

# **2009 3rd IEEE International Symposium on Microwave, Antenna, Propagation and EMC Technologies for Wireless Communications**

**(MAPE 2009)**

**Beijing, China  
27-29 October 2009**

**Pages 1-502**



**IEEE Catalog Number: CFP09611-PRT  
ISBN: 978-1-4244-4075-7**

# CONTENTS

## Keynote

**Reconfigurable Antennas in Cognitive Radio that can Think for Themselves?**

*Christos G. Christodoulou*

**Transmission-line Metamaterials: Theory and Applications**

*George V. Eleftheriades*

**Conformal Wide Bandwidth Antennas and Arrays**

*Altan M. Ferendeci*

## Papers

- EMC106 Reduction of Mutual Coupling Between Closely-Packed Antenna Elements Using Defected Ground Structure** 1  
*Zhu, Fuguo; Xu, Jiadong; Xu, Qian*
- EMC110 Analysis and Modeling on Linearity for Multithrow TX/RX Switches** 5  
*C.-J. Wei; S. Srinivasan; D. Prikhodko; J. Mason; O. Klimashov; G. Zhou; G. Tkachenko; D. Bartle*
- EMC113 A Higher Order ADI-FDTD Method for EM Propagation in Plasma** 9  
*Liu, Song; Liu, Shaobin; Song, Han*
- EMC118 Convergence Analysis of Runge-Kutta Multiresolution Time-Domain Scheme Based on the Coifman Scaling Function** 13  
*Chen, Xinlei; Cao, Qunsheng*
- EMC120 Cylinder Model of Human Body Impedance Based on Proximity Effect** 16  
*Ruan, Fanming; Tomasz Dlugosz; Shi, Dan; Gao, Yougang*
- EMC127 A High-Power Ka-Band Power Amplifier Design Based on GaAs PHEMT Technology for VSAT ODU Applications** 20  
*Li, Dezhong; Wang, Cong; Huang, Wencheng; Ram Krishna Maharjan; Sung-Jin Cho; Bhanu Shrestha; Inpyo-Kyung Gear; Nam-Young Kim*
- EMC129 A Novel Model Analysing the Response of Transmission Line Excited by Electromagnetic Field** 24

*Wang, Yumei; Su, Donglin; Jia, Yunfeng*

<b>EMC135</b>	<b>RCS Calculation of Conducting Targets in Strong Random Media for E-Wave Polarization</b>	<b>28</b>
	<i>Hosam El-Ocla</i>	
<b>EMC136</b>	<b>Study of Data-Processing Method in Planar Near-Field Measurements on Phased Array Antennas</b>	<b>32</b>
	<i>Yu, Ding; Yang, Lin; Fu, Demin; Liu, Qizhong</i>	
<b>EMC137</b>	<b>Comparison of SARs Induced in a Heterogeneous Human Brain Model</b>	<b>35</b>
	<i>Alina Buleandra; Teodor Petrescu</i>	
<b>EMC158</b>	<b>Three Types of Electromagnetic Noise between Pantograph and Catenary</b>	<b>40</b>
	<i>Chen, Song; Sha, Fei</i>	
<b>EMC159</b>	<b>Bandwidth Conversion of the APD for Different Kinds of Interference Signals</b>	<b>44</b>
	<i>Shan, Qin; Wen, Yinghong; Zhou, Kesheng</i>	
<b>AN153</b>	<b>Modeling of VLF Valley Transmitting Antenna</b>	<b>48</b>
	<i>Liang, Yujun; Zhang, Zhigang</i>	
<b>AN156</b>	<b>Effects of Superstrate with Improved SSRRs on the Radiation of Microstrip Antenna</b>	<b>51</b>
	<i>Zhao, Yuchen; Wan, Guobin; Zhao, Huiling; Zheng, Wenquan</i>	
<b>AN157</b>	<b>BRDF Evaluation From a Two-Dimensional Fractal Rough Surface</b>	<b>55</b>
	<i>Chen, Ming; Tian, Yan; Wu, Yingchun</i>	
<b>AN158</b>	<b>A New Low Profile Antenna with Improved Performance for Satellite On-the-Move Communications</b>	<b>59</b>
	<i>Jiang, Yuanyuan; Stephen J Foti; Sambell Alistair Sambell; David Smith</i>	
<b>AN207</b>	<b>Research on Conductive Performance of Inkjet Printing Samples by Conductive Inkjet Ink</b>	<b>63</b>
	<i>Fang, Yi; Li, Luhai; Xin, Zhiqing; Zhao, Wen</i>	
<b>AN208</b>	<b>Printed Quadrifilar Helix Antenna with Integrated Feed</b>	<b>67</b>

## Network

*Fu, Shiqiang; Fang, Shaojun; Lu, Kai; Wang, Zhongbao*

<b>AN144</b>	<b>Design of Omnidirectional UWB Notch Antennas</b>	<b>70</b>
	<i>Yuji Tanabe; Tomoki Uwano; Takaaki Baba</i>	
<b>SP103</b>	<b>A Design of High-range Resolution Radar Signal Synthesizer</b>	<b>74</b>
	<i>Li, Baoxue; Zhang, Bing; Fei, Yuanchun; Zhao, Qi; Li, Baoxue</i>	
<b>SP105</b>	<b>An Integrated Uplink-Signal Detection Method of Railway Balise System Based on Wavelet Ridge</b>	<b>78</b>
	<i>Zhao, Linhai; Li, Zhankui; Liu, Weining; Fan, Xuetao</i>	
<b>SP206</b>	<b>FM Interference Suppression for PRC-CW Radar Based on Adaptive STFT</b>	<b>84</b>
	<i>Zhao, Zhao; Wang, Zhihua; Shi, Xiangquan</i>	
<b>SP209</b>	<b>Application of Genetic Algorithm on Dielectric Cylinder Microwave Imaging in Freespace</b>	<b>89</b>
	<i>Xu, Hui; Zhou, Tingting; Peng, Liang</i>	
<b>SP217</b>	<b>Optimal RS Location and Bandwidth Allocation for Relay System with Decode-amplify-forward Scheme</b>	<b>93</b>
	<i>Hu, Chunjing; Peng, Yuexing; Wang, Wenbo; Young il Kim</i>	
<b>SP218</b>	<b>Performance Analysis of Self-calibration Algorithm for Y-shaped Array in the Presence of Mutual Coupling</b>	<b>97</b>
	<i>Wu, Biao; Chen, Hui</i>	
<b>SP219</b>	<b>Research on the Scattering Coefficient Measurement Method Based on LFMCW</b>	<b>103</b>
	<i>Wang, Lingyan; Chen, Zhuming; Huang, Wei; Wang, Xuegang</i>	
<b>EW223</b>	<b>Radiation of a Line Source by a Slotted Semielliptical Trench Filled With DNG Metamaterial</b>	<b>107</b>
	<i>Oguzhan Akgol; Danilo Erricolo; L.E. Uslenghi Piergiorgio</i>	
<b>EW243</b>	<b>Scattering of Arbitrary Direction Gaussian Beam from Bisphere</b>	<b>111</b>
	<i>Li, Zhengjun; Wu, Zhensen; Li, Haiying; Zhang, Jingjian</i>	
<b>ME101</b>	<b>Digital Part in 915MHz UHF RFID Tag</b>	<b>115</b>

*Feng, Yujing; Zhang, Wei; Xing, Xiaohui*

<b>ME104</b>	<b>Design and Implement for Test in a Complex System on Chip</b>	<b>120</b>
	<i>Wei, Jinghe; Yu, Zhiguo; Yu, Zongguang; Shi, Longxing</i>	
<b>ME109</b>	<b>Demodulator for TH-UWB RF Receiver in 90-nm CMOS Technology</b>	<b>123</b>
	<i>Duan, Jihai; Wang, Zhigong; Li, Zhiqun</i>	
<b>ME111</b>	<b>A 108 GHz GaAs MHEMT VCO MMIC</b>	<b>127</b>
	<i>Wang, Weibo; Wang, Zhigong; Zhang, Bin; Kang, Yaohui; Wu, Liqun; Yang, Naibin</i>	
<b>ME112</b>	<b>A Low-IF Front-end Receiver in 0.18-<math>\mu</math>m CMOS for 2.4-GHz Band IEEE 802.15.4 WPAN Applications</b>	<b>131</b>
	<i>Wei, Baolin; Dai, Yujie; Zhang, Xiaoxing; Lu, Yingjie</i>	
<b>ME114</b>	<b>A Wideband Circuit Model of On-Chip Spiral Inductor in 0.13<math>\mu</math>m CMOS Process</b>	<b>136</b>
	<i>Liu, Lintao; Yu, Mingyan; Wang, Jinxiang; Jiang, Ming</i>	
<b>ME130</b>	<b>Tunable Metamaterials by varying the Inductance and Capacitance of S-shaped Resonator</b>	<b>140</b>
	<i>M. F. Khan; M. J. Mughal</i>	
<b>ME131</b>	<b>Design on GSM-R Band Quasi-elliptic Function Microstrip Filter</b>	<b>144</b>
	<i>Zhang, Xiaoyan; Wen, Yinghong; Zhou, Kesheng</i>	
<b>PRO202</b>	<b>Characteristic of EM-wave Anomalous Propagation in Marine Evaporation Duct</b>	<b>148</b>
	<i>Zhao, Xiaolong; Huang, Jiying</i>	
<b>PRO208</b>	<b>Study of ELF Electromagnetic Fields from a Submerged Horizontal Electric Dipole Positioned in a Sea of Finite Depth</b>	<b>152</b>
	<i>Liu, Chao; Zheng, Longgen; Li, Yongping</i>	
<b>PRO216</b>	<b>Analysis of Scattering by a Deep Open Cavity using the Mixed-Order Finite Element Method</b>	<b>158</b>
	<i>Chen, Aihong; Chen, Aixin</i>	
<b>PRO220</b>	<b>Modeling of Wideband HF Ionosphere Channel and Research on Its Equivalent Characteristics</b>	<b>161</b>
	<i>Zhang, Lanlan; Yan, Zhaowen</i>	

<b>PRO223</b>	<b>Maliuzhinets Diffraction Coefficient Applied to Hilly Terrain Scenario</b>	<b>165</b>
	<i>Sanjay Soni; Amitabha Bhattacharya</i>	
<b>PRO224</b>	<b>Comparative Analysis of Ray tracing, Finite Integration Technique and Empirical Models Using Ultra-Detailed Indoor Environment Model and Measurements</b>	<b>169</b>
	<i>P.N. Zakharov; E.V. Mikhailov; A.A. Potapov; A.F. Korolev; A.P. Sukhorukov</i>	
<b>EMC142</b>	<b>A Comparative Analysis of the CC and CE Type Buffers in Differential LC VCOs for Phase Noise</b>	<b>177</b>
	<i>Wang, Cong; Li, Dezhong; Ram Krishna Maharjan; Bhanu Shrestha; Sung-Jin Cho; Inpyo-Kyung Gear; Nam-Young Kim</i>	
<b>EMC146</b>	<b>Analysis of the Factors Influencing the Source Stirred Reverberation Chamber Performance</b>	<b>181</b>
	<i>Liang, Shuanggang; Xu, Jiadong; Du, Hao; Zhang, Haidong; Shang, Gaoping</i>	
<b>EMC149</b>	<b>3D Representation of Electromagnetic Environment on Irregular Terrain</b>	<b>185</b>
	<i>Yang, Chao; Xu, Jiangbin; Song, Hanchen; Wu, Lingda</i>	
<b>EMC152</b>	<b>The Multiple Scattering Expansion Coefficients of Cluster Soot Particles</b>	<b>190</b>
	<i>Bai, Lu; Wu, Zhensen; Li, Haiying; Tang, Shuangqing; Xie, Pinhua; Wang, Shimei</i>	
<b>EMC153</b>	<b>The Study on Geometry-Specific Antenna Factor</b>	<b>195</b>
	<i>Wu, Di; Zhu, Gang</i>	
<b>EMC154</b>	<b>Research of Frequency Assignment Based on Genetic Algorithm</b>	<b>199</b>
	<i>Chen, Hao; Wang, Guodong</i>	
<b>EMC156</b>	<b>The definition of APD limits for base-band digital</b>	<b>203</b>
	<i>Men, Shuixian; Wang, Guodong</i>	
<b>EMC157</b>	<b>Characteristics of Radio Frequency Interference from Pantograph Arcing in Car of Traction Stock</b>	<b>207</b>
	<i>Wang, Guodong</i>	

<b>EMC204</b>	<b>Fast EMC Analysis of Electrically Large Structure by PO-TDIE Hybrid Method</b>	<b>211</b>
	<i>Qin, Yujian; He, Jianguo; Wang, Ting; Luo, Weixing; Ren, Meng</i>	
<b>EMC205</b>	<b>Preliminary Study of the Applicability of RS103 in GJB151A/152A</b>	<b>214</b>
	<i>Xie, Dagang; Hou, Dongyun; Fang, Chonghua</i>	
<b>EMC226</b>	<b>A New Definition and Relevant Measurement Techniques for Evaluating Shielding Effectiveness of Equipment Enclosures</b>	<b>218</b>
	<i>Cui, Yong; Sha, Fei</i>	
<b>EMC160</b>	<b>The Conversion from APD Value to Traditional Detector Value for Pulse Interference</b>	<b>225</b>
	<i>Shan, Qin; Wen, Yinghong; Zhou, Kesheng; Guo, Jingrong</i>	
<b>AN212</b>	<b>Evaluation on Anti-jamming Efficiency of Coherent Sidelobe Cancellation</b>	<b>229</b>
	<i>Zhu, Ying; Gao, Qina; Jia, Mingjie; Wang Zulin</i>	
<b>AN214</b>	<b>A Novel Element Antenna with Flat-Topped Pattern in the Applications of Limited Scan Array</b>	<b>233</b>
	<i>Du, Hailong; Yan, Lubin</i>	
<b>AN224</b>	<b>Method Study on Randomizing Phase Feeding for Circular Arrays Based on Genetic Algorithms</b>	<b>238</b>
	<i>Dong, Liang; Zhang, Jun</i>	
<b>AN225</b>	<b>Super Wideband Fractal Antenna Design</b>	<b>242</b>
	<i>Abolfazl Azari</i>	
<b>AN228</b>	<b>Generation of a Stop Band for a Low-Profile BOR-based Antenna</b>	<b>246</b>
	<i>Hisamatsu Nakano; Shunichi Yamazaki; Junji Yamauchi</i>	
<b>AN229</b>	<b>A High-Gain and Broadband Printed Array Antenna Consisting of Seven Hexagonal Compound Air-Fed Sub-Arrays</b>	<b>250</b>
	<i>He, Xiang; Zhang, Wenxun; Wu, Zhihang</i>	
<b>AN230</b>	<b>High-precision Direction Finding of RADAR Emitter Signals Based on Space-borne Sparse L-Array</b>	<b>254</b>

*Wu, Shilong; Luo, Jingqing*

<b>AN231</b>	<b>Pattern Matching by Optimizing Load in a Reflectarray Antenna</b>	<b>258</b>
	<i>Amulya Bhattarai; Jon Wallace</i>	
<b>AN238</b>	<b>Compact T-Shaped CPW-Fed Printed Antenna for 3.5GHz WiMAX Applications</b>	<b>262</b>
	<i>Pei Cheng Ooi; Krishnasamy T. Selvan</i>	
<b>SP221</b>	<b>Doppler Compensation Algorithm Based on Pseudorandom Sequence</b>	<b>265</b>
	<i>Su, Xi; Wang, Yiyang</i>	
<b>SP223</b>	<b>Study on Doppler allowance and its Extension of Pseudo-noise Code Phase Modulation Fuse</b>	<b>269</b>
	<i>Zhang, Qinghui; Yin, Hui</i>	
<b>SP224</b>	<b>Low Complexity Down-Sampled MMSE (DMMSE) Channel Estimation for Downlink OFDMA IEEE 802.16e System</b>	<b>273</b>
	<i>Savitri Galih; Riafeni Karlina; Fifin Nugroho; Ade Irawan; Trio Adiono; Adit Kurniawan</i>	
<b>SP225</b>	<b>Channel Estimation for TDS-OFDM-Based DTTB Systems in the Presence of Phase Noise</b>	<b>278</b>
	<i>Zheng, Ziwei</i>	
<b>SP228</b>	<b>Adaptive Beamforming With Joint Robustness Against Signal Mismatch and Interference Nonstationarity</b>	<b>284</b>
	<i>Wu, Baozhong; Qian, Zuping; Qu, Xinbo</i>	
<b>SP229</b>	<b>Precoder Design in Cooperative Systems with Amplify-and-Forward Relaying</b>	<b>289</b>
	<i>Zheng, Kan; Long, Hang; Wang, Wenbo; Huang, Lin</i>	
<b>SP232</b>	<b>Influence of Position Error on TDOA and FDOA Measuring of Dual-satellite Passive Location System</b>	<b>293</b>
	<i>Wu, Shilong; Luo, Jingqing</i>	
<b>SP233</b>	<b>Performance Analysis on Conditional Error Ratio in HARQ Transmission</b>	<b>297</b>
	<i>Long, Hang; Wang, Wenbo; Zheng, Kan; Wang, Fangxiang</i>	
<b>ME206</b>	<b>Effective Optimization of Microstrip Transformer Using</b>	<b>303</b>



	<b>FDTD Simulation and Cascade Connection of Scattering Matrices</b>	
	<i>Xuan, Xiaofeng; Mao, Jianbo; Yang, Mingwu; Jiang, Wanshun; Liu, Jinxian</i>	
<b>ME208</b>	<b>Stability Analyses of MMIC Power Amplifiers</b>	<b>307</b>
	<i>Liu, Yu; Yang, Tao; Yang, Ziqiang</i>	
<b>ME211</b>	<b>A Ka Band Quadrature Down-Converter MMIC</b>	<b>310</b>
	<i>Liu, Yu; Yang, Tao; Yang, Ziqiang</i>	
<b>ME212</b>	<b>A Novel Miniaturized Four-Section SIR Filter</b>	<b>313</b>
	<i>Liu, Yu; Yang, Tao; Yang, Ziqiang; Da, Sha; Gong, Linling</i>	
<b>ME221</b>	<b>Numerical Simulation of Transmission in Depressed Trapezoidal-Ridge Waveguide Based on FEM</b>	<b>316</b>
	<i>Sun, Hai; Wang, Zewen; Wei, Zhou</i>	
<b>ME225</b>	<b>A LTCC Power Amplifier for a Ku-band Transmitted Module</b>	<b>319</b>
	<i>Ji, Jianhua; Li, Yinqiao; Zhou, Jianming; Fei, Yuanchun</i>	
<b>SEN103</b>	<b>A Data Aggregation and Routing Scheme of Cobweb Model in Wireless Sensor Networks</b>	<b>323</b>
	<i>Zhang, Jizan</i>	
<b>SEN106</b>	<b>Antenna Temperature Calibration Algorithm and Design of the Calibration Experiment for Spaceborne Microwave Radiometers</b>	<b>328</b>
	<i>Zhao, Jin; Dong, Xiaolong; Zhang, Dehai</i>	
<b>SEN172</b>	<b>A Statistical inversion algorithm for Aperture Synthesis Radiometers</b>	<b>332</b>
	<i>He, Fangmin; Li, Qingxia; Zhu, Yaoting; Chen, Ke; Xiong, Zubiao</i>	
<b>SEN203</b>	<b>Near-field Imaging of One-dimensional Aperture Synthesis Radiometers</b>	<b>336</b>
	<i>Chen, Liangbing; Li, Qingxia; Xiong, Zubiao; Chen, Ke; Zhu, Yaoting</i>	
<b>SEN204</b>	<b>Improvement of Classification Accuracy Integrating C- And X-Band Synthetic Aperture Radar Data</b>	<b>340</b>
	<i>Jia, Kun; Wu, Bingfang; Li, Qiangzi; Tian, Yichen</i>	

<b>SEN205</b>	<b>Phase and Amplitude Calibration of the HUST Ku-band Aperture Synthesis Radiometer Using External Source</b>	<b>346</b>
	<i>Chen, Ke; Guo, Wei; Li, Qingxia; He, Fangmin; Jin, Rong</i>	
<b>SEN206</b>	<b>An Image Restoration Method for Reducing the De-correlation Effects in InSARad</b>	<b>350</b>
	<i>Hu, Anyong; Liu, Chongkan; Miao, Jungang</i>	
<b>SEN210</b>	<b>A Multipath-resistant Precise Tracking Method for BOC Signal</b>	<b>354</b>
	<i>Yao, Yanxin; Yang, Dongkai; Ding, Fan</i>	
<b>SEN212</b>	<b>Comparisons of ISAR Time-frequency Imaging Methods</b>	<b>359</b>
	<i>Hu, Weidong; Zhang, Yan; Sun, Houjun; Lv, Xin</i>	
<b>EMC206</b>	<b>Development of A New Line Impedance Stabilization Network System</b>	<b>363</b>
	<i>Sun, Yi; Zhang, Xiaodong; Wei, Chien; Sun, ChiHsien; Chiu, ChienChing</i>	
<b>EMC207</b>	<b>Voltage-Mode Multifunction Biquad Filter Using FDCCII</b>	<b>367</b>
	<i>Chen, Huapin; Sun, Yi; Zhang, Xiaodong</i>	
<b>EMC209</b>	<b>Impact of Excitation Position and Plane Spacing on Far Field Radiation of Power-Ground Plane Pair</b>	<b>371</b>
	<i>Fan, Hongmei</i>	
<b>EMC210</b>	<b>Investigation of Signal Cable/Ground Plane Resonant Impedance</b>	<b>375</b>
	<i>Liu, Yuedong; Su, Donglin</i>	
<b>EMC213</b>	<b>HFSS Simulation of GTEM Cell and Analysis of Normalized Electric-field Strength in EMI Measurements of GTEM Cell</b>	<b>378</b>
	<i>Li, Ji; Li, Shufang; Xing, Shuguang; Kan, Runtian</i>	
<b>EMC214</b>	<b>Output Prediction about Crosstalk of Representative Multi-cable Bundle on Aircraft Platform Based on Neural Network</b>	<b>381</b>
	<i>Dai, Jian; Dai, Fei; Zhao, Xiaoying</i>	
<b>EMC216</b>	<b>Fast Modelling of Microwave Circuits Exploiting Space Mapping Technology</b>	<b>385</b>
	<i>Cao, Cheng; Dai, Fei</i>	

<b>EMC218</b>	<b>The Optimization of the Parabolic Reflector Antenna Layout with Genetic Algorithm and Geometrical Theory of Diffraction</b> <i>Zhang, Jinshuo; Xie, Shuguo; Liu, Yan</i>	<b>389</b>
<b>EMC221</b>	<b>Nonlinear EMC Simulation Method Based on Grey System Theory</b> <i>Chen, Wenqing; He, Xiaomu; Mo, Qinhua; Su, Donglin</i>	<b>393</b>
<b>EMC222</b>	<b>Field-circuit Cooperated Simulation of Field-transmission Line Coupling</b> <i>Wang, Yumei; Su, Donglin; Jia, Yunfeng</i>	<b>397</b>
<b>AN237</b>	<b>Design New Ultrawide-Band Planar Metal-Plate Monopole Antenna by FDTD Method</b> <i>Li, Zengrui; Pan, Shengwei; Jiang, Kaibo; Wang, Junhong</i>	<b>401</b>
<b>AN241</b>	<b>A Standard Shielded Loop Antenna with Load Resistor</b> <i>Xia, Yingqing; Luo, Jia; Ye, Huan</i>	<b>405</b>
<b>AN243</b>	<b>Cored Circle Patch Antenna for Automotive ETC System</b> <i>Xia, Yingqing; Li, Aisheng; Huang, Qi</i>	<b>408</b>
<b>AN246</b>	<b>Design of a Circularly Polarized 8×8 Patch Antenna Array Using a New Series-Parallel Feed</b> <i>Zhang, Yanjun; Chen, Aixin; Cao, Shunfeng; Su, Donglin</i>	<b>411</b>
<b>AN247</b>	<b>A Phased Array Antenna System for INMARSAT Mobile Ground Terminal</b> <i>Feng, Kuisheng; Li, Na; Xu, Jiadong</i>	<b>415</b>
<b>AN248</b>	<b>A 2.45-GHz Localized Elements Rectenna</b> <i>B. Merabet; F. Costa; H. Takhedmit; C. Vollaire; B. Allard; L. Cirio; O. Picon</i>	<b>419</b>
<b>AN253</b>	<b>A Small Couple Slotted Antenna for Ultra Wideband Application</b> <i>Yusnita Rahayu Naumar; Tharek Abd. Rahman; Razali Ngah; P.S. Hall</i>	<b>423</b>
<b>AN269</b>	<b>An Air-supported Wideband Circularly Polarized Patch Antenna</b> <i>Basit Ali Zeb; Peter Meincke</i>	<b>427</b>
<b>SP239</b>	<b>An Efficient Iterative Algorithm for Joint Frequency</b>	<b>430</b>

	<b>Synchronization and Channel Estimation in OFDM Systems</b> <i>Jiao, Chaoqun; Sun, Yi; Rainfield Y.Yen; Liu, Hongyu; Lin, Tachou; Cheng, T.T.</i>	
<b>SP242</b>	<b>A Polarization Filtering Method Based On Oblique Projection Operator</b> <i>Liu, Aijun; Mao, Xingpeng; Deng, Weibo</i>	<b>436</b>
<b>SP244</b>	<b>Two Effective Unicast Modes in MIMO Multi-relay Systems</b> <i>Wei, Meiyang; Hu, Chunjing; Long, Hang; Zheng, Kan; Wang, Wenbo</i>	<b>440</b>
<b>SP246</b>	<b>New Beamformer for Coherent Signal Reception in the Presence of Uncorrelated Interferences</b> <i>Zhao, Yongbo; Shui, Penglang</i>	<b>444</b>
<b>SP250</b>	<b>On the Performance of Space-Time Codes over Double Correlated MIMO Fading Channels</b> <i>Lin, Min; Hong, Liu; Yang, Luxi</i>	<b>448</b>
<b>SP251</b>	<b>An Effective Method for Joint DOA and Delay Estimation</b> <i>Du, Ruiyan; Wang, Jinkuan; Zhou, Qinqing</i>	<b>452</b>
<b>SP252</b>	<b>A Highly-Effective Time and Frequency Synchronization Scheme for OFDM Wireless Communication System</b> <i>Han, Gujing; Qin, Liang</i>	<b>456</b>
<b>ME232</b>	<b>A Compact Low Pass Filter with Good Stopband Performance Using a Open-loop-arms Defected Ground Structure Unit</b> <i>Mou, Jinchao; Yu, Weihua; Sun, Houjun; Lu, Xin</i>	<b>462</b>
<b>ME233</b>	<b>Study of Feedback Technology for Gain Flatness of UWB LNA</b> <i>Xie, Hongyun; Zhang, Wanrong; Li, Jia; Shen, Pei; Huang, Yiwen; Huang, Lu; Hu, Ning</i>	<b>466</b>
<b>ME234</b>	<b>A LTCC Band Pass Filter for Wireless Applications</b> <i>Yuan, Bo; Yu, Weihua; Sun, Houjun; Lu, Xin</i>	<b>470</b>
<b>ME238</b>	<b>A Novel Reflection-type Phase Shifter Employing Defected Ground Structure</b> <i>Huang, Shenlei; Liu, Xueguan; Cai, Wenfeng</i>	<b>473</b>
<b>ME239</b>	<b>Linearizing Wideband Wireless Transmitters Using Memory Effect Separation Based Linearization Techniques</b>	<b>477</b>

*Liu, Taijun; Ye, Yan; Xu, Tiefeng; Zeng, Xingbin; Fadhel M. Ghannouchi*

<b>ME243</b>	<b>FPGA Implementation of Augmented Hammerstein Predistorters for RF Power Amplifier Linearization</b>	<b>481</b>
	<i>Xu, Gaoming; Liu, Taijun; Ye, Yan; Xu, Tiefeng</i>	
<b>SS103</b>	<b>Compound Sacrificial Layer Process for RF MEMS Applications</b>	<b>485</b>
	<i>Zhang, Yonghua; Wang, Chao; Ouyang, Weixia; Lai, Zongsheng</i>	
<b>SS111</b>	<b>GNSS Signal Acquisition Platform Design</b>	<b>488</b>
	<i>Wang, Jian; Lu, Debiao; Liang, Kun; Wei, Shangguan</i>	
<b>SS113</b>	<b>InGaAs/GaAs HBT based MMIC Differential VCO for S-Band Satellite Communication Applications</b>	<b>493</b>
	<i>Ram Krishna Maharjan; Nam-Young Kim</i>	
<b>SS116</b>	<b>Polyphase based VLBI Wideband Digital SSB Converter of Random IF Signal</b>	<b>497</b>
	<i>Chen, Lan; Zhang, Xiuzhong; Luo, Jintao; Wan, Guochun</i>	
<b>SS217</b>	<b>A Novel Retransmission Strategy without Additional Overhead in Relay Cooperative Network</b>	<b>PC</b>
	<i>Shao, Lan; Wang, Wenbo; Long, Hang; Peng, Yuexing</i>	
<b>SS221</b>	<b>Distributed Power Control for OFDMA based Spatial Multiplexing Multi-hop Systems</b>	<b>507</b>
	<i>Fan, Bin; Wang, Wenbo; Lin, Yicheng; Zheng, Kan</i>	
<b>SS233</b>	<b>A Novel Location Service for Urban Vehicular Ad Hoc Networks</b>	<b>513</b>
	<i>Zhang, Guoqing; Chen, Wu; Hong, Liang; Mu, Dejun</i>	
<b>COM109</b>	<b>Dry Release of MEMS Structures Using Reactive Ion Etching Technique</b>	<b>517</b>
	<i>Hamood Ur Rahman Khawaia; Rodica Ramer</i>	
<b>COM114</b>	<b>An Improved High-speed RS Encoding Algorithm</b>	<b>521</b>
	<i>Ren, Zhigang; Yao, Dongping; Xiong, Lei</i>	
<b>COM115</b>	<b>A Modified PEG Algorithm for Construction of LDPC Codes with Polynomial of Cycle</b>	<b>524</b>

*Xiong, Lei; Yao, Dongping; Wu, Yimeng*

<b>SS226</b>	<b>Visual Infrared Image Computation of Complex Target</b>	<b>528</b>
	<i>Ning, Fang; Qi, Zhengyun; Wang, Taosheng; Wang, Gu; Wang, Baofa</i>	
<b>COM117</b>	<b>A precise Approach for Computing Channel Soft Information</b>	<b>531</b>
	<i>Qian, BeiBei; Yao, Dongping; Xiong, Lei</i>	
<b>COM118</b>	<b>A Capacitive Loaded Quasi-elliptic Function Microstrip Filter on GSM-R Band</b>	<b>535</b>
	<i>Zhang, Xiaoyan; Wen, Yinghong; Zhou, Kesheng</i>	
<b>AN102</b>	<b>Three-dimensional Phased Array Antenna Analysis and Simulation</b>	<b>538</b>
	<i>Zhao, Yanqiu; Peng, Zong</i>	
<b>AN106</b>	<b>Hardware-in-the-Loop Simulation System of Multi-path Effect of Microwave Landing System Based on Scale Model</b>	<b>543</b>
	<i>Miao, Qiang; Wu, Dewei</i>	
<b>AN107</b>	<b>Novel Broadband Millimeter-Wave FLAPS Reflector Antenna With Three Types Elements</b>	<b>549</b>
	<i>Wang, Xiaotian; Xue, Qianzhong; Liu, Pukun</i>	
<b>AN109</b>	<b>A Back-to-Back Planar Folded Dipole on EBG Substrate</b>	<b>553</b>
	<i>Ding, Chaoyuan; Ruan, Chengli; Peng, Lin; Chu, Jiahui</i>	
<b>AN110</b>	<b>Wideband Planar Open-Sleeve Dipole on Magnetic Dielectric Material Based EBG Substrate</b>	<b>557</b>
	<i>Ding, Chaoyuan; Ruan, Chengli; Peng, Lin; Yin, Xuncai</i>	
<b>AN113</b>	<b>The Radio Propagation Affected by Variation of Refractive Index</b>	<b>560</b>
	<i>Li, Wei; Liang, Yitao; Fu, Maixia</i>	
<b>AN114</b>	<b>The Affection on Radio Propagation of Attenuation Index in Troposphere over Wuhan</b>	<b>564</b>
	<i>Li, Wei; Ma, Haoge; Jin, Guangfeng</i>	
<b>AN115</b>	<b>RCS Simulation of Spacecraft Based on Orbital Dynamics</b>	<b>568</b>
	<i>Li, Xiangying; Meng, Xin</i>	
<b>AN121</b>	<b>A Simple and Compact Tri-Band Planar Inverted-F Antenna</b>	<b>573</b>

**for Personal Communication Handset Applications**

*Zhu, Fuguo; Zhang, Chong; Xu, Jiadong*

- AN122 Performance Simulation and Analysis of Two Kinds of Cylindrical Conformal Microstrip Yagi Antennas 576**  
*Song, Lizhong; Fu, Shifeng; Fang, Qingyuan; Wu, Qun*
- AN124 Design of Dual-Channel Circuit of P-Band Instantaneous Polarization Radar 580**  
*Lu, Zhonghao; Jian, Chunxiao; Zhou, Dongming; Liu, Peiguo*
- AN125 A New Six-port Junction Based on Micro-strip Technology 584**  
*Song, Han; Liu, Shaobin; Liu, Song*
- AN126 Dispersive Characteristics Analysis of Lossy Microstrip with 4-Component 2-D CFDFD Method 588**  
*Qiang, Li; Zhao, Wei; Zhao, Yongjiu; Jiang, Wanshun; Ning, Yuemin*
- AN127 Design of A Filter-Antenna Subsystem for UWB Communications 593**  
*Chen, Yilin; Zhou, Yonggang*
- AN128 Analysis and Design of Coplanar Waveguide-to-Rectangular Waveguide Transition With FDTD Method 596**  
*Deng, Jianqin; Jiang, Wanshun; Ning, Yuemin*
- AN129 Simulation and Analysis of a Planar Array Antenna Integrated with FSS 600**  
*Tian, Wenming; Hou, Xinyu*
- AN131 An Algorithm of Acquiring Terrain Slope Based on Interferogram 602**  
*Han, Songtao; Xiang, Maosheng; Wei, Lideng; Chen, Lifu*
- AN132 Development of RCS Simulation Software for Electrically Large Complex Cavities Based On the Secondary Development of UG 605**  
*Li, Jianzhou; Jiang, Yingfu; Xu, Jiadong*
- AN133 Design of Beam Steering System in Phased Array Based on DSP 608**  
*Chen, Aixin; Wu, Peng*

<b>AN134</b>	<b>The Research of Radio Wave Propagation in the Evaporation Duct</b>	<b>612</b>
	<i>Liu, Chengguo; Zhong, Miao; Li, Yang; Yang, Ming</i>	
<b>AN135</b>	<b>Efficient RCS Estimation of 2-Dimensional Cylinder with Random Holes</b>	<b>616</b>
	<i>Liu, Meilin; Jan S. Hesthaven; Liu, Shaobin</i>	
<b>AN136</b>	<b>A Simple Radiation Pattern Reconfigurable Printed Dipole Antenna</b>	<b>619</b>
	<i>Dong, Jiawei; Wang, Anguo; Lan, Hang</i>	
<b>AN137</b>	<b>Design of Low-Loss Distributed MEMS Phase Shifter</b>	<b>623</b>
	<i>Chen, Aixin; Li, Ying</i>	
<b>AN138</b>	<b>Radio Wave Propagation Path Loss in the Irregular Terrain Environments</b>	<b>627</b>
	<i>Li, Yang; Liu, Chengguo; Zhong, Miao; Wang, Yuan; Yang, Ming</i>	
<b>AN139</b>	<b>The Application of the Adaptive Frequency Selective Surface Superstrate in the Directive Patch Antenna</b>	<b>631</b>
	<i>Huang, Cheng; Zhao, Zeyu; Luo, Xiangang</i>	
<b>AN140</b>	<b>A Dual Band Directive Patch Antenna Based on Two Layer Cut Wire Pairs Superstrate</b>	<b>635</b>
	<i>Zhao, Zeyu; Huang, Cheng; Cui, Jianhua; Zhao, Bo; Luo, Xiangang</i>	
<b>AN141</b>	<b>Novel Hexagon Shaped Dielectric Resonator Antenna Array for Wideband Applications</b>	<b>639</b>
	<i>Zhang, Xiangjun; Lai, Qifeng; Ma, Xiaoping</i>	
<b>AN142</b>	<b>Design of High-Speed T/R Module of P-Band In stantaneous polarization Radar System</b>	<b>643</b>
	<i>Lu, Zhonghao; Li, Gaosheng; Zhou, Dongming</i>	
<b>AN148</b>	<b>Tolerance Analysis of Coupling Slot of Waveguide Slot Array</b>	<b>647</b>
	<i>Liu, Jie; Jiang, Yongjin; Yang, Chunshan; Sun, Wenfeng</i>	
<b>AN149</b>	<b>The Coordinate-Free Expressions for Electromagnetic Fields of an Arbitrary Oriented Electric Dipole in the Presence the Bi-Anisotropic Layer</b>	<b>651</b>



*Jiang, Binhao; Shang, Fang*

- AN155 Design of Modified Sierpinski Fractal Antenna for Multiband Application** 655  
*Hu, Zhang; Wan, Guobin; Sun, Changjie; Zhao, Huiling*
- AN242 Two Kind of Conical Conformal GPS antenna Arrays on Projectile** 659  
*Zhang, Xiangjun; Ma, Xiaoping; Lai, Qifeng*
- AN244 Based on Dual-band Wireless LAN Differentially-Driven Microstrip Antenna** 663  
*Zhou, Liang; Liu, Shaobin*
- AN249 An Effective Nulls Control Method** 666  
*Du, Ruiyan; Wang, Jinkuan; Liu, Fulai; Wang, Bin*
- AN250 Analysis and Design of the GONG Dipole Antenna** 669  
*Guo, Dandan; Su, Donglin; Zhao, Xiaoying*
- AN252 A Compact Planar Inverted-F Antenna for Handset Application** 673  
*Cao, Shunfeng; Jiao, Yongchang; Zhao, Gang; Yang, Bin*
- AN254 Design of Series-feed Antenna with Coplanar Waveguide Structure** 676  
*Du, Xiaodong; Hua, Guang; Hong, Wei*
- AN255 Design of a Shared-Aperture Dual-Band Dual- Polarized Microstrip Antenna** 680  
*Meng, Mingxia; Zhang, Fenglin; Ding, Xiaolei; Ding, Keqian; Li, Lianhui*
- AN257 A D-Shaped Defected Patch Antenna with Enhanced Bandwidth** 684  
*You, Wei; Guo, Huiping; Cai, Wenfeng; Liu, Xueguan*
- AN259 HF Compound Antennas Consisting of a Horizontal LPDA and a Vertical Mono-cone Antenna** 687  
*Zhang, Zhigang; Xie, Hui; Zheng, Longgen*
- AN261 A Millimeter Wave Circular Polarized Microstrip Antenna Based on Linear Polarized Subarrays** 690  
*Xu, Qiang; Sun, Houjun; Lv, Xin; Liu, Jianxun*

<b>SP254</b>	<b>Monopulse Characteristic Based on Full Digital Weighting for Phased Array Radar at Subarray Level</b> <i>Hu, Hang; Diao, Hongcui; Xu, Ying</i>	<b>693</b>
<b>SP255</b>	<b>ADBF at Subarray Level Using a Generalized Sidelobe Canceller</b> <i>Hu, Hang; Liu, Enxiao; Xiao, Yong</i>	<b>697</b>
<b>AN270</b>	<b>A Method for the Design of Miniaturized Suspended Plate Multiband Antennas</b> <i>Guy Joseph Nga; Li, Qingxia</i>	<b>701</b>
<b>AN271</b>	<b>Polarization-Dependent Artificial Magnetic Conductor Structures Using Asymmetrical Frequency Selective Surface</b> <i>Mirshahram Hosseinipan; Wu, Qun</i>	<b>707</b>
<b>AN272</b>	<b>Harmonic Suppression with Spur-line for Microstrip Patch Antenna</b> <i>Su, Gang; Liao, Cheng; Zheng, Xuan; Wang, Shuxin</i>	<b>711</b>
<b>AN273</b>	<b>A Half U-slot Broadband Multilayer Microstrip Antenna</b> <i>Shi, Zhiwei; Liu, Yunlin; Deng, Xi; Tang, Tao</i>	<b>714</b>
<b>AN274</b>	<b>A Low-cost Shorted-patch Antenna for GSM900/1800 Application</b> <i>Xu, Jie; Shen, Dongya; Huang, Bixiang; Yang, Jun</i>	<b>717</b>
<b>COM103</b>	<b>Discrimination of Low-Flying Vehicle from Ground Moving Targets Using Multi-Path</b> <i>Zhang, Xiaobin; Li, Ming</i>	<b>721</b>
<b>COM104</b>	<b>Performance Analysis of Quasi OSTBC Combining Pre-coding and Antenna Selection</b> <i>Lei, Guowei; You, Rongyi; Zhuang, Mingjie</i>	<b>726</b>
<b>COM105</b>	<b>Monitoring and Analysis of Tetra Base Stations</b> <i>Li, Hai; Zhang, Ji; Liu, Meng</i>	<b>729</b>
<b>COM106</b>	<b>A Novel Method in SLM to Produce m sequence to Reduce the PAPR in MIMO-OFDM System</b> <i>Xian, Jinlong; Gong, Yuehong</i>	<b>733</b>
<b>COM110</b>	<b>Performance Comparison of Scheduling Algorithms for</b>	<b>737</b>

	<b>Multi-User MIMO</b>	
	<i>Zhao, Dongyan; Fei, Zesong; Kuang, Jingming</i>	
<b>COM112</b>	<b>Research on Application of OFDM Technology in Cooperative Spectrum Sensing</b>	<b>741</b>
	<i>Shao, Lulu; Song, Qijun; Zhang, Hongshun; Zhang, Jiaping</i>	
<b>COM119</b>	<b>An Improved Algorithm for Flow-Based QoS Routing Protocol in WSN</b>	<b>745</b>
	<i>Cui, Xiaoyan; Liu, Zhao</i>	
<b>COM120</b>	<b>The Design and Implement of Automated Transfer Based on TinyOS</b>	<b>748</b>
	<i>Cui, Xiaoyan; Liu, Zhao; Chen, Mengxiao; Zhang, Wei</i>	
<b>EMC104</b>	<b>An Research on Electromagnetic Model of an Electronic System</b>	<b>751</b>
	<i>Tan, Zhiliang; Xu, Bin; Xiang, Zhenyu</i>	
<b>EMC105</b>	<b>A Fast Method for Measuring Transfer Impedance of Bus Connectors</b>	<b>754</b>
	<i>Xu, Jinhua; Liu, Guangbin; Yu, Zhiyong</i>	
<b>EMC108</b>	<b>Accurate Computational Method for Solving Electromagnetic Wave</b>	<b>758</b>
	<i>Li, Zijun; Fang, Benying</i>	
<b>EMC109</b>	<b>Application of Genetic Algorithm for Microwave Imaging of a Partially Immersed Imperfectly Conducting Cylinder</b>	<b>762</b>
	<i>Sun, Yi; Zhang, Xiaodong; Chien, W.; Sun, C.H.; Chiu, C. C.</i>	
<b>EMC111</b>	<b>An Accurate and Efficient Shielding Effectiveness Evaluation of a Rectangular Enclosure with Rectangular Apertures</b>	<b>765</b>
	<i>Fang, Chonghua; Xie, Dagang; Zhang, Qi; Tan, Hui; Xu, Yang</i>	
<b>EMC112</b>	<b>EM Scattering Model for Targets from the Sea Surface with Breaking Waves</b>	<b>767</b>
	<i>Fang, Chonghua; Tan, Hui; Zhang, Qi; Wen, DingE; Ding, Zhiyao</i>	
<b>EMC115</b>	<b>Study on the Cosite Interference Suppression Using the NLMS Algorithm</b>	<b>770</b>
	<i>Ding, Zhiyao; Song, Wenwu; Tan, Hui; Xu, Yang</i>	

<b>EMC117</b>	<b>Research on Electrostatic Interference of Double Spherical Electrodes</b>	<b>774</b>
	<i>Han, Lei; Chen, Fang</i>	
<b>EMC119</b>	<b>The Influence of Conducting Rough Surfaces on the Performance of Microwave Coaxial Filter</b>	<b>778</b>
	<i>Ning, Yuemin; Jiang, Wanshun; Deng, Jianqin</i>	
<b>EMC121</b>	<b>Study on Jamming Effect of Pseudo-random Binary-Phase-Coded Fuze Based on Starting Probability</b>	<b>782</b>
	<i>Ding, Lianggui; Zhao, Huichang; Tu, Youchao</i>	
<b>EMC122</b>	<b>Study On USB Keyboard Of Type-B Ultrasonic Machine</b>	<b>786</b>
	<i>Yang, Yanzhang; Lin, Bin; Zhao, Wuqin; Zhao, Yang</i>	
<b>EMC123</b>	<b>Research on the Coupling Channels of Invariable Amplitude Sine Wave Irradiation to Radio Fuze and Protection</b>	<b>789</b>
	<i>Fei, Zhiqiang; Wei, Guanghui; Geng, Lifei;</i>	
<b>EMC124</b>	<b>Study and Simulation of Power Amplifier Behavioral Model with Sparse Delay Taps</b>	<b>793</b>
	<i>Nan, Jingchang; Li, Jiuchao; Liu, Yuanan</i>	
<b>EMC128</b>	<b>Affection of Electromagnetic Interference on Auto-passing of the Phase Separation System and Solutions in Da-Qin Railway Line</b>	<b>797</b>
	<i>Ning, Tao</i>	
<b>EMC132</b>	<b>Design of Dual Composite Right/Left-Handed Transmission Line</b>	<b>801</b>
	<i>Du, Guohong; Tang, Xiaohong; Xiao, Fei; Du, Guohong</i>	
<b>EMC133</b>	<b>A Broadband Suspended Stripline Bandpass Filter</b>	<b>804</b>
	<i>Chen, Yongbo; Guo, Yunchuan; Zhan, Mingzhou; Xu, Ruimin</i>	
<b>EMC134</b>	<b>Optimization Schemes for Scattering of Periodic Structures</b>	<b>807</b>
	<i>Zhao, Huiling; Jiang, Dan; Wu, Yajian; Wan, Guobing</i>	
<b>EMC138</b>	<b>Investigation on the Near-Field Computational Model of Frequency-Scan Antenna</b>	<b>811</b>
	<i>Song, Wenwu; Wang, Chun; Wu, Nan; Yu, Jing</i>	
<b>EMC139</b>	<b>Triggering GaAs Photoconductive Switches with 1064nm</b>	<b>814</b>

## **Laser**

*Cui, Haijuan; Ruan, Chengli; Yang, Hongchun*

- EMC143 Analyses of the Effects of Slots Loading on the Microstrip Patch for Dual-Frequency Operation 817**  
*Zheng, Wenquan; Wan, Guobin; Sun, Changjie; Zhao, Yuchen*
- EMC145 Numerical Studies for Relative Bandwidth of Left-Handed Metamaterials with Split-Ring Resonators 821**  
*Dong, Yanzhang; Xu, Weikai; Liu, Shutian*
- EMC148 EMI Pre-Measuring System on Supply Line Conducted Interference Based on Spectrum Analyzer 826**  
*Tang, Zhijun; Zhang, Xiaodong; Yue, Lingling; Wang, Lin*
- EMC150 A Novel Design Methodology for Bandpass Frequency Selective Surfaces Using Complementary Loading Structure 831**  
*Li, Shunli; Liu, Ligu*
- EMC151 Application of the Plane Wave Synthesis Technique Based on the Least Square Method in Antenna Measurements 834**  
*Yu, Ding; Yang, Lin; Fu, Demin; Liu, Qizhong*
- EMC201 Research on the Filter Technology of DC/DC Converter Output Terminal 838**  
*Wang, Wei; Yang, Xu; Zhai, Hongyu*
- EMC203 Research Progress of Direct Current Injection Technique in Aircraft EMC Test 843**  
*Zhang, Bingwei; Jiang, Quanxing*
- EMC217 Research on Spectrum Optimization of Satellite Subsystems Based on Interference Analysis Algorithm and Genetic Algorithm 850**  
*Zhang, Dawei; Xie, Shuguo; Liu, Yan*
- EMC223 Radio Noise Jamming Analysis on Communications System 854**  
*Wang, Yujiao; Su, Donglin; Chen, Wenqing*
- EMC224 Interference Effect Evaluation of Cognitive Radio by Using Statistical Method 858**  
*Yang, Fei; Song, Qizhu; Zhou, Jiyang*

<b>EMC225</b>	<b>The Design of a Multifunctional Test Apparatus-LISN Used for Conduction Interference Testing</b> <i>The Design of a Multifunctional Test Apparatus-LISN Used for Conduction Interference Testing</i> <i>Yue, Lingling; Zhang, Xiaodong</i>	<b>862</b>
<b>EW201</b>	<b>Characteristics and Optimal Miter of Microstrip Bend via the Finite Difference Time Domain Method</b> <i>Mao, Jianbo; Yang, Mingwu; Liang, Huaguo; Liu, Jinxian; Zhang, Meng</i>	<b>865</b>
<b>EW202</b>	<b>A New Error Calibration Method for Aperture Synthesis Radiometers</b> <i>Xu, Kai; Zhu, Guangxi; Huang, Quanliang; He, Fangmin;</i>	<b>869</b>
<b>EW205</b>	<b>A Study on the Choice of Combination Coefficient for Combined Field Integral Equation</b> <i>Zhou, Yongjin; Zhou, Xiaoyang; Cui, Tiejun</i>	<b>873</b>
<b>EW207</b>	<b>A Novel Periodic Defected Ground Structure for Microstrip Line with Improved Performances</b> <i>Peng, Lin; Ruan, Chengli; Ding, Chaoyuan</i>	<b>876</b>
<b>EW208</b>	<b>Miniature Filters Based on Metamaterials with Transmission Zeros and Wide Upper-stopband Performance</b> <i>Peng, Lin; Ruan, Chengli; Ding, Chaoyuan</i>	<b>880</b>
<b>EW209</b>	<b>Application of Grid-Cell Combination in 2D-FDTD Modeling of ELF Propagation and Schumann Resonances of the Earth</b> <i>Xia, Hangang; Wang, Yi; Cao, Qunsheng</i>	<b>884</b>
<b>EW210</b>	<b>Design and Optimization of Microstrip-to-CPW Right-angled Transition Using Finite Difference Time Domain Method</b> <i>Xu, Yinsheng; Mao, Jinbo; Yang, Mingwu; Xuan, Xiaofeng; Liu, Jinxian</i>	<b>888</b>
<b>EW212</b>	<b>Electromagnetic Polarization Conversion by Multilayered Structure of Metal-dielectric Films on Optical Wave Band</b> <i>Zhao, L.; Zhu, T. T.; Liang, Y.J.; Xie, H.</i>	<b>892</b>
<b>EW213</b>	<b>A Fast Efficient Technique for Solvingmonotonic RCS Using the Svd Method</b> <i>Gu, Jingjing; Gu, Changqing</i>	<b>896</b>

<b>EW214</b>	<b>An Improved Hybrid Technique for Computing the RCS of Dihedral Corner Reflector with a Protrusion</b> <i>Geng, Fangzhi; Pan, Yingfeng; Qin, Kaibing; Xia, Dongyu</i>	<b>900</b>
<b>EW215</b>	<b>System-Level Construction of Multiconductor Transmission Line Inductance Matrix</b> <i>Xu, Jun; Lv, Yinghua</i>	<b>903</b>
<b>EW216</b>	<b>Analysis of the Dispersion characteristics of Microstrip Lines on Anisotropic Substrate with Spectral-Domain Method</b> <i>Wang, Wei; Li, Kai; Chen, Dan; Li, Wencheng; Li, Lei</i>	<b>907</b>
<b>EW217</b>	<b>Complementary Split Ring Resonators Using Equilateral Triangular Koch Fractal Curves</b> <i>Zeng, Huiyong; Wang, Guangming; Liang, Jiangang; Gao, Xiangjun</i>	<b>911</b>
<b>EW218</b>	<b>Novel Compact Single Complementary Split Ring Resonator</b> <i>Zeng, Huiyong Wang, Guangming Yu, Zhongwu Zhang, Chenxin</i>	<b>914</b>
<b>EW219</b>	<b>Moment Method Solution of the EFIE for TE-Wave Scattering by Conducting Cylinders Using Basis and Testing</b> <i>Xu, Yunsheng; Wang, Kan</i>	<b>917</b>
<b>EW220</b>	<b>A Novel Dual-band Cascaded EBG Structure with Chip Capacitors Loading</b> <i>Chen, Liang; Li, Jing; Pan, Han; Yi, Xueqin; Liang, Changhong</i>	<b>921</b>
<b>EW221</b>	<b>Equivalent Dipole-Moment Method for Electromagnetic Scattering by Dielectric Bodies</b> <i>Yu, Chao; Yuan, Jiade; Gu, Changqing</i>	<b>924</b>
<b>EW225</b>	<b>Graphics Processor Unit (GPU) Acceleration of Time-Domain Finite Element Method (TD-FEM) Algorithm</b> <i>Liu, Kun</i>	<b>928</b>
<b>EW226</b>	<b>A New Approach for Fast Solution of Electromagnetic Scattering Problems over a Broad Frequency Band</b> <i>Chen, Mingsheng; Wu, Qiong; Huang, Zhixiang; Wu, Xianliang</i>	<b>932</b>
<b>EW227</b>	<b>Effective Hybrid MPSTD-FDTD Method</b>	<b>935</b>

*Jiang, Yongjin; Pan, Yichun; Fu, Wenbin; Mao, Junjie*

- EW228 Influence of Cross-Loop Slots FSS Structure Parameters on Frequency Response** 939  
*Meng, Xuesong; Chen, Aixin*
- EW229 The Application of Schur Decomposition-Based BCG Solver in the Solution of FEBI Systems for Inhomogeneous Media** 943  
*Ping, Xuewei; Cui, Tiejun*
- EW230 Segmental Analyse and Numerical Verification on Radar Scattering Characteristics of Reentry Capsule** 947  
*Luo, Qi; Liu, Shaobin*
- EW231 RCS Calculation of Complex Targets Shielded with Plasma Based on Visual GRECO Method** 950  
*Wang, Gu; Yuan, Lei; Wang, Taosheng; Fang, Ning; Miao, Jungang; Wang, Baofa*
- EW232 Wideband Artificial Magnetic Conductor Structure for Ku-band Antenna Applications** 954  
*Yang, Wenwen; Hua, Guang; Hong, Wei*
- EW237 An Optimization Procedure for Signature Reconstruction of Near-Field Targets** 958  
*Jiang, Dan; Sui, Miao; Xu, Xiaojian*
- EW238 Debye Series for Electromagnetic Scattering by Coated Conducting Spheres** 963  
*Li, Renxian Han, Xiang'e Yu, Haitao*
- EW239 Modified On-Surface Discretized Boundary Equation Method for Solving Scattering Problems of Concave Conducting Cylinders** 966  
*Dong, Na; Xu, Yunsheng*
- EW240 Spectrum Analysis of Different Types of High-power Microwave Pulses in Air Breakdown** 970  
*Tang, Tao; Liao, Cheng; Chen, Linglu; Shi, Zhiwei*
- EW241 A Study of Parallel FDTD for Simulating Large-Scale TEM Horn Antenna Array** 973  
*Chang, Lei; Chen, Linglu; Liao, Cheng; Qin, Yanming; Fu, Haijun; Su, Gang*



<b>ME102</b>	<b>Substrate Integrated Cylindrical Cavity</b> <i>Tan, Kejun; Luan, Xiuzhen</i>	<b>977</b>
<b>ME103</b>	<b>Design of Remote Locomotive Real-Time Monitoring System Based on GPRS</b> <i>Zhang, Yong; Tan, Nanlin</i>	<b>980</b>
<b>ME110</b>	<b>Design Optimization and Validity Simulation for the Support Structure of the Segment Deformable Mirror</b> <i>Zhao, Fu; Gong, Yanjue; Meng, Chunling; Lv, liang; Wang, Ping</i>	<b>984</b>
<b>ME116</b>	<b>Analysis and Optimum Design of RF Spiral Inductors on Silicon Substrate</b> <i>Huang, Lu; Zhang, Wanrong; Xie, Hongyun; Shen, Pei; Gan, Junning; Huang, Yiwen; Hu, Ning</i>	<b>990</b>
<b>ME118</b>	<b>Design of Broadband Impedance Transformer Using Coupled Microstrip Transmission lines</b> <i>Zhou, Xiang; Liu, Xueguan; Guo, Huiping; Shao, Lvxia</i>	<b>994</b>
<b>ME119</b>	<b>A 2.5GHz Low Phase Noise LC VCO in 0.18-<math>\mu</math>m CMOS Technology for WLAN Applications</b> <i>Duan, Jihai; Li, Jianping; Qin, Chao</i>	<b>998</b>
<b>ME120</b>	<b>A Wideband CMOS Low-Noise Amplifier for 3-5 GHz UWB Systems</b> <i>Duan, Jihai; Han, Xiaoting; Li, Sheng</i>	<b>1002</b>
<b>ME121</b>	<b>A Study of Matching Capacitor's Influence on Power Amplifier Performance</b> <i>Fan, Derui; Chen, Zhang; Li, Zhuang</i>	<b>1006</b>
<b>ME122</b>	<b>Design and Simulation of a Wideband Power Amplifier from 600MHz to 1000MHz</b> <i>Fan, Derui; Deng, Yufen; Li, Zhuang</i>	<b>1009</b>
<b>ME123</b>	<b>Improved Characteristics of 4H-SiC MESFETs With Partly P-type doped Space Layer</b> <i>Huang, Wen; Guo, Yunchuan; Xu, Yuehang; Zheng, Wei; Xu, Ruimin</i>	<b>1012</b>
<b>ME124</b>	<b>Novel Microstrip Bandpass Filter with Controllable</b>	<b>1016</b>

### **Transmission Zeros**

*Zhang, Long; Yu, Zhiyuan; Mo, Shaoguo*

- ME125 A New Miniature Peano Fractal-Based Bandpass Filter Design with 2nd Harmonic Suppression 1019**  
*Jawad K. Ali; Yakeen S. Miz'el*
- ME129 On-Surface Discretized Boundary Equation Method Based on Field Expressions in Terms of Magnetic Currents 1023**  
*Wang, Kan; Xu, Yunsheng; Tang, Fusheng*
- ME203 The Study of Microwave Nondestructive Examination System for Fiber Glass-reinforced Plastic Sucker Rods 1027**  
*Yan, Wenhui; Peng, Yong*
- ME207 New Definition of Slotline Characteristic Impedance 1033**  
*Wu, Zhaoyang; Xuan, Xiaofeng; Zhang, Rui; Mao, Jianbo; Yang, Mingwu; Jiang, Wanshun*
- ME210 Lumped-Networks Simulation with CN-FDTD 1036**  
*Hu, Xiaobin; Nai, Yu; Tang, Wanchun*
- ME215 Design of a FSS Filter with Shorting Stubs for Compact E-plane Duplexer Application 1040**  
*Wang, Bin; Wang, Qingyuan; Liao, Ao; Chen, Lifeng; Mai, Wending*
- ME216 Design of a Microwave Equalizer Using Microstrip Open-loop Rectangular Ring Substructure 1043**  
*Zhao, Ying; Zhou, Dongfang; Niu, Zhongxia*
- ME222 Wideband Bandpass Filter Using Parallel-Coupled Line and Step-Impedance Open Stubs 1047**  
*Cai, Peng; Guan, Xuehui; Yang, Xuexia; Zhang, Yong; Chen, Bin; Huang, Jian; Wu, Yunsong*
- ME223 A Low Cost Phase Adjustment Network for MMW Mix-Integrated Active Antenna 1050**  
*Yu, Weihua; Mou, Jinchao; Yin, Jianyong; Sun, Houjun*
- ME227 Application of Active Power Filtering Control Technology in Restraining a Harmonic 1054**  
*Zhang, Qi; Hou, Jialin; Yan, Yinfa; Tang, Kai; Wang, Zhen*

<b>ME241</b>	<b>A Broadband Waveguide-to-Coaxial Transition</b> <i>Zhang, Xin; Yuan, Hong; Cheng, Hairong</i>	<b>1058</b>
<b>ME242</b>	<b>4-Component 2-D CFDFD with ESIBC Application for Coaxial Waveguide with Fractal-regular Rough Surfaces</b> <i>Zhang, Lu; Deng, Hongwei; Zhao, Yongjiu; Jiang, Wanshun; Ning, Yuemin</i>	<b>1060</b>
<b>PRO201</b>	<b>Effects of the 4–20 April 2006 Major Geomagnetic Storms on GPS Ionospheric Scintillations at Guilin</b> <i>Zou, Yuhua; Geng, Guangyu</i>	<b>1065</b>
<b>PRO203</b>	<b>Measuring and Analyzer of Rain Attenuation for Satellite Communication in Ku Band</b> <i>Xu, Kai; Xiang, Shunxiang; Huang, Linshu</i>	<b>1070</b>
<b>PRO207</b>	<b>An Electromagnetic Resonate Absorber Based on SRRs</b> <i>Zhao, Shoujun; Bao, Junsong; Qian, Zuping; Wu, Ruixin</i>	<b>1074</b>
<b>PRO212</b>	<b>Nonlinear Heating Effects of Stong Wave Longitudinal Propagation in the Ionosphere</b> <i>Yu, Daojie; Wang, Jianmin; Lin, Xin; Guo, Yuhua; Cui, Weiqun</i>	<b>1079</b>
<b>PRO214</b>	<b>A Volume-surface Integral Equation Solver for Scattering from Microstrip Antenna on Anisotropic Substrate</b> <i>Yuan, Jiade; Gu, Changqing</i>	<b>1083</b>
<b>PRO215</b>	<b>Approximate Technique for Calculating Attenuation Factor of Ground-Wave Propagation over the Inhomogeneous Surface</b> <i>Huang, Liang; Xu, Jiadong; Zhu, Fuguo; Yan, Wei</i>	<b>1086</b>
<b>PRO217</b>	<b>Propagation of the Electromagnetic Pulse through Inhomogeneous Plasma Medium</b> <i>Ning, Fang; Wang, Baofa</i>	<b>1090</b>
<b>PRO225</b>	<b>Impact of Bandwidth, Center Frequency and Spatial Position on the Results of Ultra-Wideband Power Delay Profile Measurements and Accuracy of Predictions</b> <i>P.N. Zakharov; A.K. Babushkin; A.F. Korolev; A.V. Kozar</i>	<b>1094</b>
<b>PRO228</b>	<b>Numerical Simulation of Spreading Effect of Collimated Laser Beam in a Atmospheric Turbulence</b> <i>Wang, Liguu; Wu, Zhensen</i>	<b>1100</b>

<b>SEN207</b>	<b>Soil Salinization Study in Angulinao Wetlands Based on Multi-source Remotely Sensed Imagery</b>	<b>1104</b>
	<i>Zhang, Lina; Wu, Jicang; Cheng, Xiao; Peng, Guangliang</i>	
<b>SP102</b>	<b>Simulation Study of Transverse Delay Filtering and IQ Quadrature Filtering</b>	<b>1109</b>
	<i>Tan, Hui; Song, Wenwu; Ding, Zhiyao</i>	
<b>SP106</b>	<b>The Simulation Analysis of Influence on Jointless Track Circuit Signal Transmission from Compensation Capacitor Based On Transmission-Line Theory</b>	<b>1113</b>
	<i>Zhao, Linhai; Li, Hong; Guo, Jingrong; Liu, Weining</i>	
<b>SP216</b>	<b>Transponder with Undersampling Method</b>	<b>1119</b>
	<i>Wang, Yiding</i>	
<b>SP238</b>	<b>Configure Cognitive Radio using GNU Radio and USRP</b>	<b>1123</b>
	<i>Song, wenmiao</i>	
<b>SP245</b>	<b>A Variable Forgetting Factor RLS Adaptive Filtering Algorithm</b>	<b>1127</b>
	<i>Wang, Junfeng</i>	
<b>SP249</b>	<b>An Ultra-high-speed Comparator for ADC in 90nm CMOS Technology</b>	<b>1131</b>
	<i>Ye, Song; Wu, Jie</i>	
<b>SS108</b>	<b>Design and Implement of BPSK Modulator and Demodulator Based on Modern DSP Technology</b>	<b>1135</b>
	<i>Song, Wenmiao; Zhang, Jingying; Yao, Qiongqiong</i>	
<b>SS109</b>	<b>A 3.1-5GHz High and Flat Gain UWB LNA</b>	<b>1138</b>
	<i>Wu, Wei; Manohar Nagaraju; Cameron T. Charles; Fan, Xiaoya</i>	
<b>SS112</b>	<b>The Terminal Responses of the Two-Wire Transmission Line in a Cavity with Apertures Illuminated by a Plane Wave</b>	<b>1142</b>
	<i>Li, Ying; Ni, Guyan; Luo, Jianshu; Zhang, Xufeng; Shi, Jiyuan</i>	
<b>SS115</b>	<b>Ultra-Wideband(UWB) Bandpass Filter Using Hybrid Microstrip/ACPW Structures</b>	<b>1147</b>
	<i>Li, Xiaoming; Fang, Shaojun; Fu, Shiqiang</i>	

SS117	<b>Research on the Topological Structure of Unified Power Quality Conditioner for Three-phase Four-line System</b> <i>Cui, Juanjuan; Gao, Qinxiang; Yu, Weiwei; Fu, Songping; Zhou, Hailing</i>	1150
SS120	<b>Application of FPGA to accelerate plasma FDTD Algorithm</b> <i>Feng, Jun      Liu, Shaobin</i>	1154
SS122	<b>New Wideband Microstrip Bandpass Filter Using Single Triangular Patch Resonator with Fractal-shaped Defection</b> <i>Xiao, Jiankang; Huang, Huifen</i>	1158
SS123	<b>Analysis of H Waveguide Resonator with Laminated Dielectric Slab</b> <i>Xiao, Jiankang</i>	1162
SS124	<b>New Microstrip Filter Using Single Right-angled Triangular Patch Resonator</b> <i>Xiao, Jiankang; Huang, Huifen</i>	1167
SS125	<b>Circular Double Center Stubs Loaded Microstrip Bandpass Filter</b> <i>Mo, Shaoguo; Zhang, Long; Yu, Zhiyuan</i>	1171
SS127	<b>Design of Microstrip Square Loop Stub Loaded Dual-Mode Filter</b> <i>Mo, Shaoguo; Yu, Zhiyuan; Zhang, Long</i>	1174
SS130	<b>An UWB Receiver Structure with Improved Performance in Timing Jitter Sensitivity</b> <i>Zhang, Bing; Li, Baoxue; Fei, Yuanchun</i>	1177
SS133	<b>A New Extended Kalman Filter Based Carrier Tracking Loop</b> <i>Wang, Jian; Liang, Qianhao; Liang, Kun; Wei, Shangguan</i>	1181
SS134	<b>Precise Remote Frequency Measurement Method by GPS Carrier Phase</b> <i>Liang, Kun; Wang, Jian; Wang, Weibo; Ning, Dayu</i>	1185
SS205	<b>Study on Detection Technique of Pseudo-noise Code Phase Modulation Fuse</b> <i>Zhang, Qinghui; Jin, Guangfeng</i>	1189

SS206	<b>Design and Implementation of Channel Estimation and Channel Updating for OFDM-based WLAN Receivers</b> <i>Zheng, Ziwei</i>	1192
SS208	<b>Multi-hop Based Highly Precise Time Synchronization Protocol for ZigBee Networks</b> <i>Song, Ping; Shan, Xiaodong; Li, Kejie; Qi, Guangping</i>	1197
SS210	<b>Design and Implementation of an ECDSA-based Identity Authentication Protocol on WSN</b> <i>Wang, Weihong; Cui, Yiling; Chen, Tieming</i>	1202
SS211	<b>A Novel Timing Synchronization for OFDM based WLAN Systems</b> <i>Wang, Zhenting; Fang, Zhi; Shi, Yin; Chen, Zhiming</i>	1206
SS214	<b>Development of Archives Management Information System Based on .NET Multi-tier Architecture</b> <i>Qin, Lele; Huang, Tao; Zhang, Huixiao; Gu, Jinjun</i>	1210
SS215	<b>Research on the General Exam System Model Based on Ontology and Multi-agent</b> <i>Wang, Chunhong; Qin, Lele</i>	1214
SS216	<b>Image Denoising Research Based on Lifting Wavelet Transform and Threshold Optimization</b> <i>Huang, Tao; Qin, Lele</i>	1218
SS218	<b>Adaptive Full-Diversity Full-Rate Space-Time Block Code with Linear Decoding Complexity</b> <i>Wang, Li; Jiang, Hua; Shao, Lan; Zhao, Hui; Wang, Wenbo</i>	1221
SS222	<b>Design of a High Performance Compact RF Transceiver for WiMAX Access Points</b> <i>Zhao, Teng; Zhou, Jianyi; Zhai, Jianfeng</i>	1226
SS223	<b>Wavelet-Based Pulse Design for UWB Vehicular Radar</b> <i>Xia, Bin; Xie, Nan; Li, Junbin</i>	1229
SS224	<b>R-Sensing:a Route Solution for Wireless Sensor Measurement System</b> <i>Chen, Chang; Song, Ping; Li, Kejie</i>	1232

- SS225**     **Research on Sites' Structure of HF Air-To-Ground Communications**     1238  
*Wu, Wen; Da, Xinyu; Liu, Yunjiang*
- SS227**     **The Study and Realization of Automatic Mesh Generation Based on Electromagnetic Simulation of FDTD**     1242  
*Yang, Jun; Su, Donglin; Zhao, Xiaoying*
- SS228**     **Meander Line-Based High Impedance Surface with High Angular Stability of Resonant Frequency**     1246  
*Mirshahram Hosseinipan; Wu, Qun*
- SS230**     **Performance Analysis for the Novel Blind Multi-user Detector Based on Compressed Subspace Method in TH-UWB Systems**     1250  
*Wang, Huiqi; Ma, Hong*
- SS231**     **An Throughput-Optimized Cooperative Routing Protocol in Ad Hoc Networks**     1255  
*Wang, Li; Liu, Kai*