TH2A Transportation Systems Technology

Chair: R.E. Henning, University of South Florida

ROOM A201

10:10 AM

TH2A-1: *Radar Requirements and Architecture Trades for Automobile Applications*
R. Dixit, TRW-AEN, Farmington Hills, MI, L. Raffaelli, ARCOM, Inc., Salem, NH

10:20 AM

10:30 AM

TH2A-2: *Millimeter Wave Radar Sensor for Automotive Intelligent Cruise Control (ICC)*
M.E. Russell, A. Crain, A. Curran, R.A. Campbell, C.A. Drubin, W. F. Miccioli, Raytheon Elec. Sys., Tewksbury, MA

10:40 AM

10:50 AM

TH2A-3: *Millimeter-Wave Dual Mode Radar for Headway Control in IVHS*
K. Konno, S. Koshikawa, Antenna Giken Co., Ltd., Ohmiya, Japan

11:00 AM

11:10 AM

TH2A-4: *Active SIMMWIC-Antenna for Automotive Applications*
M. Singer, E.M. Biebl, TU Munchen, Munchen, Germany, K.M. Strohm, J.-F. Luy, Daimler-Benz Research, Ulm, Germany

11:20 AM

TH2A-5: *A Novel Circularly Polarized W-Band Detection Receiver for Six-Port Polarimetric Radar Systems*
M.O. Thieme, A. Stiller, R.H. Rasshofer, E.M. Biebl, TU Munchen, Munchen, Germany

11:30 AM

TH2A-6: *24.125 GHz Dual Monopulse Microstrip Patch Antenna Array for K-Band Collision Warning Systems*
J. A. Navarro, Boeing Defense & Space Group, Seattle, WA

11:40 AM

TH2B Low Noise Millimeter-Wave Components

Chair: J. Whelehan, AIL Systems, Inc.

ROOM A207

TH2B-1: *A 155-GHz Monolithic InP-Based HEMT Amplifier*
H. Wang, R. Lai, Y.C. Chen, Y.L. Kok, T.W. Huang, T. Block, D. Streit, P.H. Liu, B. Allen, TRW, Redondo Beach, CA, P. Siegel, Jet Propulsion Lab., Pasadena, CA

TH2B-2: *Full-Waveguide Band, 90 to 140 GHz, MMIC Amplifier Module*
S. Weinreb, Univ. of Massachusetts, Amherst, MA, P.C. Chao, Lockheed Sanders, Nashua, NH

TH2B-3: *Compact Monolithic Coplanar 94 GHz Front Ends*
W.H. Haydl, L. Verweyen, T. Jakobus, M. Neumann, M. Schlechtweg, W. Reinert, W. Bronner, T. Fink, Fraunhofer Inst. for Appl. Solid State Physics, Freiburg, Germany

TH2B-4: *Millimeter-Wave Waveguide-Bandwidth Cryogenically-Coolable InP HEMT Amplifiers*
M. W. Pospieszalski, W.J. Lakatosh, E. Wollack, NRAO, Charlottesville, VA, L.D. Nguyen, M. Le, M. Lui, T. Liu, Hughes Research Labs., Malibu, CA

TH2B-5: *Efficient Modeling of Microscopic and Macroscopic Noise Behavior of Submicron-Highly-Doped Semiconductor Devices at Millimeter-Wave Frequencies*
A. Abou-Elnour, D. Liebig, K. Schunemann, Tech. Univ. Hamburg-Harburg, Hamburg, Germany

TH2B-6: *Design and Characterization of FET Based Cold/Hot Noise Sources*
L.P. Dunleavy, S.M. Lardizabal, A. Fejzuli, Dept. of EE, Univ. of South Florida, Tampa, FL, M. Smith, R. Roeder, Raytheon/E-Systems, St. Petersburg, FL

TH2C Devices and Circuits for Wireless Power Applications

Chair: A. Platzker, Raytheon
Co-chair: J. Heaton, Sanders

ROOM A102

TH2C-1: *SiGe Bipolar Junction Transistors for Microwave Power Applications*
G.N. Henderson, M.F. O'Keefe, Corp. R&D, T.E. Boles, P. Noonan, J.M. Sledziewski, B. Brown, Semiconductor Business Unit, M/A-COM, Lowell, MA

TH2C-2: *High Efficiency Subμm Gate LDMOS Power FET for Low Voltage Wireless Communications*
G. Ma, W. Burger, J. Gibson, X. Ren, M. Shields, Motorola Inc., Tempe, AZ

TH2C-3: *High-Efficiency, Small-Chip AlGaAs/GaAs Power HBTs for Low-Voltage Digital Cellular Phones*
N. Hayama, H. Takahashi, N. Goto, K. Honjo, NEC Corp., Ibaraki, Japan, C.-W. Kim, Kyung-Hee Univ., Korea

TH2C-4: *A 1.9 GHz Variable Gain Linear Power Amplifier MMIC for PHS Using Novel Cascaded MESFETs*
M. Kimishima, K. Hayashi, M. Takahashi, New Japan Radio Co., Ltd., Eng. Headquarters, Saitama, Japan

TH2C-5: *An E-Mode GaAs FET Power Amplifier MMIC for GSM Phones*
W. Abey, C. Khandavalli, W. Kennan, Fujitsu Comp. Semi., Inc., San Jose, CA, T. Kawai, I. Okamoto, M. Suzuki, Y. Tateno, M. Nagahara, Fujitsu Ltd., Kawasaki, Japan, M. Takikawa, Fujitsu Labs Ltd., Atsugi, Japan

TH2C-6: *A 2W, 65% PAE Single-Supply Enhancement-Mode Power PHEMT for 3V PCS Applications*
D.-W. Wu, R. Parkhurst, S.-L. Fu, J. Wei, S.-S. Chang, D. Moy, W. Fields, P. Chye, R. Levitsky, Comms. Components Div., Hewlett-Packard Co., C.-Y. Su, HP Labs., Newark, CA

TH2C-7: *High Efficiency, Low Adjacent Channel Leakage 2 V Operation GaAs Power MESFET Amplifier for 1.9 GHz Digital Cordless Phone System*
M. Nagaoka, H. Wakimoto, K. Kawakyu, K. Nishihori, Y. Kitaura, T. Sasaki, A. Kameyama, N. Uchitomi, Toshiba R&D Ctr., Kawasaki, Japan

TH2D Probing Techniques and Dielectric Measurement

Chair: R.D. Pollard, The Univ. of Leeds
Co-chair: Z. Skvor, Czech Tech. Univ. of Prag

ROOM A101

TH2D-1: *Wavelength Optimized Electro-Optic Scanning of MMICs with Fabry-Perot Enhancement*
P.O. Muller, D. Erasme, B. Huyart, Comm. Dept., ENST, Paris, France

TH2D-2: *MM-Wave Near-Field Scanning Resistivity Microscope*
M. Golosovsky, D. Davidov, Racah Inst. of Physics, Hebrew Univ. of Jerusalem, Israel

TH2D-3: *A SOLR Calibration for Accurate Measurement of Orthogonal On-Wafer DUTs*
S. Basu, L. Hayden, Cascade Microtech Inc., Beaverton, OR

TH2D-4: *Coplanar Waveguide Technique for Measurement of Dielectric Constant or Thickness of Dielectric Films*
M. Waldo, Motorola, Inc., Scottsdale, AZ, I. Kaufman, S. El-Ghazaly, Dept. of EE, Arizona State Univ., Tempe, AZ

TH2D-5: *Permittivity Characterization from Transmission-Line Measurements*
M. D. Janezic, D.F. Williams, NIST, Boulder, CO

TH2D-6: *Complex Permittivity Measurements of Extremely Low Loss Dielectric Materials Using Whispering Gallery Modes*
J. Krupka, Inst. Mikroelek. Optoelek., PW, Warsaw, Pol., K. Derzakowski, Inst. Pods. Elek., Warsaw, Pol., A. Abramowicz, Inst. Radioelek., Warsaw, Pol., M. Tobar, Univ. W. Aus'lia, Nedlands, Australia, R.G. Geyer, NIST, Boulder, CO

TH2D-7: *Precision Free-Space Measurements of Complex Permittivity of Polymers in the W-Band*
G.L. Friedsam, E.M. Biebl, Lehr. HFtechnik, TU-Munchen, Munchen, Germany

TH2D-8: *Measurement of Transmittance and Scattering of Radome Membranes 30 to 1000 GHz*
M.N. Afsar, I. Tkachov, Tufts Univ., Dept. of EECS, Medford, MA, T. Wells, Electronic Space Corp., Concord, MA

TH2E Recent Developments in Field Theory

Chair: A. Beyer, Gerhard-Mercator-University, Duisburg, Germany

ROOM A108

TH2E-1: *Finite-Difference Vector Potential Time-Domain Approach to the Analysis of Planar Structures*
N. Georgieva, E. Yamashita, Univ. of Electro-Communications, Tokyo, Japan

TH2E-2: *Investigation of Various H-Shaped Antennas with an ATLM Field-Solver*
S. Lindenmeier, P. Russer, TU Munchen, Munchen, Germany, B. Bader, FB Inst. HFtechnik, Berlin, Germany

TH2E-3: *Unified Analysis of Quasi-TEM and Higher Order Modes in Planar Transmission Lines*
C. Rieckmann, A.S. Omar, Tech. Univ. Hamburg-Harburg, Arbeitsbereich HFtechnik, Hamburg, Germany, A. Jostingmeier, Deutsches Elektronin-Synthrotron DESY, Hamburg, Germany

TH2E-4: *Global Edge-Conditioned Basis Functions from Local Solutions of Maxwell's Equations*
S. Amari, A. Motamedi, J. Bornemann, R. Vahldieck, LLiMiC, Dept. of ECE, Univ. of Victoria, Victoria B.C., Canada

TH2E-5: *Circuit Based Model for Coupling Between MMICs in Multi-Chip Assemblies*
R. W. Jackson, Z. Wang, Dept. of ECE, Univ. of Massachusetts, Amherst, MA

TH2E-6: *Nonlinear PML for Absorption of Nonlinear Electromagnetic Waves*
J.G. Ma, J. Xu, Z. Chen, Dept. of EE, Tech. Univ. of Nova Scotia, Nova Scotia, Canada