

THP1A
Field Analysis and Guided Waves

THP1A-01: Transient Analysis of Mode Structures and Quantification of Crosstalk in Printed Metal Strips
S. Ahmed, D. Linton, Institute of Electronics, Communications and Information Technology, Belfast, UK

THP1A-02: Rigorous Mode-Matching Method for Circular to Off-Centre-Rectangular Side-Coupled Waveguide Junctions
J. Zheng, M. Yu, COM DEV Ltd, Cambridge, Canada

THP1A-03: Modeling of Spurious Coupling Between Modes in Metal Packages and Embedded Circuits
T. Bolz, IMST GmbH, Kamp-Lintfort, Germany; S. Held, M. Neinhuis, A. Beyer, K. Solbach, University of Duisburg-Essen, Duisburg, Germany

THP1A-04: Analysis of Post-Wall Waveguide by H-Plane Resonator Circuit Approach
M. Kishihara, K. Yamane, Okayama Prefectural University, Soja, Japan; I. Ohta, University of Hyogo, Himeji, Japan

THP1A-05: Electromagnetic Scattering From Multiple Arbitrary Shape Grooves: A Generalized Formulation
M.A. Basha, S.K. Chaudhuri, S. Safavi_Naeini, University of Waterloo, Waterloo, Canada

THP1A-06: Modeling and Suppressing Substrate Coupling of RF CMOS FMCW Sensor Incorporating Synthetic Quasi-TEM Transmission Lines
S. Wang, H. Wu, C.C. Tzuang, National Taiwan Univ.; C. Chang, National Chiao Tung Univ.

THP1A-07: Computational Modeling Analysis of Radar Scattering by Metallic Body-Worn Explosive Devices Covered with Wrinkled Clothing
A.J. Angell, C. Rappaport, The Gordon Center for Subsurface Sensing and Imaging Systems, Northeastern University, Boston, USA

THP1B
Frequency Domain Techniques

THP1B-01: Numerical Evaluation of the Green's Functions for Arbitrarily Shaped Enclosures
J. S. Gomez Diaz, M. Martinez Mendoza, F.D. Quesada Pereira, J. Pascual Garcia, F.J. Perez Soler, A. Alvarez Melcon, Technical University of Cartagena

THP1B-02: Improved Finite-Difference Frequency-Domain Scheme for the Analysis of 2D Photonic Crystals
Y. Chiang, National Chung-Hsing University, Taichung, Taiwan; H. Chang, Y. Chiou, National Taiwan University, Taipei, Taiwan

THP1B-03: Higher-Order Vector Bases for the Method of Moments Analysis of a Class of Waveguide and Dielectric Resonator Filters Involving Curved Boundaries
V. Catina, F. Arndt, University of Bremen; J. Brandt, MiG, Bremen, Germany

THP1B-04: Enhanced Multiple Cells Lumped Elements and Ports for Vector Finite Element Method
A. D. Grigoryev, R.V. Salimov, R. I. Tikhonov, Saint Petersburg State Electrotechnical University LETI

THP1C
Time Domain Techniques

THP1C-01: On-Chip Interconnects Modeling in Time Domain using the Explicit DuFort-Frankel Algorithm
M. Matthaïou, Univ. of Edinburgh, Edinburgh, UK; K. Konstantinou, Univ. of Surrey, Guildford, UK; T. Yioultsis, Aristotle Univ. of Thessaloniki, Greece

THP1C-02: Efficient Mixed-Order FDTD Using the Laguerre Polynomials on Nonuniform Meshes
P. Fernandes, Z.D. Chen, Dalhousie University, Halifax, Canada

THP1C-03: Numerical Dispersion Characteristics of the Three-Dimensional Precise Integration Time-Domain Method
Z.D. Chen, Dalhousie University, Halifax, Canada; L. Jiang, J. Ma, Shanghai Jiao Tong University, Shanghai, China

THP1C-04: Discrete and Modal Source Modeling with Connection Networks for the Transmission Line Matrix (TLM) Method
P. Lorenz, Rohde & Schwarz GmbH, München, Germany; P. Russer, Technische Universität München, Germany

THP1C-05: Including Quantum Effects in Electromagnetic System — An FDTD Solution to Maxwell-Schrödinger Equations
W. Sui, J. Yang, X. Yun, Zhejiang University, Hangzhou, China

THP1C-06: Modeling of Mutual Coupling Between Electromagnetic and Thermal Fields in Microwave Heating
M. Pauli, T. Kayser, G. Adamiuk, W. Wiesbeck, Universität Karlsruhe (TH), Karlsruhe, Germany

THP1C-07: Theoretical Investigation on the One-Step Temporal Method
J. Silly-Carette, M. Wong, J. Wiart, France Telecom Research & Development, Issy Les Moulineaux, France; D. Lautru, V. Fouad Hanna, Université Pierre et Marie Curie, Paris, France

THP1C-08: Reconstructing the Impedance Profiles of Nonuniform Transmission Lines
C.M. Jackson, Raytheon SAS, Huntington Beach, USA

THP1D
CAD Algorithms and Techniques

THP1D-01: Improving Efficiency of Space-Mapping Optimization of Microwave Structures and Devices
S. Koziel, Q.S. Cheng, McMaster University, Hamilton, Canada; J.W. Bandler, Bandler Corp., Dundas, Canada

THP1D-02: Moment Method Using Fuzzy Basis Functions
V. Mirafteb, M. Yu, COM DEV Ltd., Cambridge, Canada; R. Mansour, University of Waterloo, Waterloo, Canada

THP1E
Linear Device Modeling

THP1E-01: A Passive Macromodeling Technique for Nonuniform Transmission Lines based on Delay Extraction via the Theory of Lie Algebra and Lie Groups
E. Gad, University of Ottawa, Ottawa, Canada

THP1F
Nonlinear Device Modeling

THP1F-01: Extraction and Improvements of a Behavioral Model Based on the Wiener-Bose Structure Used for Baseband Volterra Kernels Estimation
D. D. Silveira, G. Magerl, Vienna University of Technology, Vienna, Austria

THP1F-02: Drain-Source Symmetric Artificial Neural Network-Based FET Model with Robust Extrapolation Beyond Training Data
J. Xu, D. Gunyan, M. Iwamoto, J. M. Horn, A. Cognata, D. E. Root, Agilent Technologies, Inc., Santa Rosa, USA

THP1F-03: Modeling and Measurements of Electrical and Thermal Memory Effects for RF Power LDMOS
O.G. Tornblad, W. Dai, C. Blair, Infineon Technologies, Morgan Hill, USA; B. Wu, R.W. Dutton, Stanford University; G. Ma, Infineon Technologies

THP1F-04: Novel Nonlinear Model for Rapid Waveform-Based Extraction Enabling Accurate High-Power PA Design
H. Qi, J. Benedikt, P.J. Tasker, Cardiff University, Cardiff, UK


THP1G
Nonlinear Circuit Analysis and System Simulations

THP1G-01: Detuning and Saturation of Superconducting Devices: Formulation and Measurements
C. Collado, J. Mateu, J. O'Callaghan, Universitat Politècnica de Catalunya, Barcelona, Spain; J. Booth, National Institute of Standards and Technology

THP1G-02: General Nonlinear Feed-Forward RF Model for Power Amplifiers
T.R. Cunha, J.C. Pedro, P. Cabral, Instituto de Telecomunicações, Universidade de Aveiro, Aveiro, Portugal; A. Zhu, University College Dublin, Dublin, Ireland

THP1G-03: CAD Procedures for the Nonlinear/ Electromagnetic Codesign of Integrated Microwave Transmitters
V. Rizzoli, A. Costanzo, E. Montanari, P. Spadoni, University of Bologna, Bologna, Italy

THP1G-04: A Transient Model UWB Antennas Using Cascaded Ideal Transmission Lines for Circuit Cosimulation
Z. Su, T.J. Brazil, University College Dublin, Dublin, Ireland

THP1G-05: Analysis and Synthesis of a Bipolar-Based Circuit with Stochastic Resonance
F. Ramirez, A. Suarez, University of Cantabria, Santander, Spain; J. Collantes, University of the Basque Country, Leioa, Spain

THP1H
Ferroelectric, Ferrite, and Acoustic Wave Components

THP1H-01: Planar Two-Dimensional Electron Gas (2DEG) IDT SAW Filter on AlGaIn/GaN Heterostructure
K. Wong, W. Tang, K. Lau, K. Chen, Hong Kong University of Science and Technology, Hong Kong, Hong Kong

THP1H-02: High-Q BAW Resonator on Pt/Ta₂O₅/SiO₂-based Reflector Stack
J. Lobeck, R. Strijbos, A. Jansman, N. Xin Li, B. Smolders, N. Pulsford, NXP Semiconductors, Nijmegen, Netherlands

THP1H-03: Properties of Narrow Metal Reflectors Used in Reflective-Array Compressors and Surface Acoustic Wave Tags
S. Harma, Helsinki U. of Tech.; C. Kim, U. of Ulsan, Ulsan, S. Korea; S. Balashov, EFTECH Co. Ltd.; V. Plesky

THP1H-04: Performance of Coplanar Waveguides on Surface -Passivated Highly Resistive Silicon Covered by Ferroelectric Film
D. Kuylenstierna, M. Norling, A. Vorobiev; K. Reimann; D. Lederer, J. P. Raskin; S. Gevorgian

THP1H-05: Tunable DBR Resonators Using KTN Ferroelectric Thin-Films
V. Laur, G. Tanne, P. Laurent, F. Huret, LEST-UBO/ENSTBr, Brest, France; A. Moussavou, V. Bouquet, S. Deputier, M. Guilloux-Viry, Unite Sciences Chimiques, Rennes, France

THP1H-06: Resonance Technique for Accurate On-Wafer Characterization of Ferroelectric Varactors
A.N. Deleniv, Chalmers, Goteborg, Sweden; S.S. Gevorgian, Ericsson AB, Goteborg, Sweden; V. Sherman, T. Yamada, N. Setter, Swiss Federal Inst., EPFL

THP1H-07: A Twin Toroid Ferrite Phase Shifter
A. Abuelmatti, A. Gibson, University of Manchester, Manchester, England; I. Khairuddin, I. Morgan, COM DEV Europe Ltd, Stoke Mandeville, England

THP1H-08: Interferometric Measurements of Dispersion Curves and Transmission Characteristics of the Acoustic Mirror in Thin Film BAW Resonator
K. Kokkonen, M. Kaivola, Helsinki U. of Tech., Espoo, Finland; T. Pensala, VTT Tech. Research Centre of Finland, Espoo, Finland

THP1J
MEMS Components and Technologies

THP1J-01: Low-Cost Method for Localized Packaging of Temperature-Sensitive Capacitive RF MEMS Switches in Liquid Crystal Polymer
M.A. Morton, N.D. Kingsley, J. Papapolymerou, Georgia Institute of Technology, Atlanta, USA

THP1J-02: Piezoelectric MEMS Variable Capacitor for a UHF Band Tunable Built-In Antenna
M. Nishigaki, T. Nagano, T. Miyazaki, K. Itaya, M. Nishio, S. Sekine, Toshiba, Kawasaki, Japan; T. Kawakubo, Toshiba Research Consulting Corp., Japan

THP1J-03: Advances in Piezoelectrically Actuated RF MEMS Switches and Phase Shifters
R.G. Polcawich, D. Judy, J.S. Pulskamp, M. Dubey, U.S. Army Research Lab, Adelphi, USA

THP1K
Low Noise Components and Receivers

THP1K-01: Cryogenic Performance of a MMIC Ka-Band Radiometer Front-End
D. Kettle, N. Roddis, University of Manchester, Manchester, UK

THP1K-02: A 2.4 GHz Fully Integrated ESD-Protected Low-Noise Amplifier in 130 nm PD SOI CMOS Technology
M. El Kaamouchi, M. Si Moussa, J. Raskin, D. Vanhoenacker-Janvier, Microwave Lab., Louvain-La-Neuve, Belgium; P. Delatte, CISSOID s.a., Louvain-La-Neuve, Belgium; G. Wybo, A. Bens, Sarnoff Europe, Aalter, Belgium

THP1K-03: Study of PM Noise and Noise Figure in Low Noise Amplifiers Working under Small- and Large-Signal Conditions
N. Garmendia, J. Portilla, University of the Basque Country, Bilbao, Spain

THP1K-04: Reduction of Noise in Wideband Distributed Amplifiers
D.E. Meharry, W. Kong, BAE Systems Electronics & Integrated Solutions, Nashua, USA

THP2B Nonplanar Passive Filters and Multiplexers

THP2B-01: Ring-Type Dielectric Resonator Cavity Filters with Wide Spurious-Free Region
X. Sun, Transcend Communications Co., Jinan, China

THP2B-02: Synthesis of Bandstop Filters with Ultrawide Upper Passband
N. Yildirim, Middle East Technical University, Ankara, Turkey

THP2B-03: A Small-Size High-Rejection LTCC Diplexer for WLAN Applications Based on a New Dualband Bandpass Filter
A. Yatsenko, D. Orlenko, S. Sakhnenko, G. Sevskiy, P. Heide, Epcos AG, Munich, Germany

THP2B-04: Small Form Factor Integrated Passive Devices for SiP Applications
K. Liu, STATS ChipPAC, Tempe, USA; R.C. Frye, RF Design Consulting, Piscataway, USA

THP2B-05: One-Dimensional Numerical Modelling of Microwave Breakdown in OMUX Filters
K. Frigui, D. Baillargeat, S. Verdeyme, S. Bila, XLIM, Limoges, France; A. Catherinot, SPCTS, Limoges, France

THP2B-06: 60 MHz DR Filter for Both PCS and UMTS in the Same Housing
K.D. Pance, Z. Zhang, M/A-COM Inc., Lowell, USA

THP2B-07: Direct Synthesis of Elliptic Bandstop Filter using Transformations
S. Shin, RS Microwave, Butler, USA

THP2B-08: Highly Loaded Evanescent Cavities for Widely Tunable High-Q Filters
H. Joshi, H.H. Sigmarsson, D. Peroulis, W.J. Chappell, Purdue University, West Lafayette, USA

THP2C Semiconductor Devices and Monolithic IC Technologies

THP2C-01: Inductorless Broadband RF Front-End Using 2 μm GaInP/GaAs HBT Technology
T. Wu, C. Meng, National Chiao Tung University, Hsin-Chu, Taiwan; G. Huang, National Nano Device Labs, Hsin-chu, Taiwan

THP2C-02: SiGe HBT Gilbert Downconverter with an Integrated Miniaturized Marchand Balun for UWB Applications
S. Tseng, C. Meng, C. Chang, National Chiao Tung University; G. Huang, National Nano Device Labs, Taiwan

THP2C-03: AlInN/GaN a Suitable HEMT Device for Extremely High-Power High-Frequency Applications
C. Gaquiere, E. Delos, S. Vandenbrouck, IEMN, Villeneuve d'Ascq, France; F. Medjdoub, E. Kohn, ULM.; J.F. Carlin, E. Feltn, N. Grandjean, EPFL

THP2C-04: Low-Voltage GaInP/GaAs HBT Wideband Gilbert Downconverter using Transformer RF Balun
S. Tseng, C. Meng, C. Wu, National Chiao Tung University, Hsinchu, Taiwan; G. Huang, National Nano Device Labs, Hsinchu, Taiwan

THP2D Signal Generation

THP2D-01: Mode-Coupled Stubs-Tuned Planar Resonator Based Spectral Pure Signal Source For Wireless Communication Systems
U.L. Rohde, A.K. Poddar, Synergy Microwave Corp., Paterson, USA

THP2D-02: A Signal Generator for MB-OFDM UWB System in 0.18 μm CMOS Process
S. Tarnq, Y. Tsai, Y. Shen, C. Jou, National Chiao-Tung University, Hsinchu, Taiwan

THP2D-03: Oscillation Condition and Uncertainty Principle
J. Kwon, I.S. Kim, Kyunghee University, Yongin, South Korea

THP2E Frequency Conversion and Control

THP2E-01: A Miniature 35–110 GHz Modified Reflection-Type BPSK Modulator Using 65 nm CMOS Technology
H. Chang, National Central Univ.; H. Wang, National Taiwan University; W. Lin, Taiwan Semiconductor Mfg. Co.

THP2E-02: A Broadband Frequency Sixtupler MIMIC for the W-Band with 7 dBm Output Power and 6 dB Conversion Gain
I. Kallfass, H. Massler, A. Tessimann, A. Leuther, M. Schlechtweg, G. Weimann, IAF, Germany

THP2E-03: A Bidirectional Electronically Tunable CMOS Phase Shifter Using the High-Pass Topology
M.A. Abdalla, K. Phang, G.V. Eleftheriades, University of Toronto, Toronto, Canada

THP2E-04: Synthesis of Broadband Negative Group Delay Active Circuits
B. Ravelo, A. Perennec, M. Le Roy, LEST, Brest, France

THP2E-05: Broadband GaInP/GaAs HBT Regenerative Frequency Divider with Active Loads
H. Wei, C. Meng, Y. Chang, National Chiao Tung University, Hsinchu, Taiwan; G. Huang, National Nano Device Labs, Hsinchu, Taiwan

THP2E-06: A Novel Design of a Frequency Tripler Using Composite Right/Left Handed Transmission Line
S. Seo, Y. Jeong, Chonbuk Nat'l Univ., Jeonju, Republic of Korea; J. Lim, Soonchunhyang Univ., Asan, Republic of Korea; B. Gray, J.S. Kenney, Georgia Inst. of Tech., Atlanta, USA

THP2F Microwave Photonics

THP2F-01: High-Frequency Photonic Signal Generation using 2 GHz Electronics and Optical Repetition Rate Multiplication
J.M. Lee, K.J. Seo, D.S. Seo, Myong-Ji University, Yongin, Korea, South

THP2F-02: Bandwidth Reduction of UTC-TW Photo Detector at High Optical Power Levels
A. Madjar, N. Koka, Temple University, Philadelphia, USA; M. Draa, J. Bloch, P.K. Yu, University of California, La Jolla, USA

THP2F-03: Building Extended-Reach Radio-over-Fiber Links by Exploiting Optical Frequency Multiplication's Dispersion Tolerance
A. Ng'oma, G. Rijckenberg, T. Koonen, COBRA Institute, Eindhoven University of Technology, The Netherlands

THP2G Digital Circuits and Systems at GHz Speeds

THP2G-01: A Self-Calibrating Subpicosecond-Resolution Digital-to-Time Converter
G. Nagaraj, B. Stengel, G. Cafaro, T. Gradishar, S. Olson, R. Hekmann, Motorola, Plantation, USA; S. Miller, Texas A & M University, College Station, USA

THP2G-02: Analysis and Measurement of Spurious Emission and Phase Noise Performance of an RF All-Digital Phase Locked Loop using a Frequency Discriminator
C. Wicpalek, Y. Liu, T. Mayer, L. Maurer, U. Vollenbruch, A. Springer, Austria

THP2G-03: Addressing the Broadband Crosstalk Challenges on Pogo Pin Type Interfaces for High-Density High-Speed Digital Applications
B.B. Szendrenyi, H. Barnes, J. Moreira, Verigy Inc.; M. Wollitzer, T. Schmid, Rosenberger; M. Tsai, Xilinx Inc., USA

THP2H Biological Effects and Medical Applications

THP2H-01: Radio Frequency Electromagnetic Field (900 MHz) Induces Oxidative Damage to DNA and Biomembranes in Tobacco-Shoot Cells (*Nicotiana Tabacum*)
S. Radic, P. Cvjetko, M. Tkalec, K. Malaric, B. Pevalek-Kozlina, Croatia

THP2H-02: Computational Analysis and Validation of Coil Arrays for Whole-Brain MR-Imaging at 7T
J. Froehlich, D. Baumann, R. Vahldieck, ETH Zürich, IFH, Zürich, Switzerland; D.O. Brunner, K.P. Pruessmann, ETH Zürich, BIOMED, Zürich, Switzerland

THP2H-03: Electromagnetic Dosimetry and Thermal Analysis of a New Exposure Setup for In Vitro Studies on a Large Frequency Band
A. Collin, M. Cueille, C. Pivain, P. Leveque, XLIM, Limoges, France; A. Perrin, CRSSA, La Tronche, France