15.00 – 16.00 Session 6: DEGRADATION AND PARASITIC EFFECTS

An Analytical Model of the RF Impedance Change Due to Solder Joint Cracking
M. H. Azarian, E. Lando, M. Pecht - *CALCE, Univer. of Maryland, USA*

Numerical Simulation of Impedance Discontinuities Resulting from Degradation of Interconnections on Printed Circuit Boards
P. Manfredi[1], M. H. Azarian[2], and F. G. Canavero[1]
[1] Politecnico di Torino, ITALY; [2]CALCE, Univer. of Maryland, USA

Closed-form Expressions for Modeling Metal Fill Effects in Interconnects
V. S. Shilimkar, S. G. Gaskill, A. Weisshaar - *Oregon State Univ., USA*

16.40 – Social event: tour and dinner

MAY 11- WEDNESDAY

9.00 – 10.20 Session 7: MACROMODELING

Fast Channel Simulation via Waveform Over-Relaxation
S. Grivet-Talocia, V. Loggia - *Politecnico di Torino, ITALY*

Partitioned Latency Insertion Method (PLIM) with Stability Considerations
P. Goh[1], J. E. Schutt-Aine[1], D. Klokotov[1], J. Tan[2], P. Liu[2], W. Dai[2], F. Al-Hawari[2] - *[1] University of Illinois; [2] Cadence Design Systems, USA.*

Sensitivity Analysis using Data-Driven Parametric Macromodels
K. Chemmangat, F. Ferranti, L. Knockaert, and T. Dhaene
Ghent University-IBBT, BELGIUM

Statically constrained nonlinear models with application to IC buffers
C. Diouf[1], M. Telescu[1], N. Tanguy[1], P. Cloastre[1], I.S. Stievano[2], F.G. Canavero[2] - *[1]Université Européenne de Bretagne. Université de Brest, CNRS; [2] Politecnico di Torino, ITALY*

10.40-11.40 Session 8: TRANSMISSION LINES AND WAVEGUIDES

A Simple Computation of the High-Frequency Per-Unit-Length Resistance Matrix. F. Broydé and E. Clavelier - *Tekcem, FRANCE*

Time Domain Parametric Sensitivity Analysis of Multiconductor Transmission Lines
D. Spina[1], F. Ferranti[1], G. Antonini[2], T. Dhaene[1], L. Knockaert[1]
*[1]Ghent University-IBBT, BELGIUM; [2]*Università dell'Aquila, ITALY

Wideband Electromagnetic Modeling of Coplanar Waveguides Fabricated in Membrane Technology
U. Arz[1], M. Rohland[1,2], K. Kuhlmann[1], S. Büttgenbach[2]
[1]Physikalisch-Technische Bundesanstalt, [2]Institut für Mikrotechnik, Braunschweig, GERMANY

11.40 – 12.00 Closing Ceremony.

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MAY 8 –SUNDAY

19.00 – Welcome party

MAY 9 –MONDAY

10.00 – 10.10 Opening.

10.10 – 11.00 *Invited lecture*

Technical and Economical Challenges for Electronic Packaging
Engineers: Moises Cases*, The Cases Group (US)*

11.20-12.40 Session 1: EMC ISSUES

Routing Strategies for Improving Common Mode Filter Performances in High Speed Digital Differential Interconnects
F. de Paulis, L. Raimondo, D. Di Febo, A. Orlandi
University of L'Aquila, ITALY

Time domain analysis of a wideband common-mode suppression filter for bent interconnects
C. Gazda[1], D. Vande Ginste[1], H. Rogier[1], D. De Zutter[1], and R.-B. Wu[2]
[1]Ghent University, BELGIUM, [2]National Taiwan Univ. Taipei TAIWAN

Preventing RFIC interference issues: a modeling methodology for floorplan development and verification of isolation and grounding strategies
J. Niehof, J. van Sinderen - *NXP Semiconductors, THE NETHERLANDS*

Crosstalk in VLSI Partially Coupled Interconnect Structures, a Comprehensive Evaluation
G.Fattah[1], N. Masoumi[2] - *[1]Kerman G.U.T. [2]University of Tehran, IRAN*

12.40 – 14.00 lunch

14.00 – 14.40 *Special Lecture*

On the propagation of electromagnetic signals in wires: 150 years of history: G. Miano, *University of Naples Federico II, ITALY*

14.40 – 16.00 Session 2: MODEL ORDER REDUCTION

Robust Macromodeling of Frequency Responses with Outliers
D. Deschrijver, L. Knockaert, T. Dhaene - *Ghent University, BELGIUM*

A digital filtering approach for Time Domain Vector Fitting
A. Ubolli[1] and B. Gustavsen[2]
[1]Norwegian Univ. of Science & Technology, [2]SINTEF - NORWAY

On the Concretely Passive Realization of Reduced Circuit Models Based on Convex Constrained Positive Real Fractions Identification
M. de Magistris, M.Nicolazzo - *University of Naples Federico II, ITALY*

A Novel Algorithm for Optimum Order Estimation of Reduced Order Macromodels
B. Nouri, M. S. Nakhla, and R. Achar - *Carleton University, CANADA.*

16.00 – 16.20 Poster presentation

16.20 – 17.40 Poster session

Crosstalk Modeling in Multiwalled Carbon Nanotubes as Interconnects Using the Compact RC Model
H. Sheikhassadi[1], N. Masoumi[2], A. Hakimi[1]
[1]Kerman Graduate U.T., [2]University of Tehran, Tehran, IRAN

Modelling Semiconductor Junctions Including Nonlinear Capacitive Effects using Neural Networks
P. Gunupudi, P. Tang, Q. J. Zhang and T. Smy
Carleton University, Ottawa, CANADA

Gradient Resistivity Method for Numerical Evaluation of Anomalous Skin Effect
A.Tsuchiya[1], H.Onodera[1,2] - *[1]Kyoto Univ.; [2]PESEC, Kyoto Univ., JAPAN*

EMI Filter design using high frequency model of the coupled inductors
J. L. Kotny, T. Duquesne, N. Idir - *Univ. Lille Nord de France, FRANCE*

Overshoot and Clock Skew in inverter-interconnect-inverter VLSI systems
A. Wardzińska, W. Bandurski - *Poznan Univ. of Technology, POLAND*

Robust Predictability of Parasitic Effects during the Physical Design of RF Products.
M. Hanssen, H. Gul, Y. Chen, M. Geurts, C. van Dinther, J. Niehof, M.S.-Szalowski, R.Janssen - *NXP Semiconductors, THE NETHERLANDS*

Efficient Full-wave Broadband Modelling of Interconnects with Graphics Processors
A.G. Chiariello[1], A.Maffucci[1], M. Nicolazzo[2], S. Ventre[1], and F. Villone[1] - *[1]Univ. di Cassino; [2]Università di Napoli "Federico II", ITALY*

18.00 – Social event: tour

MAY 10 – TUESDAY

9.00–10.20 Session 3: SIGNAL AND POWER INTEGRITY ANALYSIS

Extracting Vectors from Application Traces for Power Integrity Analysis. M. Olsson[1], J. Pihl[1], D. Andersson[1], P. Larsson-Edefors[2]
[1]Atmel Norway; [2]Chalmers University of Tech., SWEDEN

Electrical Performance of a Multiport Interposer for Measurements of Dense Via Arrays
M. Kotzev[1], Y. H. Kwark[2], C. Baks[2], X. Gu[2], C. Schuster[1]
[1]TU of Hamburg-Harburg, GERMANY; [2]IBM T.J. Watson R.C., USA.

Constant-Current Power Transmission Line based Power Delivery Network for Single-Ended Signaling with Reduced Simultaneous Switching Noise
S. Huh, M. Swaminathan, D. Keezer - *Georgia Institute of Tech., USA.*

Fast Parametric Pre-Layout Analysis of Signal Integrity for Backplane Interconnects
R. Rimolo-Donadio[2], T.-M. Winkel[1], C. Siviero[1], D. Kaller[1], H. Harrer[1], H.-D. Brüns[2], C. Schuster[2]
[1]IBM ST Group, GERMANY; [2]TU of Hamburg-Harburg, GERMANY

10.40 – 11.20 Tutorial

Multiphysics Solutions for Silicon-Based High Density Interconnects and Miniaturized Devices with High Performance
Wen-Yan Yin*, Zhejiang University, Hangzhou, CHINA.*

11.20 – 12.40 Session 4: 3-D IC INTERCONNECTS

Channel Design for Wide System Bandwidth in a TSV based 3D IC
H. Kim[1], J. Cho[1], J. Kim[1], M. Kim[1], J. Lee[2], H. Lee[2], K. Park[2], J. Kim[1], J. S. Pak[1] - *[1]KAIST; [2] Hynix Semiconductor Inc., SOUTH KOREA.*

Extraction of Equivalent High Frequency Models for TSV and RDL Interconnects Embedded in Stacks of the 3D Integration Technology
L. Fourneaud[1], T. Lacrevaz[1], J. Charbonnier[2], C. Fuchs[2], A. Farcy[3], C. Bermond[1], E. Eid[1], J. Roullard[1], B.Flechet[1] - *[1]Université de Savoie; [2]CEA-LETI Minatec; [3] STMicroelectronics, FRANCE*

Electrical Behavior of Stacked Microvias Integration Technologies for Multi-gigabits Applications Using 3D Simulation
C. Chastang[1,3], C. Gautier[3], M. Brizoux[2], A. Grivon[2], V. Tissier[1], A. Amedeo[1], F. Costa[3,4] - *[1] THALES Communications; [2] THALES Corporate Services; [3] SATIE CNRS, [4] Université Paris Est, FRANCE*

3D Interconnection Using Butterfly Via for High Speed and RF Package Design
S. Lee, J.H. Yu, G.W. Kim, J. Kim - *Amkor Technology SOUTH KOREA*

12.40 – 14.00 Lunch

14.00 – 15.00 Session 5: INNOVATIVE NANO-INTERCONNECTS

Electrical Behavior of Carbon Nanotube Through-Silicon Vias
G. Chiariello[1], A. Maffucci[1], G. Miano[2]
[1] Università di Cassino; [2] Università di Napoli Federico II, ITALY

Modeling of Carbon Nanotube (CNT) Interconnects
Wen-Yan Yin[1, 2], Wen-Sheng Zhao[1]
[1] Zhejiang University; [2] Shanghai Jiao Tong Univ., Shanghai, CHINA

Impact of Parameters Variability on the Electrical Performance of Carbon Nanotube Interconnects
I. S. Stievano, P. Manfredi, F. G. Canavero
Politecnico di Torino, ITALY