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PCIM Conference 2026

Keynote

K01 **The GaN Evolution: Lateral, Vertical, and Bidirectional — What's Next?**
Michael Basler, Fraunhofer IAF, DE

K02 **AI Meets Power Electronics: Are We There Yet?**
Uwe Drofenik, Vienna University of Technology, AT

K03 **TransformerLess Partial Power Converters. Disruptive Solutions for Reduction of Losses, Cost, Volume**
Thierry Meynard, Laplace – CNRS, FR

GaN Devices

OP001 **1.2 kV Integrated Power Switch with PSJ GaN, Si IGBT and SiC Diode**
Alireza Sheikhan, Sankara Narayanan Ekkanath Madathil, University of Sheffield, UK; Shuichi Yagi, Hironobu Narui, Sanken Electric, JP

OP002 **SmartGaN: First Smart Cut-Based Engineered Substrate for High-Performance GaN Power Devices**
Youssef Hamdaoui, Farid Medjdoub, Lyes Ben-Hammou, François Grandpierron,University of Lille; Mac Benedict, Thierry Boudet, Soitec, FR

OP003 **GaN-HEMTs vs. GaN-"Bricks" – A Device Concept Comparison**
Richard Reiner, Fouad Benkhelifa, Stefan Müller, Michael Basler, Daniel Fugmann, Paul Page, Patrick Waltereit, Rüdiger Quay, Fraunhofer IAF; Stefan Mönch, University of Stuttgart, DE

Advanced Cooling

OP004 **Multi Layered Mo Effects on the Spacer for Double Sided Cooling Power Module**
Byeongchan Kim, YehRi Kim, Ha-young Yu, Junha Baik, Dongjin Kim, Korea Institute of Industrial Technology, KR

OP005 **Validated Electro-Thermal Methodology for Transient Current Capability in IGBT Power Modules**
Ludovica Longo, Edoardo Marchica, Daniela Cavallaro, Nexperia, IT

OP006 **Loop Heat Pipe Technology for Enhanced Cooling in Power Electronics**
Olivier de Laet, Antoine de Ryckel, Hülya Gecim, Calyos, BE

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Advanced Control Methods for Power Converters

OP007 **Stability of Inner-loop Only Control of Single Stage AC-link Converter For OBC Applications**
Rami Troudi, Ousmane Mbaye, Moctar Coulibaly, Sylvain Yvon, Valeo, FR

OP008 **Novel Method for Power Supply of AI server racks (Hybrid Opti mal Trajectory Control for LLC)**
Ayoub Ziraoui, Yassine El Khourassani, Robert Cittadini, STMicroelectronics, FR

OP009 **A Closed-loop Dead Time Control Method Based on di/dt Peak Detection**
Hongming Zhao, Joachim Joos, Robert Bosch, DE; Valentijn De Smedt, KU Leuven, BE

Measurement Techniques and Methods I

OP010 **Automated Deskew of Double-Pulse Measurements for Precise Switching Loss Calculation**
Philipp Rehlaender, Mohammad Vedadi, onsemi, DE

OP011 **Emulating SiC Modules Using Electrically Representative PCBs to Investigate Die-Level Current Phenomena**
Matt Appleby, Jiaqi Yan, Saeed Jahdi, Harry C.P. Dyomond, Pramit Nandi, Wing Tai Leung, Bernard Stark, University of Bristol, UK

OP012 **500 MHz Magnetic-Field-Gradient-Based Sensing of Die Currents in SiC Power Modules**
Jiaqi Yan, Matt Appleby, Pramit Nandi, Bernard Stark,Harry C. P. Dyomond, University of Bristol, UK

Charging Technologies

OP013 **Techno-Economic Sizing of a Renewable Hybrid Energy System for an EV Charging Station**
Maria Nunez, Mobin Naderi, Erica E. F. Ballantyne, David A. Stone, Martin P. Foster, Matthew J. Smith, George W. M. Hind, Andrew J. Hutchinson, Daniel T. Gladwin, University of Sheffield, UK

OP014 **Implementation of a Power Gyrator for Electric Vehicle Chargers**
Luis Ruiz Chamorro, Miroslav Vasic, Polytechnic University of Madrid,ES

OP015 **Multiport Single-Transformer Power Converter Enabling Onboard Charging and DC-DC Conversion in EVs**
Oscar Lucia, Hector Sarnago, University of Zaragoza,ES; Juan Alberto Romero-Baena, Timo Kellner, Schaeffler, DE

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Advanced Modeling and Design Technologies for Electrical Drives

OP016 **Determination of Parasitic Capacitances in a Motor Using Ansys Maxwell**
Muhammad Ahmad Masood Gill, Wai Keung Mo, Ramkrishan Maheshwari,Thomas Ebel, University of Southern Denmark; Kresten Kjaer Sorensen, Bitzer Electronics, DK

OP017 **Evaluation of PWM Techniques for Reduced Powertrain Losses and NVH**
Giorgio Valente, Davide Gottardo, Cadence Design Systems, IT; Chris Halse, Cadence Design Systems, UK

OP018 **Model Reference Adaptive Control of Permanent Magnet Synchronous Machines using Exact Discretization**
Kristof Bandy, Peter Stumpf, Budapest University of Technology and Economics, HU

Power Electronics in Transportation

OP019 **Battery Integration in Railways: Review of Power Converter Topologies and their Industrial Readiness**
Saad Ahmad, Mariam Saeed Hazkial Gerges, Fernando Briz, University of Oviedo; Ana Castro, Victor Lopez, David Ortega, Ingeteam Power Technology, ES

OP020 **Shared DC-Link Optimization for Paralleled Inverters Using Phase-Shifted PWM**
Axel Wagret, Simon Uicich, Airbus; Guillaume Gateau, Laplace Laboratory, FR

OP021 **Towards Reliability-Oriented Mission Profiles for Electric Aircraft Propulsion Converters**
Jeff Kugener, Kurt Gnerlich, Ilja Koch, German Aerospace Center (DLR), DE

Condition and Health Monitoring

OP022 **Motor and Inverter Fault Detection using Current Signature Analysis for GaN-based Motor Drives**
Holger Kapels, Michael Mensing, Hamburg University of Technology; Marc Gensch, Fraunhofer ISIT; Martin Schellenberger, Christoph Blechinger, Lei Wang, Carsten Rolfes, Fraunhofer IISB; Ulf David Westerhoff, Schümann, University of Applied Sciences Kiel; Gongbo Chen, Alexander Stanitzki, Fraunhofer IMS, DE

OP023 **Optimized High Frequency Cable–Motor Impedance Parameter Design for Voltage Stress Mitigation**
Muhamad Usman Sardar, Toomas Vaimann, Lauri Kütt, Bilal Asad, Ants Kallaste, Tallinn University of Technology, EE

OP024 **Microclimate Inside of Power Semiconductor Modules and Their Surrounding Cabinet During Operation**
Wilfried Holzke, Jan-Hendrik Peters, Nando Kaminski, University of Bremen; Sören Fröhling, Katharina Fischer, Bend Tegtmeier, Martin Hippenstiel, Fraunhofer IWES, DE

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Thermal Monitoring and Modeling

OP025 **Sensor Virtualization to Leverage Cost Savings in Realtime Electric Machine Temperature Monitoring**
Christian Hahn, Mareike Schenk, Rainer Keck, Robert Bosch, DE

OP026 **Temperature Estimation Model for EV Drive Unit**
Andreas Sidorow, Sergei Pankratov, Isuzu Motors, DE; Hiroshi Yamanishi, Kouta Kokubo, Isuzu Motors, JP

OP027 **Is Transient Thermal Network Model Applicable Under Short-Circuit Conditions?**
Chengmin Li, Yifei Chang, Dongsheng Yang, Enyao Xiang, Eindhoven University, NL; Yi Zhang, Hong Kong Polytechnic University, CN

Intelligent Gate Drivers II

OP028 **Low-Complexity Sub-nanosecond Active Gate Driver for SiC Modules with IV-Trajectory Optimisation**
Matt Appleby, Pramit Nandi, Wing Tai Leung, Harry Dymond, Saeed Jahdi, Bernard Stark, University of Bristol, UK

OP029 **A Novel, Adaptive Closed-Loop Dead-Time Control for High Voltage SiC-MOSFET based Power Converters**
Michael Rauh, Nicolas Mann, Mark-M. Bakran, University of Bayreuth, DE

OP030 **Three-Channel Gate Monitoring Driver for SiC MOSFET Power Modules with Redundant Fault Detection**
Mathis Picot-Digoix, Laplace Laboratory; Frederic Richardeau, Jean-Marc Blaquiere, Sebastien Vinnac, University of Toulouse; Camille Bidaud, Thanh-Long Le, Stephane Azzopardi, Safran; FR

Bipolar Power Devices

OP031 **New 6.5 kV IGCT and Fast Recovery Diode Product Set with Outstanding Safe Operation Area Performance**
Umamaheswara Reddy Vemulapati, Tobias Wikström, Thomas Stiasny, Chiara Corvasce, Christian Winter, Hitachi Energy, CH; Jan Vobecky, Hitachi Energy, CZ

OP032 **1.2 kV Fast Recovery Diode with Stable Turn-Off Under Harsh Voltage and Temperature Stress**
Hadi Hematian, Paolo Mirone, Peter Waind, Liutauras Storasta, Littelfuse, DE

OP033 **On Coupled Gate Drive Units for Paralleled IGBTs and Their Effect on Dynamic Current Mismatches**
Lukas Tomforde, Timm Godwin Staub, Hans-Günter Eckel, University of Rostock, DE

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Cutting-Edge Developments in High-Performance Drives

OP034 **Integrated Interphase Transformer and dv/dt Filter Analysis for Interleaved SiC Motor Drives**
Tiago Jappe, Vincotech, DE

OP035 **Artificial Intelligence Based Diverse Redundancy for Safety Critical Automotive Motor Control Applications**
Mihail Jefremow, Mert Oender, Juergen Schaefer, Arndt Voigtlaender, Infineon Technologies, DE

OP036 **Safety-Compliant DC-Link Surge Suppression with Integrated Diagnostic in 48 V Automotive Drives**
Nima Saadat, Kaveh Haghverdi, Murugaperuma Devaraja Gounder, Markus Einhorn, Julian Dieterle, SEG Automotive, DE

Special Session: Artificial Intelligence in Power Electronics

OP037 **Environment-oriented Predictive Maintenance for Distribution Transformers**
Alper Çoban, Mehmet Ali Sarac, Egemen Erkan Ögütcü, Ilayda Ismailoglu, Mert Yilmaz, Deniz Celik, Enis Yüksel, Bilal Kir, Empa Electronics; Levent Kasimay, Provar Electronics, TR

OP038 **AI-enhanced Energy Networks: Enabling Smart Power Management for Software-Defined Vehicles**
Hardy Stoelben, NXP Semiconductors, DE

OP039 **Accelerating SiC Power Module Design via AI Enabled Web Based Virtual Prototyping**
Yanfeng Shen, Xiaoting Dong, Matthias Spang, Semikron Danfoss, DE

OP040 **The Silent Enabler: WBG Power Technology & Packages for the AI-HPC Revolution**
Giuliano Cassataro, Jim Honea, Nexperia, NL

OP041 **AI and Electronics – Trends, Challenges, and Urgent Opportunities**
Alexander Gerfer, Würth Elektronik, DE

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WBG Reliability

OP042 **Silicon Carbide Reliability During 960V DC Link Capacitor Active Discharge**
Daniel Norwood, Sergio Jimenez, Austin Curbow, Roderick Gomez, Wolfspeed, US; John Geiger, Texas Instruments, DE

OP043 **Comparative Study of Dynamic Gate Stress Effects on SiC MOSFETs**
Akihiro Koyama, Toshiaki Iwamatsu, Yukiyasu Nakao, Seiju Hasegawa, Katsutoshi Sugawara, Tatsuro Watahiki, Mitsubishi Electric, JP

OP044 **Novel Test Concept for Active Short-Circuit Characterization**
Mohamed Alaluss, Maximilian Goller, Josef Lutz, Thomas Basler, Chemnitz University of Technology; Raphael Hartwig, Rüdiger Kusch, Volkswagen, DE

OP045 **Reliability Assessment of AlGaN/GaN MISHEMTs Under Self-Heating and Current Collapse Effects**
Nilesh Kumar Jaiswal, Thomas Ebel, Samaneh Sharbati, University of Southern Denmark, DK

OP046 **Methodology for Temperature Calibration and Power Cycling Testing of Schottky p-GaN HEMTs**
Gengqi Li, Maximilian Goller, Jörg Franke, Josef Lutz, Thomas Basler, Chemnitz University of Technology, DE

Advanced Packaging

OP047 **Long-Term High-Tempersature Operation of Liquid-Metal Interconnects on SiC MOSFETs**
Nick Baker, University of Alabama, US; Francesco Iannuzzo, Polytechnical University of Turin, IT; Szymon Beczkowski, Kjeld Pedersen, Stefan Meyer, Kaichen Zhang, Asger Jorgensen, Aalborg University, DK

OP048 **Novel 3D SiC Power Module with Epoxy-resin Insulated Substrate and Pressure-less Ag Sintering TIM**
Shoichiro Otani, Keita Suzuki, Yoshihiro Tateishi, Tetsuo Endoh, Yoshikazu Takahashi, Tohoku University; Takahiro Harada, Sumitomo Bakelite, JP

OP049 **Next Generation 3.3kV LV LinPak Si Power Module with 3AC Design for Traction Applications**
Slavo Kicin, Georg Siroky, Lluis Santolaria, Gernot Stampf, Andreas Roesch, Virgiliu Botan, Milad Maleki, Hitachi Energy, CH

OP050 **3 level TNPC in a SEMITRANS 20 Package for LV Power Drives**
Jürgen Engstler, Sebastian Reinicke, Matthias Spang, Uwe Schilling, Semikron-Danfoss, DE

OP051 **Fabrication Technology for Hybrid Ceramic/PCB Embedded SiC MOSFET Halfbridge Pre-packages**
Niko Haag, Till Huesgen, University of Applied Sciences Kempten, DE

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High Power Converters I

OP052 **Hybrid Symmetrizing Voltage-Clamp for Voltage Balancing of Two-Level Operated 3L-NPC Topology**
Amin Darvishzadeh, Drazen Dujic, Rui Wang, EPFL, CH

OP053 **A Novel Compact High-Power PCB-Based Transformer Geometry for Electric Aircraft Applications**
Lufan Zhou, Alberto Delgado Expósito, Daniel Ríos Linares, Miroslav Vasic Matic, Polytechnic University of Madrid, ES

OP054 **Rogowski Coil with Passive Optical Output for Short-Circuit Protection of MMC Submodules**
Ali Sharaf Addin, Thomas Brückner, Universität der Bundeswehr München, DE

OP055 **Reduction of Passive Components in Quasi-2-Level Operated MMC for MVDC DAB Converter**
Jose Andres Aguilar Croston, Besar Asllani, Piotr Dworakowski, SuperGrid Institute; Jean-Yves Gauthier, Cyril Buttay, Ampère Laboratory, FR; Maryam Saeedifard, Georgia Institute of Technology, US

OP056 **B-TRAN MMC HVDC: An Efficient and Low-Cost MMC HVDC with Half-Bridge Submodule and DC Fault Blocking**
Bhuwenesh Gupta, Jordan Price, Ideal Power; Felice Makain, Qingyun Huang, Abhishek Bose, University of Missouri, US

Active Filters and Electromagnetic Compatibility

OP057 **Investigation of Conducted EMI in a 3-Phase Induction Motor Drive Under Different Predictive Control Methods**
Gregory Almeida, French Institute of Technology (IRT Saint-Exupery), FR; Victor Moura Bezerra Melo, Federal University of Paraíba,BR

OP058 **Improving Transient Performance on Server and AI Applications**
Jose Luis Silva Perales, Mario Alejo, Monolithic Power Systems, ES

OP059 **Advanced Power Quality Control in Industrial Power Grids: AI-Integrated Active Filtering**
Philipp Wissmann, Daniel Hein, Steffen Limmer, Thomas Runkler, Martin Hergt, Franz Meierhoefer, Michael Witterauf, Siemens; Benjamin Wild, Meanwave; DE

OP060 **A Novel Active dv/dt Filter for Common-Mode Current Reduction in SiC-Based Motor Drives**
Felix Schulte, Moritz Seidel, Martin Pfost, TU Dortmund University, DE

OP061 **Sensorless Active EMI Filtering via Real-Time Estimation of Common-Mode Dynamics**
Mohammadreza Bagheribavaryani, Niklas Langmaack, Braunschweig University of Technology, DE

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Inductors and Transformers

OP062 **Optimal Design of High Leakage Inductance Integrated Planar Transformer with Interleaved Windings**
Hamza Ahmad, Ki-Bum Park, Korea Advanced Institute of Science and Technology (KAIST); Seong Yong Hong, Jae-Bum Lee, Korea National University of Transportation, Jongeun Byun, Hyundai Motor Company, KR

OP063 **Design of an Integrated Three-Port Fractional-Turn Planar Transformer for a Redundant LLC Converter**
Arya Venugopal, Muhammad Attique Qamar, Patrick Salcher, Thomas Langbauer, Robert Petrella, Albert Frank, Silicon Austria Labs; Ernst Katzmaier, Infineon Technologies; Roman Legenstein, AVL List, AT

OP064 **Copper Foil-Based Air Core Transformer Equivalent Model and Feasibility Study for MHz Switching Freq**
Oleksandr Husev, Mohammad Maalandish, Jacek Rabkowski, Warsaw University of Technology,PL; Matthias Kasper, Gerald Deboy, Infineon Technologies, AT

OP065 **Very High Frequency Characterization of a Foil Air Inductance using Transmission Lines**
Jacques Laeuffer, Dtalents, FR; Lukas Reißenweber, Alexander Stadler, Coburg University of Applied Sciences and Arts, DE

OP066 **Integration of CMDM Choke Using Ellipsoidal Core for High Power Density and Volume Reduction**
David Prados, Olive Didac, Pau Colomer, Enrique Oro, Meritxell Noguera, Rodney Trujillo, Martin Zhang, PRAX, ES

Components Reliability

OP067 **Improved Rth-Calculation for SiC MOSFETs in Power Cycling Tests**
Lukas Farnbacher, Jakob Breuer, Fabian Dresel, Jürgen Leib, Bernd Eckardt, Fraunhofer IISB; Andreas Schletz, Johannes Klier, Schletz, DE

OP068 **Lifetime of IGBTs Under Mixed Sequential Power Cycling: A Matched-Lifetime Sequencing Experiment**
Diego Velazco, François Wallart, Yohan Cousin, SuperGrid Institute; Emmanuel Batista, Michel Piton, Alstom, FR

OP069 **Component-Based Acceleration of Lifetime Tests for Automotive Inverters**
Jelto Oltmanns, Volkswagen; Jens Friebe, University of Kassel, DE

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High Power Density Designs I

OP070 **Integrated High-Power-Density 48 V Power Converter with 3D-Printed Heatsink Busbars**
Zhaobo Zhang, Andrew Hopkins, Nick Simpson, University of Bristol, UK; Rick Ottolinger, Additive Drives, DE

OP071 **A GaN-Enabled Low-EMI Three-Phase/Single-Phase PFC Family for EV Chargers and Data Center Applications**
Reza Asgarnia, Jakub Kucka, Paderborn University, DE; Frank Schafmeister, Delta Energy Systems, DE

OP072 **500kVA/L High Density 3-Phase Traction Inverter Based on PCB Embedded Power Modules**
Wiljan Vermeer, Eckart Hoene, Fraunhofer IZM, DE; Takashi Masuzawa, Mitsubishi Heavy Industries, JP

Design for Environmental Compatibility

OP073 **Material Composition of Power Semiconductors for Life Cycle Assessment**
Ariya Sangwongwanich, Ning Wang, Fabio Sporchia, Massimo Pizzol, Aalborg University, DK

OP074 **Eco-design of Magnetic Components in Power Electronics A Life Cycle Assessment Perspective**
Ning Wang, Fabio Sporchia, Massimo Pizzol, Ariya Sangwongwanich, Aalborg University, DK; Tianyu Wang, Anhui University of Technology Maanshan, CN

OP075 **Is SiC the Key to Achieving Sustainable CO2 Reduction in Inverters?**
Disha Sharma, Florian Schwarz, Christian Bender, Markus Pfeifer, Siemens; Jög Franke, Manuela Ockel, Friedrich-Alexander University Erlangen-Nuremberg, DE

Design Optimization

OP076 **4D Design Space based Unified Magnetic and Circuit Design Optimization framework for CLLC Converter**
Hamza Ahmad, Jiho Song, Ki-Bum Park, Korea Advanced Institute of Science and Technology (KAIST); Jae-Bum Lee, Korea National University of Transportation; Jongeun Byun, Hyundai Motor Company, KR

OP077 **Inductance-Controlled PCB Design of an Instrumented Si/SiC Hybrid Switch with Module-Level Parasitics**
Yuyang Wang, Matt Appleby, Bernard Stark, Jun Wang, University of Bristol, UK

OP078 **Data-Driven Physics-Informed Modeling of Stripline Inductors for High-Density Power Converters**
Raúl Henares Vargas, Yi Dou, Tyndall National Institute; Chenyang Zhang, University College Cork, IE

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Multi-Domain Modeling

OP079 **Improved Electrothermal SPICE Model for ASFETs Enabling Dynamic Current Sharing and Enhanced SOA**
Sabrina Chowdhury, Aniket Kulkarni, Ian Stubbs, May Angelou Estacio, Buket Turan Azizoglu, Nexperia, UK

OP080 **Accurate Modeling and Analysis of Dissipation Losses in Output Capacitance of Power Semiconductors**
Kaushik Mirdoddi, Roberto Petrella, Silicon Austria Labs, AT

OP081 **Dynamic Reverse Transfer Capacitance Modeling for New IGBT Generations**
Patrick Popp, Arnab Biswas, Maria Cotorogea, Infineon Technologies, DE

AC-AC Converters

OP082 **Design and Performances of Thyristor-Based Electronics On-Load Tap Changer**
Jiasheng Huang, Drazen Dujic , EPFL; Mehrdad Kiani Oshtorjani, Rauscher & Stoecklin; CH; Gokhan Kalkan, Kyte Powertech, I

OP083 **Three-Leg Operation of Back-to-Back Voltage Source Converters with Zero Voltage Switching**
Lou Scholtissek, Christos Leontaris, Gean J. M. de Sousa, Marcelo Lobo Heldwein, Technical University of Munich, DE

OP084 **Enabling Direct AC-AC Power conversion in Induction Cooking with GaN BDS**
Veit Hellwig, Javier Ariza, Infineon Technologies, DE; Atrin Tavakoli, Infineon Technologies, US

Special Session: Power Continuity vs. Power Quality – AI Data Center

OP085 **8 kW SiC/GaN-Based PFC Design with MCM Operation Achieving >99% Flat Efficiency for AI Servers**
Marco Torrisi, Sebastiano Messina, Angelo Giordano, Daniele Giovanni Sfilio, STMicroelectronics, IT; Mario Cacciato, University of Catania, IT

OP086 **12 kW Single Phase AC/DC Power Supply for Highly Dynamic AI Loads**
Martin Wattenberg, Matthias Kasper, Infineon Technologies, AT

OP087 **UPS Front-end Converter as Shunt Active Filter for Power Quality Improvement in Data Centers**
Rocco Luciano Grimaldi, Lorenzo Giuntini, Andrea Mannuccini, ABB, CH

OP088 **Comparison of 1.2 to 3.3 kV Silicon Carbide Power Modules for Solid-State Transformer Applications**
Christopher D. New, Blake Nelson, Austin Curbow, Wolfspeed, US

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Special Session: DFG Priority Program "Energy Efficient Power Electronics – GaNius”

OP089 **A Novel Multistage Gate Driver for GaN GITs**
Céline Lawniczak, Martin Pfost, TU Dortmund University; Benedikt Kohlhepp, Sibylle Dieckerhoff, Technical University of Berlin, DE

OP090 **Analysis of the Temperature- and Voltage-Dependencies of Gate Impedance in Different GaN Devices**
Andreas Bäumler, Mark-M. Bakran, University of Bayreuth, DE

OP091 **Measurement-Based Parameter Extraction for ASM-HEMT Compact Modeling of Power GaN-HEMTs**
Philipp Swoboda, Martin Fein, Andreas Liske, Marc Hiller, Karlsruhe Institute of Technology, DE

OP092 **Design and Practical Verification of a Highly Efficient Resonant LLC-Converter**
Jonas Schlindwein, Benedikt Kohlhepp, Xiaomeng Geng, Sibylle Dieckerhoff, Technical University of Berlin, DE

Power Electronics for E-Mobility II

OP093 **Tiny Power Box 2: Part 1 - Topology Design for a High Power Density Bidirectional OBC with Integrated DC-DC**
Franz Vollmaier, Mattia Iurich, Ismail Recepi, Thomas Langbauer, Roberto Petrella, Jyun Lin, Silicon Austria Labs, AT

OP094 **Optimised PWM Schemes and Voltage Distribution in Four-Level Flying Capacitor Inverters for EVs**
Bharadwaj Raghuraman, Jürgen Biela, ETH Zurich, CH

OP095 **Optimized Gate Control Strategy of Si/SiC Hybrid Switches for Electric Drive Inverters**
Niklas Seltner, Thomas Basler, Chemnitz University of Technology; Martin Ackerl, Daimler Truck, DE

OP096 **Next Generation SiC Inverter with Low Power Loop Inductance and Variable Gate Drive Strength**
Andreas Apelsmeier, Vishal Undre, Ugare Chetan, Vishal Iyappan, Stefan Berindan, BorgWarner Systems Engineering, DE; Naeem Bharmal, Omar Nezamuddin, BorgWarner, US

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WBG Application and Package

OP097 **Inductance-optimized Power Module Concept: Balance di/dt Symmetry and Losses by Leadframe Overlap**
Michael Fügl, Marco Baessler, Infineon Technologies, DE

OP098 **All-SiC Power Modules with 3rd-Generation Trench-Gate SiC-MOSFET**
Taku Takaku, Junya Kawabata, Aiko Takasaki, Yusukie Sekino, Yoshiaki Toyoda, Keiji Okumura, Fuji Electric, JP

OP099 **Off-State Gate Voltage Modulated Reverse Recovery of SiC Trench Power MOSFETs**
Michael Schlüter, Alexander Widhalm, Anastacia Ebers, Infineon Technologies, DE

OP100 **Advanced Three-Phase GaN-Based Power Micro-Module for Motor Drives in Robotic Hands**
Marco Palma, Francesco Musumeci, Efficient Power Conversion; Salvatore Musumeci, Fausto Stella, Polytechnical University of Turin, IT

Advanced DC-DC Converters

OP101 **Innovative Bidirectional DCDC Partial Power Converter for the Battery Backup Units in AI Datacenters**
Rafael Antonio Garcia Mora, Infineon Technologies, AT; Vedant Chendake, Infineon Technologies, IN

OP102 **Steady-State Model and Operating Analysis of an MMC-Based Multiport DC–DC Converter**
Martin Votava, Sattar Bazyar, Hamzeh Beiranvand, Marco Liserre, Christian-Albrechts-University of Kiel; Jun-Hyung Jung, Fraunhofer ISIT, DE

OP103 **Transformer-Centered Design of an Asymmetrical Half-Bridge Converter for an ISOP-System**
Daniel Breidenstein, Jeremias Kaiser, Sophia Roesel, Thomas Dürbaum, Friedrich-Alexander-University Erlangen-Nuremberg; Benedikt Kohlhepp, Technical University of Berlin, DE

OP104 **High Power Density CLLC-DCX Converter with >250 kW Reaching >99 % Efficiency at 200 kHz**
Jörg Bornwasser, Dennis Wöhrle, Bruno Burger, Fraunhofer ISE; Oliver Ambacher, University of Freiburg, DE

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IGBT Technologies

OP105 **200 A 1200 V IGBT with Optimized Carrier Confinement and Trench Design for Automotive Applications**
Tommaso Stecconi, Lars Knoll, Paula Diaz Reigosa, Roger Stark, Nick Schneider, SwissSEM Technologies, CH; Coris Li, Leon Liang, Sun.King Pacific Semiconductor Technology, CN

OP106 **6500 V-Class PPI Using 2nd Generation Trench-IEGTs**
Ryohei Gejo, Kazushi Maeda, Daiki Watanabe, Keigo Yoshida, Raita Kotani, Akiyo Kawakami, Ryota Kiya, Hideaki Kitazawa, Takeshi Suwa, Naoto Tsukamoto, Shigeaki Hayase, Toshiba, JP

OP107 **Development of the 8th Generation 1200V NX Series Featuring 1000A Current Rating**
Kota Ohara, Nobuchika Aoki, Koichi Masuda, Mitsubishi Electric; Takamasa Oda, Melco Semiconductor Engineering, JP

OP108 **Newly developed 1,200V 8th Generation IGBT Module for Industrial Applications**
Junya Kawabata, Tomoya Kishi, Tatsuya Naito, Natsuki Takeishi, Hiroyuki Nogawa, Naoki Shimizu, Syunta Horie, Yoshiyuki Kusunoki, Fuji Electric, JP

Power Electronics for E-Mobility III

OP109 **Quantifying the Impact of a Reduced Stray Inductance to the SiC MOSFET Module-/Inverter Current**
Christian Schweikert, Waldemar Jakobi, Alexander Astahoff, Infineon Technologies, DE

OP110 **Efficiency and Cost Evaluation of 300 kW SiC Inverter Topologies for Battery Electric Vehicles**
Christoph Sachs, University of Stuttgart; Fabian Stamer, Jan Allgeier, Robert Bosch; Martin Neuburger, University of Applied Sciences Esslingen, DE

OP111 **Si/SiC Fusion Switch for Automotive Traction Inverters with 1200 V Blocking Capability**
Tomas Reiter, Michael Niendorf, Spyridon Pappas, Matthias Ippisch, Infineon Technologies, DE

OP112 **Distributed and Fault-Tolerant State-of-Charge (SoC) Balancing applied to CMCs**
Daniel Galvis, Marc Cousineau, Guillaume Gateau, LAPLACE Laboratory, FR

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SiC MOSFETs II

OP113 **Next-Generation High-Performance and Robust 1200V SiC Trench MOSFETs**
Karl Oberdieck, Stephan Schwaiger, Frederik Jülich, Manuel Horvath, Martin Hennen, Steffen Beushausen, Alberto Martinez-Lima, Jens Baringhaus, Robert Bosch, DE

OP114 **SiC Trench-gate Superjunction MOSFET in Low Inductive Discrete Package for EV Inverter Applications**
Nico Fontana, Infineon Technologies, AT; Caspar Leendertz, Martin Simon Weidl, Matteo Dainese, Andreas Korzenietz, Mathias Geike, Infineon Technologies, DE

OP115 **Mitigating Snap-Off during Reverse Recovery of SiC MOSFET Body-Diode**
Abhishek Maitra, Christian Bäumler, Thomas Basler, Josef Lutz, Technische Chemnitz University of Technology; Olga Siwak, Vitesco Technologies, DE

OP116 **Efficient High-Frequency Inverter Operation of Power Module with Advanced SBD-Embedded SiC MOSFET**
Shunsuke Asaba, Shun Takeda, Saho Fuji, Hiroyuki Irifune, Shunichi Nakamura, Takuma Suzuki, Toshiba Electronic Devices & Storage, JP; Haruhiko Miyagawa, Tomohiro Iguchi, Toshiba, JP

Data Center DC-DC Converters

OP117 **Eliminating Magnetic Components in a 48-to-12V Switched Tank Converter for Data Center Applications**
Filippas Sotirios, Georgios Kampitsis, University of Patras, GR

OP118 **Distributed Current-Mode Control of a Multiphase DC-DC Converter for Space µP PoL Applications**
Marc Cousineau, University of Toulouse; Gregory Almeida, French Institute of Technology; Frederic Pecourt, David Le Bars, Philippe Ayzac, Thales Alenia Space; Miguel Mannes Hillesheim, NXP Semiconductors, FR

OP119 **Energy Buffer to Meet the Peak Power Demands in AI server PSUs without Disturbing the Grid**
Sam Abdel-Rahman, Infineon Technologies, US; Matthias Kasper, Alessandro Pevere, Infineon Technologies, AT

OP120 **12 kW Power Supply Unit with High Power Density and integrated Peak Power Shaving functionality for AI Server and Datacenters**
Sam Abdel-Rahman, Infineon Technologies, US; Antonello Laneve, Manuel Escudero Rodriguez, Matteo Alessandro Kutschak, Alex Mirtchev, Theodoros Mouselinos, Infineon Technologies, AT; David Meneses Herrera, Infineon Technologies, FI

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OP121 **Single-Stage and Single-Phase Isolated Resonant AC-DC-Converter Using Integral Cycle Mode Control**
David Bohne, Christian Peter Dick, Cologne University of Applied Sciences, DE

OP122 **Variable-Inductor-Controlled Integrated LLC–PFC Converter for Wide Output Regulation**
Alireza R. Ghanbari, Rashid Kazemi, Sayed Reza Afzali Arani, V-research, AT

OP123 **Highly Efficient 34.5 kVA SiC-Based Power Amplifier with 20 kHz Large-Signal Bandwidth**
Anton Gorodnichev, Fabian Schnabel, Jonas Lesen, Matthias Klee, Fraunhofer IEE; Jonathan Billeke, Marco Jung, University of Applied Sciences Bonn-Rhein-Sieg, DE

OP124 **High Power Density 18kW Three-Phase PSU for AI Server and Data Center with Hold-up and Current Shaping Capability**
Alex Rossi, Manuel Escudero Rodriguez, Matteo Alessandro Kutschak, Mengxing Chen, Pablo Elosegui Garcia, Alex Mirtchev, Theodoros Mouselinos, Antonello Laneve, Infineon Technologies, AT; David Meneses Herrera, Infineon Technologies, FI;

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OP125 **Pressure-Less Sintering Copper Paste**
Hideo Nakako, Dai Ishikawa, Junya Ogura, Ryuya Nakaomoya, Motoko Yonekura, Resonac, JP

OP126 **Innovative Approach for Transient Liquid Phase Soldering (TLPS) with Solder Preforms for Power Module Packaging**
Ryan Mayberry, Joseph Hertline, Kyle Aserian, Indium, US

OP127 **Thermal Characterization of SLID Bonding Die-Attach in IGBT Module Packaging Application**
Shenyi Liu, Vesa Vuorinen, Mervi Paulasto-Kröckel, Aalto University, FI; Ferenc Ender, Gusztav Hantos, Lipak Gyula, Budapest University of Technology and Economics, HU; Jürgen Albrecht, Budatec, DE; Andrea Reologn, Serigroup, IT

OP128 **Bonding Properties and Reliability Evaluation of Cu Sinter Paste for Heatsink Attach**
Yuki Shirakawa, Takashi Hattori, Kazuyori Takagi, Shinichi Yamauchi, Kei Anai, Mitsui Kinzoku, JP

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OP129 **Investigation of Retrofittable GHz Bandwidth Current Sensors for Evaluation of GaN and SiC Devices**
Sebastian Klötzer, Nima Lotfi, Tim Lischka, Nexperia, DE

OP130 **Next Generation 200C Film Capacitors for Optimized Power Conversion Solutions in Harsh Environments**
Michael Brubaker, Advanced Conversion, Connor Carr, W. L. Gore & Associates, US

OP131 **High-Temperature-Stable Ultra-Thin-Film Capacitors**
Bartosz Gackowski, Thomas Ebel, William Greenbank, University of Southern Denmark; Neha Manojkumar Mulchandani, Anne Ladegaard Skov, Anders Egede Daugaard, Technical University of Denmark, DK

OP132 **LC-Filter Circuit with Periodic Time-Modulated Capacitance**
Norbert Seliger, Maximilian Püschel, Rosenheim University of Applied Sciences; Michael Schmid, Vahle Automation, DE

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Marcel Morisse, Juergen Esch, Marten Mueller, Alexander Philippou, Infineon Technologies, DE

PP002 **2.5kV IGBT Module with High Withstand Voltage and High Reliability**
Tomokazu Kanna, Nobuchika Aoki, Koichi Masuda, Akiyoshi Masuda, Mitsubishi Electric, JP

PP003 **Current Mismatch during Turn-On of Parallel IGBTs due to Uneven Mutual Inductances**
Tim Scheel, Lukas Tomforde, Timm Godwin Staub, Hans-Günter Eckel, University of Rostock, DE

PP004 **1.2 kV Narrow-Mesa Trench IGBT Platform for Optimized Losses and Ruggedness performance**
Indrajeet Bajarang Jadhav, Paolo Mirone, Liutauras Storasta, Littelfuse, DE; Wei Li Yang, Littelfuse, TW

PP005 **Stability of Paralleled IGBTs Driven by a Common Gate Drive Unit During Turn-off**
Lukas Tomforde, Hans-Günter Eckel, University of Rostock, DE

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Martin Hennig, Mikel Olalquiaga, Florian Pantle, Infineon Technologies, DE

PP007 **Design and Performance Study of 750V RC-IGBT for High Power EV Application**
Liheng Zhu, Hai Cai, Hua Xiang Ronzhen Qin, Qiang Xiao, Haihui Luo, ZhuZhou CRRC Times Semiconductor, CN

PP008 **Turn-off Delay Time Reduction in Modern IGBTs with a Two-Step Turn-off Method**
Vishwas Acharya Nayampalli, Cherian Abraham, Hans-Günter Eckel, University of Rostock; Hans-Peter Felsl, Infineon Technologies, DE

PP009 **New 6.5 kV HVIGBT Module with Low Loss and High Switching Robustness**
Yuta Nishimura, Kenji Hatori, Nobuhiko Tanaka,Mitsubishi Electric, JP; Nils Soltau, Mitsubishi Electric, DE

PP010 **Miniaturization of 3-level Topology Utilizing 8th Generation New NX Module**
Nobuchika Aoki, Mitsubishi Electric; Takamasa Oda, Koichi Masuda, Melco Semiconductor Engineering, JP

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Quyen Nguyen, Alexandre Dubois, Bilel Zaidi, Nidec Leroy-Somer; Arnaud Videt, Nadir Idir, University of Lille, FR

PP012 **Device and Bias Influence on Short-Circuit Performance in 3.3 kV SiC MOSFETs**
Ehab Tarmoom, Steven Chenetz, Microchip Technology, US; Dakai Wang, Wensong Yu, North Carolina State University

PP013 **Investigation of Dynamic On-Resistance in GaN HEMTs under Single- Pulse Short-Circuit Operation**
Nikhil Bhardwaj, Akash Gangwar, Yajush Sihag, Sandeep Anand, IIT Bombay, IN

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Muhammad Nawaz, Bochen Liu, Tim Augustin, Liu Wang, Hitachi Energy Research, SE

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Takenori Kakutani, Chika Takahashi, Daichi Okamoto, Kazuyoshi Yoneda, Taiyo; Yoshihiro Kawano, CMK, JP

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Georg Woywod, Mario Wasner, Marek Galek, Munich University of Applied Sciences, DE

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Shashank Mathur, Infineon Technologies, US; Semira Anna Guemues, Johannes Nigg, Infineon Technologies, DE

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Rony Thomas, Tim Lischka, Nexperia, DE

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Fatih Cetindag, Nima Lotfi, Zhe Yu, Nexperia, DE; Sebastiano Cataudo, Emanuela Privitera, Ludovica Longo, Nexperia, IT

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Moritz Naumann, Michael Gleissner, Mark-M. Bakran, University of Bayreuth, DE

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Emanuela Privitera, Daniela Cavallaro, Nexperia, IT; Hallen Liu, Rito Wang, Nexperia, CN; Wei Gong, Nexperia, UK

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Min-Ki Kim, Jangmuk Lim, Seungjun Noh, Hyundai MOBIS, KR

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Ruben Schnitzler, Tobias Fink, Manuel Rueß, Ingmar Kallfass, Felix Krull, University of Stuttgart, DE

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Holger Heinisch, Youssef Maniar, Hocine Boubekeur,Robert Bosch, DE; Christian Herold, Francisco Javier Arigita Lopez, Chemnitz University of Technology, DE

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Jaejin Jeon, Sangwon Yoon, Seoul National University, KR

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Christian Vorobev, Ruhr-University of Bochum, DE; Sebastian Bock, Matthias Gorski, Trane Technologies, DE

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Lucia Clavero, Ibrahim Harbi, Thiwanka Wijekoon, Huawei, DE

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Matthieu Gaychet, Julio Brandelero, STMicroelectronics, FR; Antonino Raciti, ST Microelectronics, IT

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Gang Zhang, Thiago Batista Soeiro, University of Twente, NL; Yang Wu, ABB Corporate Research, SW

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Mohammad Abu-Ali, Jan Achterhold, Felix Berkel, Maximilian Manderla, Robert Bosch, DE; Moritz Strack, Mathias Niepert, University of Stuttgart, DE; Daniel Görges, University of Applied Sciences Kaiserslautern-Landau, DE

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Faiq Siddiqui, Jan Fuhrmann, Hans-Günter Eckel, University of Rostock; Till-Mathis Ploetz, Rostocker Kompetenzzentrum für Leistungselektronik, DE

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Matthias Gorski, Florian Bendrat, Sebastian Bock, Trane Technologies, DE

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Lukas Knappstein, TU Dortmund University, DE

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Lukas Kappel, Jonathan Kipp, Martin Pfost, TU Dortmund University, DE

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Ion Tesu, Krishna Pentakota, Patrick de Bakker, Jim Heckroth, Ed Fulman, Arnab Dutta, Sudeep Mishra, Mike Duffy, Dan Kasha, Zak Kaufman, Robert King, Bill Moore, Chao Yang, Jason Zhan, Xiangxing Yang, Long Nguyen, Arif Alam, Chris Parsons, Luis Carillo, Sergio Soto-Aguilar, Junyao Tang, Xinlei Tong, Skyworks Solutions, US; Barney Botlik, Skywork Solutions, HU

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Fiona McBride, David A. Stone, Erica E.F. Ballantyne, University of Sheffield, UK

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Francesco Porpora, Mattia Iannetta, E-Lectra; Mauro Di Monaco, Giuseppe Tomasso, University of Cassino and Southern Lazio, IT; Georg Heiland, Jiri Frint, Sri Vijay Vangapandu, Finepower, DE

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Hasan Mousavi Somarin, Norbert Messi, Valeo, FR; Nazli Mousavi Somarin, Nazli Mousavi Somarin, Azad University, IR

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Guillaume Lefevre, Johan Le Leslé, Julien Morand, Mitsubishi Electric, FR

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Xabier Dorronsoro Martinez, Iker Lopetegi, Unai Iraola, University of Mondragon, ES

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Lars Leister, Daniel Schall, Leonard Geier, Niklas Katzenburg, Lukas Stefanski, Marc Hiller, Karlsruhe Institute of Technology, DE

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Ngoc Nam Pham, Jan Leuchter, Brno University of Technology, CZ; Ondrej Sadilek, University of Pardubice, CZ

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Manex Aizpurua, Iker Lopetegi, University of Mondragon, ES

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Torbjorn Sorsdahl, Inovance Automotive, NO

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Aimar Telletexea, Victor Lopez, Rafael Suárez, Roberto Moreno, María Tijero, IKERLAN, ES

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Timothy Hegarty, Texas Instruments, US; Naresh Adepu, Texas Instruments, IN

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Shounak Shashishekhar Kulkarni, Erik Kampert, Sönke Brandt, Klaus F. Hoffmann, Helmut Schmidt University, DE

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Christoph Fritsch, Siemens, DE; Ingo Hahn, Friedrich-Alexander-University Erlangen-Nuremberg, DE

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Róbert Orvai, János Hamar, Budapest University of Technology and Economics, HU; Márk Csörnyei, Robert Bosch, HU

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Simon Johannliemke-Appelbaum, Volker Staudt, Ruhr-University of Bochum, DE; Marcel Gladen, WILO; Markus Mertens, Smart Mechatronics, DE

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Xianghao Mo, Daniel Ríos Linares, Regina Ramos, Miroslav Vasic Matic, Polytechnical University of Madrid, ES

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Soumyabrata Patra, Mohamed Atef Tawfik, John Jairo Gelpud, Thomas Ebel, Ramkrishan Maheshwari, University of Southern Denmark, DE

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Fabio Carastro, Thomas Zoels, Semikron Danfoss, DE; Adlane Medjek, Semikron Danfoss, FR

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Thomas Effenberger, Franz Stubenrauch, Rosenheim University of Applied Sciences; Marcelo Lobo Heldwein, Technical University of Munich, DE

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Martin Klassen, Axel Kiffe, dSPACE, DE

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Philipp Rehlaender, Mohammad Vedadi, onsemi, DE

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Sascha Langfermann, Michael Owzareck, Lukas Fräger, BLOCK Transformatoren-Elektronik, DE; Regine Mallwitz, Technical University of Braunschweig, DE

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Tim Scheel, Timm Godwin Staub, Hans-Günter Eckel, University of Rostock, DE

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Mohammad Vedadi, Philipp Rehlaender, onsemi, DE

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Jörg Bornwasser, Dennis Wöhrle, Bruno Burger, Fraunhofer ISE; Oliver Ambacher, University of Freiburg, DE

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Arthur Boutry, Andrew Lemmon, University of Alabama, US; Michael Zimmermann, Keysight Technologies, DE

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Antonis Stathatos, Yifei Chang, George Papafotiou, Chengmin Li, Eindhoven University of Technology, NL

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Marco Cannone, Milko Paolucci, Elias Essakkali, Infineon Technologies, AT

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Eneko Agirrezabala, Iosu Aizpuru, David Garrido, University of Mondragon, ES; Stefan Schmies, Infineon Technologies, DE

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Nick Van Houtven, Mike Wens, Jef Thoné, MinDCet, BE; Valentijn De Smedt, KU Leuven, BE

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Mathana Venkatesh Sivanantham, Nima Saadat, Dhaval Devaiya Dhavalkumar Parshottambhai, Vivek Tailor, Tobias A. Nowak, SEG Automotive, DE; Michael Bierhoff, University of Applied Sciences Stralsund, DE

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Manex Gondat, Ander Ávila, Victor Lopez, Alonso Rodrigo, Itziar Alzuguren, Ikerlan, ES

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Lena Köhler, Georg Roeder, Martin Schellenberger, Fraunhofer IISB, DE; Noopur Amoli, GEFASOFT Engineering, DE

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Yoann Pascal, Marco Liserre, Karthik Debaddi, Fraunhofer ISIT, DE

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Hui Wang, Yao Yao, Wang Yafei, Wenjie Zhang, Pengxiang Wang, Wei Liu, Chenzhan Li, Qiang Xiao, Haihui Luo, Zhuzhou CRRC Times Semiconductor; Wenqin Mei, Zhuzhou CRRC Times Electric, CN

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Naoki Kaji, Hajime Ushio, Keigo Minode, Yuta Kawamoto, Akihiro Hikasa, ROHM, JP

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Anshul Tyagi, Blaz Rohseano, Jon Azurza Anderson, Moritz Georg Masaniger, Infineon Technologies, AT

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Ainhoa Puyadena, Florian Luekermann, Infineon Technologies, DE

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Rony Thomas, Reinhold Elfereich, Ioannis Almpanis, Nexperia, DE

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Amy Romero, Wolfspeed, UK; Jeffrey Casady, Roderick Gomez, Jeff Joohyung Kim, Kathie Tran, Marcelo Schupbach, Thomas Harrington, Sei-Hyung Ryu, Wolfspeed, US

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Jeff Joohyung Kim, Jae-Hyung Park, Brian Frey, Brian Fetzer, Sei-Hyung Ryu, Adam Barkley, Wolfspeed, US

PP088 **10-kV SiC MOSFET Module Characterization for Two-Level 4.16-kV High-Speed Motor Drives in Gas and Pumping Applications**
Ashish Kumar, Ahmed Ismail, Ajit Kanale, Rohan Raghunathan, Wolfspeed, US; Eric Allee, Jiang Xianfeng, Baher Abu Sba, Yue Zhao, University of Arkansas, US

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Yudai Yatsu, Yoshihiro Masumura, Keita Tsuchiya, Tatsuaki Tsukuda, Renesas Electronics, JP

PP090 **A New Surface-Mount Power Module for Wide Bandgap Power Devices**
Robin Simpson, Nexperia, UK; Ludovica Longo, Radha Russo, Sebastiano Cataudo, Nexperia, IT; Zheng Wei, Nexperia, CN

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Michael Frisch, Vincotech, DE

PP092 **SiC High Voltage LinPak: 3.3 kV Power Module for Medium- and High-Voltage Converter Applications**
Jeremy Jones, Edoardo Ceccarelli, Toni Ruiz, Harald Bayer, Virgiliu Botan, Biwei Zhang, Mohamed Musse Ibrahim, Michail Gakas, Milad Maleki, Hitachi Energy, CH

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Koray Yilmaz, Javier Acuna, Richard Wulff, Marco Ludwig, Infineon Technologies, DE

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Shuai Cao, Zenghui Wang, Chao Chen, MACMIC Science & Technology, CN

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Maxime Boulan, Martin Doublet, Nicolas Botter, Arnaud Videt, Nicolas Defrance, Jean-Claude de Jaeger, Nadir Idir, University of Lille; Laurent Guillot, STMicroelectronics, FR

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Avinash Maguluri, Yu Qi, Jianfeng Li, Yong Pang, Zhuzhou CRRC Times Electric, UK

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Zayed Ahmed, Jeffrey Diebold, Ramy Abdelmaksoud, Srujan Rokkam, Advanced Cooling Technologies, US; Shivangi Sinha, Dragan Maksimovic, University of Colorado Boulder, US

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Thomas Pfeifer, Miba Cooling, AT

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Jack Knoll, Christina DiMarino, Mark Cairnie, Viriginia Polytechnic and State University, US

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Jianfeng Li, Yu Qi, Yangju Zou, Zerong Ding, Zihao Liu, Morteza Kazemi, Chengjun Shen, Zhiyoung Wu, Zijian Chen, Zhuzhou CRRC Times Electric, UK; Jinzhou Cao, Guomeng Song, Zhaozan Feng, Zhuzhou CRRC Times Electric, CN

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Karsten Wenzel, krecotec; Uwe Schuffenhauer, Sören Miersch, Thomas Schuhmann, University of Applied Sciences Dresden, DE

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Jorge Mari, Marion Kind, Semikron Danfoss, DE

PP104 **Thermodynamic-Based Model Suitable for Real-Time Junction Temperature Estimation of Power Devices**
Maurizio Tranchero, Lorenzo Giraudi, Andrea Pastore, Paolo Santero, Ideas & Motion, IT

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Raja Sekhar Kammala, BorgWarner, D; Vishwas Shashidhar, BorgWarner, IN; Ujjwal Kumar, Caleb W Secrest, BorgWarner, US

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Tobias Riedel, Markus Schmid, Infineon Technologies, DE

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Peter van Duijsen, Diego Zuidervliet, The Hague University of Applied Sciences, NL; D. F. Lascu, UPT, RO

PP108 **Tristate Super Buck Converter**
Helmut Votzi, Felix Himmelstoss, University of Applied Sciences Vienna, AT

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Ozturk Sahin Alemdar, TOGG, TR

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Nikolas Förster, Andreas Sack, Jakub Kucka, Paderborn University; Oliver Wallscheid, Siegen University, DE

PP113 **Coupled-inductor Series Capacitor Buck Converter for Higher Step-down Voltage Conversion Ratios**
Inigo Martinez de Alegria Mancisidor, Edorta Ibarra, Jon Andreu, University of the Basque Country, ES; Rocío del Campo-Pedrosa, Alberto Otero Olavarrieta, University of la Rioja, ES

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PP114 **A Resonant-Inductor-Integrated H-Transformer for 48V–12V LLC Bus Converters**
Tianxiao Chen, Jiayu Ying, Pedro Andre Martins Bezerra, Huawei Technologies, DE; Eckart Hoene, Fraunhofer IZM; Sibylle Dieckerhoff, Technical University Berlin, DE

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Oriol Subirats Rillo, Carles Oliet, Daniel Santos, Polytechnical University of Catalonia, ES; Daniel Montesinos, CITCEA-UPC, ES

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Prateek Wagle, Ioannis Nikiforidis, Paul Mitcheson, Imperial College London, UK

PP119 **Implementation of a Synchronous-CCM-Power Factor Corrector Using a Half-Bridge GaN-power Module**
Federico Levati, Francesco Ferrazza, STMicroelectronics, IT

PP120 **Bidirectional GaN based Single stage Microinverter**
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