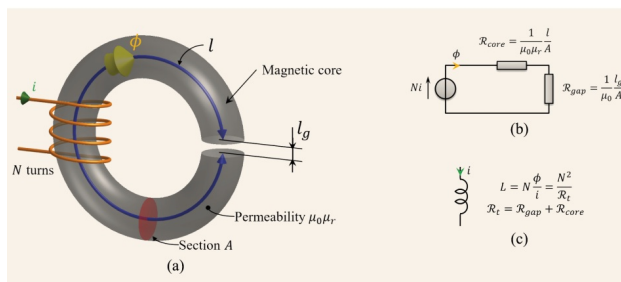


IEEE Power Electronics Magazine



Even after decades of improvements, magnetic components continue to be bulky parts of power electronics systems, and account for a significant share of the losses. While voltage-controlled magnetic components, which consist of dynamically controllable inductances and transformers, are promising and offer some additional degree of freedom to achieve multi-objective optimization with improved Pareto fronts, it is still under development. In the June 2023 issue of *IEEE Power Electronics Magazine*, the article “**Voltage Controlled Magnetic Components for Power Electronics: Technologies and Applications**”, by Marco Liserre, Yoann Pascal, Jeffrey McCord, Thiago Pereira, Rainer Adelung, Lukas Zimoch, S. Kaps, Xiabin Li, and Nian X. Sun, reviews some technologies that can be used to create controlled magnetics. To demonstrate the benefits of the technology, a 20kW multiport dc-dc converter is displayed in which power flow control is achieved using voltage-controlled indicators based on partially saturable magnetic cores.

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IEEE Transactions on Power Electronics (TPEL)

The **October 2023 issue** of TPEL is now available online. It features three special sections, complete with editorials.

- Special Section on Advanced WPT Systems With High Efficiency and Misalignment Tolerance Characteristics
- Special Section on Multilevel Converters as an Enabler for Grid Modernization
- Special Section on Switched Capacitor Converters (SCCs)

IEEE Power Electronics Letters

In the **September 2023 issue**, we have 18 Letters published, covering a wide range of technological advancements in power electronics, such as zero-voltage switching techniques, active gate drivers, condition monitoring of passive and active components, and control methods for converters and motor drives. Two intriguing Letters from the issue are highlighted below.

- “**Optically Triggered Self-Adaptive Zero Voltage Switching**,” by Borong Hu, Yunlei Jiang, Luke Shillaber, Hengyu Wang, Chengmin Li, and Teng Long. This work utilizes the intrinsic optical property of SiC MOSFETs to realize self-adaptive zero voltage switching. The method is experimentally validated through a Buck converter.
- “**In-situ RDS(on) Characterization and Lifetime Projection of GaN HEMTs Under Repetitive Overvoltage Switching**,” by Ruizhe Zhang, Ricardo Garcia, Robert Strittmatter, Yuhao Zhang, and Shengke Zhang. This work experimentally demonstrates the evolution of dynamic on-

resistance [$R_{DS(on)}$] in GaN high electron mobility transistors (HEMTs) under repetitive overvoltage switching conditions. A physics-based model is then developed to predict the variation of dynamic $R_{DS(on)}$ under different peak drain voltages.

IEEE Open Journal of Power Electronics (OJPEL)

Looking for some interesting papers that feature converters? Take a look at the following articles that have been published in OJPEL.

- “**Buck-Plus-Unfolder as the Superior Active Power Decoupling Solution for 400 Vdc/kW-Level Applications**” by Sina Sadrian and Jiacheng Wang.
- “**An Active Hybrid Modulation Strategy for a Si/SiC Hybrid Multilevel Converter**” by Fei Diao, Yufei Li, Xinyuan Du, and Yue Zhao.
- “**Switching Strategy Development, Dynamic Model, and Small Signal Analysis of Current-Fed Cockcroft-Walton Voltage Multiplier**” by Amirhossein Rajaei, Mahdi Shahparasti, Ali Nabinejad, Yousef Niazi, and Josep M. Guerrero.

IEEE Transactions on Transportation Electrification (TTE)

The editorial team of *IEEE Transactions on Transportation Electrification (TTE)* is pleased to announce a **Call for Papers: Special Issue on Electrified Ship Technologies**. The full paper submission deadline is January 31, 2024. The expected publication date is September 2024. All manuscripts must be submitted through **Manuscript Central**.

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

JESTPE is currently looking to add more special issues to be published in future issues. If you think you may have a topic that could be featured in JESTPE, please submit a special issue proposal to our Deputy EIC, Fernando Briz. More information on creating special issue proposals for JESTPE can be found [here](#).



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