. Malik, N. Asniza Murad, MALAYSIA
9	Reduced Size Harmonic Suppressed Fractal Dipole Antenna with Integrated Reconfigurability S. A. Hamzah, M. Esa and N. N. N. Abd Malik, MALAYSIA
10	Preliminary Design of Rectangular Nano-Antenna at PHz M. K. H. Ismail and M Esa, MALAYSIA
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15	Antenna with DGS for Improved Performance M. Esa, U. Jamaluddin, M. S. Awang, MALAYSIA
19	Parametric Investigation of Multilayer Ring Resonator Filters N. S. Mohamad, M. K. M. Salleh, S. Sulaiman and Z. Awang, MALAYSIA
20	The Calculation of Field Strength for DTV Receiver by Rec. ITU-R P.1546 Kyoung-Whoan Suh, Hyuk Jung, Joo-Hwan Lee, Jeong-Seok Jang, KOREA
22	The Improvement of VCO Performance based upon In/Out Common Frequency Tuning Jeong-Seok Jang, Hyuk Jung, Kyoung-Whoan Suh, KOREA
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31	Performance of a Configurable Microstrip Filter using Triple Mode Resonator and RF-MEMS Switches Ker Chia Lee, Hieng Tiong Su, and Manas Kumar Haldar, MALAYSIA
36	A New Multi-slot and Multi-level Coding Technique for High Capacity Communication System R. Talib, M. F. L. Abdullah , A. Malekmohammadi , and M. K. Abdullah MALAYSIA
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44	Coaxial feed Archimedean Spiral Antenna for GPS Application M. F. Mohd Yusop, K. Ismail, S. Sulaiman and M.A. Haron, MALAYSIA
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63	Numerical Computation of Eigenvalues of Cylindrical Dielectric Waveguide A. Maalik, M.Kamran, S.A. Mohsin, PAKISTAN (NOT PRESENTED)
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140	Simulation on the 4 x 5 Antenna Arrays at 450 MHz Azhari Asrokin, Anas Abas, Rizal Helmy Basri, Norman Jamlus, MALAYSIA
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