CPES ANNUAL CONFERENCE 2026

BLACKSBURG, VIRGINIA, USA | APRIL 20 – 22

ORAL PRESENTATIONS

ENABLERS FOR FUTURE POWER ELECTRONICS SYSTEMS

Study of Grids-to-Chips System Architecture Enabled by MVDC and HVDC	William Chong
A Circularity and Sustainability Assessment Framework for Power Electronics System	Taha Moaz
Concept of Digital Control and Communication Network for Power Electronics Systems	Vladimir Mitrovic

MEDIUM AND HIGH VOLTAGE CONVERTERS

Hierarchical Multi-Layer Digital Control of a Three-Phase ac-dc-ac 13.8 kV ac 22 kV dc Flying Capacitor-Based Power Conditioning System	Arthur Mendes
Modeling and Control for the Energy Balance of a Hybrid Modular Multilevel Converter	Boping Jiang
Analytical Modeling of Parallel Open-Winding Neutral-Point-Clamped Converters	Nair Aalam
Hybrid Droop-Based Control for Parallel Operation of DC-DC Converters in a DC Microgrid	Naser Souri

MAGNETICS

Modular Magnetics: Stackable Transformer Winding towards Megawatt Class SST	Minh Ngo
PCB-based Winding Loss Modeling and Design Considerations for High-Current & High-Frequency Applications	Yan Liang
Insulation and Field-Stress Considerations in Medium-Voltage Inductor Design	David Nam
100 kV Isolated MHz Wireless Power Transfer-Based Auxiliary Power Supply for Medium Voltage Systems	Abhinav Soni

EMI

Modeling and Analysis of Finite Ground Impact on the Propagation of Common-Mode Currents in On-Board Electric Power Systems	Ashkan Barzkar
Modeling the Electric and Magnetic Near-field Emissions from SiC-based Half-bridge Converters	Jeet Panchal
Modeling and Prediction of CM Noise from Near-Field Coupling Effects in PFC Converters	Tyler McGrew

PACKAGING

Coaxial Medium-Voltage SiC MOSFET Power Module	Jack Knoll
Warpage Evaluation of Double-Side Cooled Power Modules Using Ceramic Stiffeners	Tarik Teker
Design and Prototyping of a 3.3 kV Double-Side Cooled SiC MOSFET Power Module with EMI and Field Grading Mitigation for Grid-Tied Systems	Andrew Zhang

DATA CENTER POWER DELIVERY

Single-Stage, Direct MVAC to LVDC Modular Power Conversion for Data Centers	Shivani Nair
Switching Commutation Analysis and Optimization of Three-Level Three-Phase CLLC Resonant Converter	Abdelrahman Ali
Modeling of Multiphase Current-Mode Constant On-Time (COT) Control with Phase Overlapping	Sundaramoorthy Sridhar
Enhanced Control of Bidirectional Phase-Shift Full-Bridge DC-DC Converters for Voltage Overshoot Elimination and Circulation Current Reduction	Tien-Sheng Li