

2024 25th International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems (EuroSimE 2024)

**Catania, Italy
7-10 April 2024**



**IEEE Catalog Number: CFP24566-POD
ISBN: 979-8-3503-9364-4**

**Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP24566-POD
ISBN (Print-On-Demand):	979-8-3503-9364-4
ISBN (Online):	979-8-3503-9363-7
ISSN:	2833-8553

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Predictive Reliability Assessment Workflow for System-Level Reliability of Solder Interconnections	1
<i>Iulia – Eliza Tinca</i>	
Accurate Reduced Order Model to Predict Temperature for DC/DC Driver in Convection	10
<i>Christine Roucoules, Sebastian Krick, Daliang Steven Zhong</i>	
Optimizing Machine Learning Performance Via Dataset Generation for X-Ray Image Classification	15
<i>Felix Mahr, Konstantin Schmidt, Nils Thielen, Till Sindel, Jörg Franke</i>	
Warpage Deformation Analysis of AMB Ceramic Substrates in Power Modules	21
<i>Dong Hu, Chieh Wang, Zichuan Li, Nikhil Gupta, René H. Poelma, Ziliang Shi, Jiajie Fan, Guoqi Zhang</i>	
Hybrid PMUT Realized Using an Innovative “Piezo-In-Flex” Technology.....	30
<i>F. Casset, A. Rascle, C. Prat, L. Gerfault, S. Brulais, L. Peris Y Saborit, R. Perrier, D. Mermin, R. Franiatte, M. Kazar Mendes, R. Liechi, M. Colin</i>	
Non-Linear Viscoelastic Material Models of Polymers for Electronics Simulation - Measurement, Modelling, Validation.....	34
<i>R. Schwerz, M. Roellig</i>	
Investigating the Sintering Process and Mechanical Properties of Nano-Copper Particles Coupling Particle Packing Modeling with Molecular Dynamics Simulation.....	41
<i>Xu Liu, Dong Hu, Zichuan Li, Xuejun Fan, Guoqi Zhang, Jiajie Fan</i>	
Package Model for DC-DC Converters Design.....	48
<i>Silvia Tedesco, Enrico Alfredo Bottaro, Rosario Fabio Denaro, Manuela La Rosa, Davide Lena, Giovanni Sicurella, Giovanni Vinci</i>	
Influence of Geometry Effects on Thermo-Mechanical Reliability of Aluminum Bond Wires in Discrete SiC MOSFETs.....	53
<i>Borja Kilian, Youssef Maniar, Jonas Gleichauf, Olaf Wittler, Martin Schneider-Ramelow</i>	
Sintering Mechanism Analysis of Cu Nanoparticles Via Molecular Dynamics	63
<i>Fengze Hou, Honglin Ge, Zhanxing Sun, Yunyan Zhou, Xiangang You, Meiyang Su, Chuan Chen, Qidong Wang, Liqiang Cao</i>	
A Comprehensive Thermo-Mechanical Characterization of Organic Substrates	69
<i>Marco Rovitto, Samuele Zalaffi, Daniela Spini</i>	
AI-Assisted Design for Reliability: Review and Perspectives	74
<i>Cadmus Yuan, S. D. M De Jong, Willem D. Van Driel</i>	
Concept for a Simulation-Based Reliability Assessment at the System Level of Printed Circuit Boards.....	86
<i>Hendrik Schmidt, Markus Käß, Roland Lichtinger, Moritz Hülsebrock</i>	
A Study on the Development of Random Vibration Reliability Simulation Technology for SSD	95
<i>Junghoon Kim, Sungki Lee, Sunghoon Chun</i>	

Double-Sided Heat Dissipation Numerical Modeling of an Embedded Half-Bridge Power Module with Multiple Chips.....	100
<i>Wenyu Li, Wei Chen, Jing Jiang, Wenbo Wang, Xuejun Fan, Guoqi Zhang, Jiajie Fan</i>	
Evaluation of Warpage of FOWLP Considering the Viscoelastic and Viscoplastic Properties of Epoxy Molding Compound.....	108
<i>Zahra Jalouli, Wilson Maia, Noura Haidar, Anatoli Serghei</i>	
Multi-Parameters Optimization for Electromigration in WLCSP Solder Bumps.....	112
<i>Leiming Du, Shanliang Deng, Zhen Cui, René Poelma, Caroline Beelen-Hendriks, Kouchi Zhang</i>	
Extension of the Equivalent Thickness Concept to the Bifurcation of Large Semiconductor Front Side Metal Taiko Wafer Investigated by ANSYS Finite Element Analysis Methods.....	116
<i>Vincenzo Vinciguerra, Giuseppe Luigi Malgioglio, Marco Renna</i>	
Effect of Potting on the Solder Joint Reliability of QFN Packages Under Thermal Cycling Load.....	121
<i>Chinmay Nawghane, Bart Vandeveld, Daniel Vanderstraeten, Harold Haspeslagh, Thomas Nauwelaerts</i>	
Assessment of the Shielding Efficiency of FDM-Produced Continuous Carbon Fiber Composites.....	127
<i>Victor Mahaut, Tristan Dubois, Alexandrine Gracia, Gabriel Foyer, Wilson Maia</i>	
Development of a Friction Modulation Haptic Interface Based on Thin-Film AlN Actuators.....	133
<i>T. Goubault, F. Casset, R. Le Magueresse, K. Benedetto, S. Brulais, D. Mermin, M. Colin</i>	
Technical Design and Simulation of MEMS Scanner Based on Piezoelectric Actuator.....	138
<i>Ugur Celik, Gokturk Poyrazoglu</i>	
Towards Measurements of Global Coefficient of Thermal Expansion of QFN.....	141
<i>Vincent Sisomseun, Olivier Maire, Pascal Retailleau, Catherine Jephos, H��l��ne Fr��mont, Alexandrine Gu��don-Gracia</i>	
Effects of Natural and Thermal Oxidation on Electronic and Optical Properties of Monolayer WS ₂ : A Theoretical Study.....	148
<i>Hongyu Tang, Weiqi Shi, Rongjun Zhang, Jiajie Fan, Guoqi Zhang</i>	
Warpage Estimation of Panel-Level Packaging by AI-Assisted Design on Simulation.....	153
<i>Y. C. Chen, K. N. Chiang</i>	
Sensitivity Study of Wafer-Level Packaging Lifetime Prediction Using Different Creep Constitutive Equations.....	158
<i>C. E. Lee, Cadmus Yuan, K. N. Chiang</i>	
Study on the Feasible Mesh Size Control Method for WLP 3D Finite Element Modeling.....	163
<i>Y. J. Chen, Cadmus Yuan, K. N. Chiang</i>	
Analysis of the Key Parameters of Box Creep Process for Advanced FDSOI Devices.....	168
<i>Sylvie Jarjayes, Laurent Brunet, Philippe Rodriguez</i>	
Investigation of the Effects of Moisture Expansion of Glass Fiber Reinforced Epoxy Resins on Printed Circuit Boards Using Digital Image Correlation.....	172
<i>M. Frewein, S. Waschnig, J. Zuendel, M. Sagerer, A. Heugle</i>	
Precise Prediction of Sustainable Operating Life of Tantalum Capacitors Applied in Solid State Drives.....	178
<i>Kwan-Il Min, Yong Jung, Jae-Woong Choi, Jong-Wook Jeong, Sung-Hoon Chun</i>	

Physics-Informed Machine Learning for Solder Joint Qualification Tests.....	185
<i>S. D. M. De Jong, A. G. Ghezeljehmeidan, W. D. Van Driel</i>	
Process-Based IGBT Modeling with TCAD for Static and Dynamic Parameters.....	192
<i>Yifei Chang, Lina Qi, Runding Luo, Pan Liu</i>	
Molecular Dynamics Simulation Study of Interface Material in Micro LEDs Self-Assembly Process.....	198
<i>Yiping Sun, Liangzheng Ji, Jing Zhang, Pan Liu</i>	
Predictive Modeling of Thin Film Yield Stress Using Machine Learning: A Simulation-Based Approach	205
<i>Yusuf B. Ozdemir, Oguzhan Orkut Okudur, Mario Gonzalez, Clement Merckling</i>	
Prediction of Variability in Vibration Durability of Oligocrystalline SnAgCu Solder Joints	211
<i>Aniket Bharamgonda, Idowu Olatunji, Xiao Lin, Abhijit Dasgupta, Yaxiong Chen, Varun Thukral, Torsten Hauck</i>	
LEDs Lifetime Prediction Modeling: Thermomechanical Simulation for SAC305 and SAC105	216
<i>Mohd Zubair Akhtar, Maximilian Schmid, Andreas Zippelius, Gordon Elger</i>	
Finite Element Analysis of the Upsurge of Bifurcation During the Thinning Process of Large Semiconductor Wafers.....	226
<i>Vincenzo Vinciguerra, Giuseppe Luigi Malgioglio, Marco Renna</i>	
Hybrid Modeling for Remaining Useful Life Prediction in Power Module Prognosis	230
<i>M. Ghrabli, M. Bouarroudj, L. Chamoin, E. Aldea</i>	
Sintering Process Simulation of Ag Nanoparticles by Phase Field Method.....	239
<i>Xiao Hu, Jianlin Huang, René Poelma, Willem Dirk Van Driel, Guoqi Zhang</i>	
Modelling Recrystallization in Oligocrystalline SnAgCu Solder Joint Under Cyclic Loading Condition.....	245
<i>Yaxiong Chen, Torsten Hauck, Aniket Bharamgonda, Abhijit Dasgupta</i>	
Numerical Evaluation of P-Channel MOSFETs Depending on the TID Effect Using Electric- Thermal Analysis.....	251
<i>Na-Yeon Choi, Sung-Uk Zhang</i>	
Multi-Purpose Thermal Test Vehicle for Experimental Investigation on Pumped Two-Phase Cooling	257
<i>Ralph Schacht, Ben Majed, Tobias Gruen, Daniel May, Bernhard Wunderle</i>	
Application Oriented On-The-Edge Capable Prognostic and Health Monitoring Framework for Solder Joints in Electronics	264
<i>Darshankumar Bhat, Stefan Muench, Mike Roellig</i>	
Acoustic Softening Characterization to Improve Copper Wire Bonding FEM Simulation.....	273
<i>L. Guarino, C. Caglio, B. Carasi, M. Alesi, R. Villa, L. Cecchetto</i>	
Fabrication and Analysis of Biaxial Surface Wrinkling of Thin Metal Film on Compliant Substrate Based on Low Adhesion-Assisted Transfer Technique and Direct 3D Numerical Simulation.....	282
<i>Seonho Seok, Hyungdal Park, Jinseok Kim</i>	
ROM-FOM Interface Optimization for Efficient Thermomechanical Simulations of Electronic Components.....	286
<i>Adwait Inamdar, Torsten Hauck, Michiel Van Soestbergen, Willem D. Van Driel, Guoqi Zhang</i>	

An Analytical Model Describing Residual Stresses in Thin Die Attach Layer	292
<i>Wissam Assaad, Edsger Smits, Ruben Pranger</i>	
Creep Characterization of Lead-Free Solder Alloys Over an Extended Temperature Range Used for Fatigue Modeling	300
<i>Viktor Dudash, Kashi Vishwanath Machani, Karsten Meier, Holm Geisler, Maik Mueller, Frank Kuechenmeister, Marcel Wieland, Karlheinz Bock</i>	
Comparative Study of Lead-Free Alloys Submitted to Thermomechanical Ageing.....	306
<i>H. Friaa, A. Guédon-Gracia, H. Frémont, R. Riva, L. Rocheron</i>	
Equivalent Skin Effect Model for Time-Domain Analysis Starting from Electromagnetic Simulator Values	314
<i>Silvia Simone, Fabio Pareschi, Gianluca Setti, Davide Lena</i>	
Life-Time Prediction of Copper μ -Vias Based on a Stochastic Design Variation Approach.....	320
<i>Julia Zündel, Thomas Krivec, Markus Weninger</i>	
Investigation of an Approach for the Determination of the Current State-Of-Health and Improvement of Service Life in Power Modules.....	327
<i>Jain Chacko, Heiner Moeller, Kshitij Anil Kolas, Jan Albrecht, Sven Rzepka</i>	
Robust Design Optimization for Failure Analysis.....	336
<i>Roland Niemeier, Bernd Büttner, Günther Hasna</i>	
Numerical Study on the Correlation Between Board-Level Drop and Shock Tests for Chip-Scale Packages	342
<i>Hong-Hai Nguyen, Chengzhe Lyu, Karsten Meier, Karlheinz Bock</i>	
Thermal Characterization and Simulation of GaN-On-SiC HEMT Transistors in Transient and Steady-State Regimes.....	347
<i>K. Karrame, J. C. Nallatamby, C. Chang, M. Colas, R. Sommet</i>	
Thermal Multiscale Simulation of a FO-WLP SiP Including a GaN Power Amplifier	352
<i>N'Doua Luc Arnaud Kakou, Raphael Sommet, Laurent Brunel, Vincent Bortolussi, Benoit Lambert, Jean-Christophe Nallatamby</i>	
Thermo-Mechanical Compact Model to Simulate Solder Fatigue of QFN Packages	356
<i>M. Van Soestbergen</i>	
Solder Fatigue Analyses and Predictions for PCB Mounted Components After Thirteen Years of Thermal Field Cycling.....	361
<i>Rainer Dudek, Ralf Döring, Kerstin Kreyßig, Sven Rzepka, Peter Fruehauf, Andreas Weigert</i>	
Assessment of Competing Risk-Of-Failure in FCBGA Interfaces Operating in Harsh Automotive Underhood Environments for Periods Up to 1-Year.....	374
<i>Pradeep Lall, Aathi Pandurangan, Padmanava Choudhury, Madhu Kasturi</i>	
Comparative Modeling of Four-Ended, Modified Four-Ended, and Double-Ended Beam MEMS Thermopile Sensor Structures for Functional Area Optimization	384
<i>Ralph Maru Grande, Rafael Pangilinan, Maria Theresa De Leon</i>	
Investigation of Different Thermomechanical Behaviours in One Batch of QFN Packages.....	390
<i>Ariane Tomas, H��l��ne Fr��mont, Nathalie Malbert, Nathalie Labat, Benoit Lambert, Bernard Plano</i>	

Modelling Warpage Behavior of Molded Power Modules for Electric Vehicles.....	396
<i>Freerik Forndran, Mario Sprenger, Juan Ricardo Barrera, Martin Steinau, Mike Roellig, Stefan Muench</i>	
Simulation-Based Improvement of Analytic Self-Inductance for E and PQ Cores	402
<i>Kevin Talits, Claas Tebruegge, Martin Pfof</i>	
Reduced-Order Model for Solder Balls – Potential of Projection-Based Approaches for Representing Viscoplastic Behavior	407
<i>Mike Feuchter, Hanna Baumgartl, Martin Hanke, Sven Rzepka, Bernhard Wunderle</i>	
Advanced Strategies for High Activation in Ion Implanted 4H-SiC by Laser Annealing	415
<i>C. Calabretta, A. Pecora, M. Agati, A. Muoio, V. Scuderi, S. Privitera, R. Reitano, N. Piluso, A. Severino, S. Boninelli, F. La Via</i>	
Assessing Innovative Bulk (111) 3C-SiC Epitaxial Growth.....	420
<i>C. Calabretta, V. Scuderi, C. Bongiorno, R. Anzalone, M. Mauceri, D. Crippa, S. Boninelli, F. La Via</i>	
Characterization of Soft Errors on a 28-Nm SRAM-Based FPGA Under Neutron Radiation Exposure.....	425
<i>Eike Trumann, Gia Bao Thieu, Johannes Schmechel, Kirsten Weide-Zaage, Dorian Von Wolff, Andre Bausen, Alexander Müller, Guillermo Payá-Vayá</i>	
Numerical Strategies for the Prediction of Patterned Wafer Warpage During Manufacturing Process	430
<i>Fabrice Roqueta, Mohamed Boutaleb, Phuc Viet Khoa Nguyen, Jean-Mathieu Mencik</i>	
Temperature Dependent Trap Characterisation and Modelling of Silicon Carbide MOS Capacitor	436
<i>Jinglin Li, Sten Vollebregt, Yaqian Zhang, Aditya Shekhar, Alexander May, Willem D. Van Driel, Guoqi Zhang</i>	
Hygroscopic Swelling Influence on Critical Sensor Components: Experimental Characterization and FEA Application.	442
<i>Valentina Troncale, Fabian Huber</i>	
Fatigue Behavior of Aluminum and Copper Metallization for SiC During APC	448
<i>Daniel Losbichler, Markus Klingler, Steffen Orso, Bernhard Wunderle</i>	
A Stochastic Model-Based Prognostic for IGBT Power Module Remaining Useful Life Estimation Using a Physical Model-Based Shape Function	456
<i>Al-Mu 'Tez Billah Al-Sqour, Ali Ibrahim, Zoubir Khatir, Sebastien Cornet</i>	
Enhancing the Reliability of Power Packages Combining SiC and Diffusion Solder Die Attach Technologies.....	462
<i>A. Von Mach, S. Ananiev, A. Heinrich, T. Gumbrecht, P. Altieri-Weimar, M. Cordill, J. Eckert</i>	
Metasurfaces for Enhanced Energy Harvesting in MEMS with Lead-Free Piezoelectric Material.....	467
<i>Alberto Corigliano, Jacopo Maria De Ponti, Luca Iorio, Annachiara Esposito, Tarek Afifi Afifi, Manuel Riani, Gabriele Gattere, Andrea Di Matteo, Raffaele Ardito</i>	
Physics-Informed Machine Learning for Predicting Fatigue Damage of Wire Bonds in Power Electronic Modules.....	472
<i>Stoyan Stoyanov, Tim Tilford, Xiaotian Zhang, Yihua Hu, Xingyu Yang, Yaochun Shen</i>	
Bending Experiments on QFN Components	480
<i>Shiva Goud Anthati, Erik Wiss, Steffen Wiese</i>	

Thermal Assessment of Soldering MLCC Components.....	485
<i>Erik Wiss, Adam Yuile, David Barth, Steffen Wiese</i>	
Design and Optimization of an MCU-Based Controller Implementing Field-Oriented-Control of a BLDC Motor	490
<i>Nicola Romano, Mauro Canigliula, Giuseppe D'Angelo</i>	
Development of a Computational Fluid Dynamics Model to Evaluate the Thermal Resistance of a SiC Power Module Under Several Operating Condition.....	495
<i>Luca Donetti, Alessandro Sitta, Giuseppe Mauromicale, Michele Calabretta, Stefano Mauro, Gaetano Sequenzia</i>	
Fast Liquid-To-Liquid Thermal Shock: Experimental Assessment and Mechanical Model for Plastic Package.....	502
<i>Davide Maria Amoroso, Luca Donetti, Biagio Schifano, Alessandro Sitta, Giuseppe Mauromicale, Gaetano Sequenzia, Angelo Alberto Messina, Francesco Rundo, Michele Calabretta</i>	
Full-Field Through-Chip IR-Thermography-Based Quality Testing & Failure Analysis on Electroplated Aluminium Interconnects for Cryogenic Applications in Ion-Trap Quantum Computers	510
<i>D. May, B. Wunderle, I. Cirulis, S. Braun, U. Zschenderlein, J. Heilmann, R. Pantou, R. Schacht, R. Rzepka, M. Abo Ras, S. Kurth, H. Kuhn</i>	
Thermography Analysis of Automotive SiC Power Modules for Reliability Assessment.....	518
<i>Mattia Musolino, Giuseppe Mauromicale, Davide Maria Amoroso, Luca Donetti, Gaetano Sequenzia, Alessandro Sitta, Angelo Alberto Messina, Michele Calabretta</i>	
Analysis of the Thermo-Mechanical Performance of Double-Sided Cooled Power Modules	523
<i>Bhanu Pratap Singh, Shahriar Sarmast Ghahfarokhi, Konstantin Kostov, Hans-Peter Nee, Staffan Norrga</i>	
Design and Simulation of a High Cycle Fatigue Vibration Tester for Accelerated Stress Testing of Thin Films and Bimaterial Interfaces	531
<i>David Walther, Arash Mohammadi, Jörg Arnold, Bernhard Wunderle</i>	
A Lumped Element Model for Biaxial MEMS Scanners	539
<i>Romain Liechti, Antoine Hamelin, Christel Dieppedale, Laurent Mollard</i>	
Finite Element Simulation of Accelerated Stress Testing and Damage Detection for Micro and Nano Structures Using Surface Acoustic Waves (SAWs).....	547
<i>Arash Mohammadi, George Boldeiu, Dan Vasilache, Afshin Ziaei, Bernhard Wunderle</i>	
Enhancing Defect Detection Using Lock in Thermography.....	556
<i>Doaa Mohamed, Daniel May, Kaushal Arun Pareek, Mohamad Abo Ras, Bernhard Wunderle</i>	
CoolStar: A New Approach to Automotive HPC Cooling with Improved Thermo-Mechanical Design.....	565
<i>Baris Erol, Daniel May, Bernhard Wunderle</i>	
High Precision Electrostatic MEMS Actuators for In-Plane Fabry-Pérot Gas Sensors.....	575
<i>Alexey Shaporin, Julia Wecker, Juliane Runge, Sebastian Voigt, Marcel Melzer, Steffen Kurth, Karla Hiller</i>	
Model Order Reduction of a Microelectronic Package Subjected to Temperature Cycling and Vibration Test	580
<i>Chengdong Yuan, Martin Niessner, Tamara Bechtold</i>	

Large Area Flexible Triaxial Force Sensor Array	584
<i>Gianluca Massimino, Veronique Rochus, Jan Genoe</i>	
Determination of Temperature Dependent Young's Modulus of Sintered Silver (SAG) by Vibration Tests.....	592
<i>J. Heilmann, P. Türk, F. Forndran, J. Arnold, M. Leicht, B. Wunderle</i>	
Characterization and Modeling of Cure-Induced Thermo Mechanical Properties and Chemical Shrinkage of Epoxy Resins	600
<i>Venu Prakash Kasinikota, Wolfgang Muehleisen, Markus Grinschgl, Alexander Steiner, Siegfried Hasil, Margit Christa Lang</i>	
Application of Digital Image Correlation (DIC) for Deformation Measurement of Fan-Out Wafer Level Package Mounted on Printed Circuit Board	610
<i>I. Maus, M. Niessner, M. Zhang, W. Hartner, B. Seiler, P. Altieri-Weimar</i>	
Analysis of Parameters Influencing Delamination in Thermo-Mechanically Loaded Graphene/Polymer Layered Nanocomposites	616
<i>Apostol Apostolov, Tatyana Petrova, Elisaveta Kirilova, Rayka Vladova, Boyan Boyadjiev</i>	
Design Optimization of a Corrugated Piezoelectric MEMS Microphone Applying Genetic Algorithms.....	622
<i>Gabriele Bosetti, Christian Bretthauer, Andreas Bogner, Michael Krenzer, Karolina Gierl, Heinrich Heiss, Gabriele Schrag</i>	
Design of Novel Ultrasound Transducers Compatible with Large-Area Electronics	627
<i>Veronique Rochus, Zhiyuan Shen, Pieter Gijsenbergh, Antonia Malainou, Dominika Wysocka, Robert Ukropec, Alessandro Stoppato, Florian De Roose, Raf Appeltans, Xavier Rottenberg</i>	
Bi-Directional Evolutionary Structural Optimization of Multi-Resonant MEMS.....	632
<i>Siyang Hu, Billy Manansala, Tamara Bechtold</i>	
A Link Between the Lab and the Real World - A Setup for Accelerated Aging of Power Electronics Using Mission Profiles from the Field	637
<i>Mattias P. Eng, Madhav Mishra, Wilhelm Söderkvist Vermelin, Dag Andersson, Klas Brinkfeldt</i>	
Exploring the Impact of Laser Drilling on Material Thermal Decomposition: A Computational Study Using KratosMultiphysics.....	643
<i>Chongnan Peng, Qi Tao, Thomas Krivec, Guillermo Casas, Salvador Latorre, Thomas Antretter, Johannes Macher, Peter Fuchs</i>	
Model Order Reduction of an Electromagnetic Actuator with Moving Components Via Piecewise Quadratic Coupling	650
<i>Arwed Schütz, Tamara Bechtold</i>	
Efficient Simulation of Nonlinear Plastic Models in Microelectronics: A Trajectory Piecewise Linear-Based Model Order Reduction.....	657
<i>Chengdong Yuan, Sönke Maeter, Arwed Schütz, Ibrahim Zawra, Michiel Van Soestbergen, Tamara Bechtold</i>	
Comparison of Model Order Reduction Methods for a Linear Finite Element Model of an Electrically Stimulated Neuron	661
<i>Ulrike Fitzer, Pawan Goyal, Arwed Schuetz, Ibrahim Zawra, Dennis Hohlfeld, Tamara Bechtold</i>	

Simulation of Different SRAM Cells Under Neutron Radiation with GEANT4	669
<i>Kirsten Weide-Zaage, Satria-Jaya Mandala, Eike Trumann, Guillermo Payá-Vayá, Dorian Von Wolff, Andre Bausen, Alexander Müller</i>	
Design Studies and Optimization of Acoustic Pressure in Acoustofluidic Cell Manipulation Platforms	673
<i>B. Leikam, S. Pandey, O. Hayden, G. Schrag</i>	
Literature Review: Global Criticality Assessment Based on Feature Surrogates at the PCBA Levels.....	678
<i>Qiulin Yu, Vikram G. Kamble, Dieter P. Gruber, Peter F. Fuchs, Karl Fendt, Thomas Krivec</i>	
Warpage Optimization of Package Substrates Using Metamodels - A Review	690
<i>Fredy John Porathur, Vikram G Kamble, Eduard Stadler, Fabian Huber, Dieter P. Gruber, Peter Filipp Fuchs</i>	
A Comprehensive Methodology for Criticality Assessment of Microvias in Printed Circuit Board Assemblies.....	699
<i>Vikram G Kamble, Dhaval Rasheshkumar Patel, Christian Schipfer, Andreas Thalhamer, Julia Zuendel, Thomas Krivec, Thomas Antretter, Peter Filipp Fuchs</i>	
Influence of the Doping Level of Silicon on Its Optical and Recombination Parameters Measured with the Nondestructive Photothermal Radiometry Method	706
<i>L. Chrobak, M. Malinski, L. Bychto</i>	
Possibilities of the Investigations of the Thermal Parameters of the Polybutyl Methacrylate Siloxane Coatings with the Use of the Photothermal Radiometry.....	714
<i>L. Chrobak, M. Malinski, D. Korte, S. Janta-Lipinska</i>	
Accurate & Complete Behavioural SPICE Modelling of Commercial SiC Power MOSFET of 1200V, 75A.....	721
<i>Akbar Ghulam</i>	
Automated Multidisciplinary Analysis and Lab Verification for Silicon-Carbide Based Power Modules.....	725
<i>Sameer Yadav, Klaus Neumaier, Filip Jasek, James Victory</i>	
Thermal Resistance of a Two Dimensional Flux Channel with Eccentric Heat Source and Asymmetric Edge Cooling	734
<i>M. Razavi, Y. S. Muzychka, S. Kocabiyik</i>	
SPICE Modelling of Commercially Available 1200V, 30mΩ MOSFET at Different Temperatures for Static Characteristics	743
<i>Ghulam Akbar, Dario Suter, Pietro Romano, Alessio Di Fatta, Antonino Imburgia, Michele Calabretta, Guido Ala</i>	
A Comparison of Analytical and Finite Element Analysis Methods for Determining the Equivalent Thickness of Large 4H-SiC Taiko Wafers	747
<i>Vincenzo Vinciguerra, Giuseppe Luigi Malgioglio, Marco Renna</i>	
Multi Physics Simulation of Wafer Bonding with Nano Copper Paste	751
<i>Shizhen Li, Xu Liu, Chenshan Gao, Shaogang Wang, Jun Li, Huaiyu Ye, Guoqi Zhang, Shaohui Wu</i>	
Training Convolutional Neural Networks with Confocal Scanning Acoustic Microscopy Imaging for Power QFN Package Delamination Classification	759
<i>Henry A. Martin, Haojia Xu, Edsger C. P. Smits, Willem D. Van Driel, Guoqi Zhang</i>	

Author Index