

Products Newsletter



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Transparent Peer Review Pilot for OJPEL

The pilot on Transparent Peer Review (TPR) is now live for OJPEL! TPR has several benefits when both authors and reviewers opt in.

- 1. Enables readers to gain insights into the article's peer review history and discussions between reviewers and authors.
- 2. Provides educational opportunities for new and early-career researchers to learn from constructive reviews and responses to reviewer comments.
- 3. Addresses concerns from authors regarding editorial bias.
- 4. Provides more accountability for authors, reviewers, and editors during the peer review process.

All power electronics topics (including other active special compendia) are eligible to be a part of the pilot program. For more information, please click **here**. The deadline for manuscript submissions is December 1, 2024.

IEEE Author Portal



During the month of October, IEEE Power Electronics Society publications will be making the transition to the IEEE Author Portal. All authors will submit their manuscripts through the Author Portal instead of ScholarOne. The review process will remain in ScholarOne. The Author Portal will benefit authors in a few ways.

- 1. One easy-to-use platform
- 2. Single sign on
- 3. Embedded contextual guidance
- 4. Reduced submission time

For more information on the Author Portal, please **visit** the IEEE Author Center.

IEEE Power Electronics Magazine

Virtual (digital) representation of a physical entity

Periodic synchronization to match the physical entity

Cleary identified physical entity (the physical twin)

Intended purpose (use)

In the June 2024 issue of *IEEE Power Electronics Magazine*, the Industry Pulse column "**Digital Twins: The Real Opportunities**" by Stephanie Watts Butler and Kristen N. Parrish introduces the concept of Digital Twin, and how it differs from both AI and a traditional model. Plus, it examines in some detail the opportunities in power semiconductors and power electronic systems. The column attempts to clear any confusion

surrounding the definition of Digital Twins, and, therefore, proposes a working definition for a Digital Twin, which includes its intended use. According to this column, the Digital Twin must possess four attributes (shown above), which are clearly explained in this article.

Free for All

For more editorial from the June 2024 issue of *IEEE Power Electronics Magazine*, visit the redesigned magazine **website**. You will discover a variety of Open Access columns, along with Society News stories. Stay tuned for the September 2024 issue, which will be dedicated to the magazine's tenth anniversary.

IEEE Transactions on Power Electronics (TPEL)

The editorial team of TPEL is pleased to announce three new Special Sections for publication in 2025.

- 1. Special Section on Advanced Wide Bandgap Single-Stage Grid-Connected Power Interface
- 2. Special Section on Drives and Controls of Electric Machines in Electric and Hybrid Aircraft Applications
- 3. Special Section on Very High Frequency Resonant Converters for Efficient and Miniaturized Power Conversion

The submission deadline for these is March 31, 2025. For more info, please clickhere.

TPEL editors have selected a few papers to highlight from the **October 2024** issue.

"Short Circuit Protection of Silicon Carbide MOSFETs: Challenges, Methods, and Prospects" by Man Zhang, Helong Li, Zhiqing Yang, Shuang Zhao, Xiongfei Wang, and Lijian Ding. This work outlines the prospects of short-circuit protection technologies in the aspects of deficiencies and optimization of short-circuit protection in multichip power module with paralleled SiC mosfets.

"Self-Excitation Startup Strategy of Cascaded H-Bridge Grid-Connected Converter Based on Dynamic Virtual Impedance" by Yongxin Zhang, Fei Li, Liuchen Chang, and Xing Zhang. In this article, a self-excitation startup strategy based on dynamic virtual impedance is proposed, adjusting the converter's output impedance to a virtual impedance.

IEEE Power Electronics Letters

The editors of TPEL Letters present three new Special Sections for publication in 2025.

- 1. Special Section on Highly Robust Power Electronics in the Era DC Grid (Submissions now open.)
- 2. Special Section on Fabrication and Design of High-Power-Density and High-Frequency Passive Components (Submissions open November 1, 2024.)
- 3. Special Section on AI-Enhanced Power Electronic Systems: Design, Control, and Maintenance (Submissions open December 1, 2024.)

For specific deadlines on these sections, please click **here**.

In the <u>October 2024</u> issue, we are pleased to present the second special section of TPEL Letters: "Power Electronics Technologies for Transforming Electrical Grids," in which, we received 91 manuscripts, and 17 Letters were accepted for publication. The topics of this special section cover grid-forming converters, active loads, converter hardware, control, and circuit breaker for high-/medium-voltage dc systems. In addition to the special section, this issue reports 24 letters that cover a broad range of power electronics applications, including novel topologies and control of power converters, wireless power transfer, electrical drives, MHz power supply, wide-bandgap power devices, and high-frequency inductor design. Two intriguing letters from this issue are highlighted below.

"GaN-HEMT Power Module of Aluminum-Clad Printed Circuit Boards for Small Power Loop Inductance and High Cooling Performance," by Kazuhiro Umetani, Yu Takehara, Masataka Ishihara, and Eiji Hiraki. This work presents a now power module structure for GaN-HEMT devices, which uses two aluminum-clad printed circuit boards (PCBs) to sandwich the GaN-HEMT devices, thereby effectively reducing the power loop inductance and thermal resistance.

"DC Voltage Stability Analysis and Enhancement for Grid-Forming-Based MTDC Systems," by Ying Pang, Agusti Egea-Alvarez, Juan Carlos Gonzalez-Torres, Kosei Shinoda, Filipe Perez, and Abdelkrim Benchaib. This work reports a different harmonic instability mode in the multi-terminal high-voltage direct-current (MTDC) transmission systems when they are equipped with grid-forming capabilities. An active damping control solution is then introduced to derisk the oscillation.

IEEE Transactions on Transportation Electrification (TTE)

Authors are encouraged to submit their manuscripts for publication in TTE. All manuscripts can be submitted through the IEEE Author Portal. For more information, please click **here**.

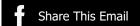
To read papers from the September 2024 issue of TTE, please click**here**.

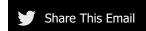
IEEE Journal of Emerging and Selected Topics in Power Electronics (JESTPE)

JESTPE currently has three active Special Issues receiving submissions.

- Special Issue on Power Electronics and Drive Systems for Aviation Electrification (The submission deadline is October 15, 2024.)
- •Special Issue on Modular Power-Electronics and Reconfigurable Circuits in Energy Storage, Energy Conversion, and Power Management (The submission deadline is December 31, 2024.)
- •Special Issue on High Power Density Power Converters Achieved by Device and Components Integration (The submission deadline is January 31, 2025.) For more information, please visit **online**.









This message is being sent to you because of your membership with and/or your interest in <u>publications</u> of the IEEE Power Electronics Society. For any questions about the newsletter, please contact Mary Beth Schwartz (<u>marybeth.schwartz@ieee.org</u>).

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