Call for Papers

CMP Chinese Journal of Electrical Engineering

Special Issue on Electromagnetic Interference and Electromagnetic Compatibility in Power Electronics System

Scheduled Publication Time: August 2022

With the development of high and new technologies such as 5G, big data, high-speed railway, renewable energy generation, flexible AC/DC transmission and electric vehicles, the power conversion system as the key support function is also developing rapidly in the direction of high frequency, high efficiency, high power and high-power density. The electromagnetic environment of the power and energy conversion system becomes more and more complex, which puts forward more stringent requirements for the electromagnetic compatibility design of the system, especially with the technological breakthrough and commercial use of wide band gap semiconductor power devices represented by SiC and GaN. Electromagnetic interference (EMI) and electromagnetic compatibility (EMC) have become the important challenges to ensure the functionality, safety, reliability and performance of the system. Therefore, it is of great significance to study the EMI and EMC theory and key technologies of power electronics system.

At present, EMI prediction and EMC technology of power electronics system have been widely studied. However, different industries have different technical characteristics and needs. Further, there are new challenges for satisfying EMC standard of power electronics system under the new situations such as the use of wide-band gap power switches, higher switching frequency, higher integration, higher voltage and higher power. Thus, it is necessary to carry out in-depth scientific research on the basic theory and key technologies of EMI and EMC of power electronics system.

This special issue intends to collect and report the latest developments of EMI and EMC of power electronics system. Topics of interest include, but are not limited to:

- Electromagnetic interference mechanism of power conversion system (conducted interference, near-field coupling / interference, radiation interference)
- Modeling and prediction of electromagnetic interference in power converter
- EMI suppression technology of power conversion system (passive and active filter design, active suppression technology, shielding technology, etc.)
- Electromagnetic compatibility design, test and rectification of power and energy conversion system
- Electromagnetic compatibility characteristics and design of power converter using wide bandgap semiconductor devices
- Power electrical energy transformation system failure mechanism and reliability evaluation
- System-level electromagnetic interference simulation and prediction technology

All manuscripts must be submitted through Manuscript Central at https://mc03.manuscriptcentral.com/cjee. Submissions must be clearly marked "**For Special Issue of EMI and EMC in Power Electronics System**" on the cover page. When uploading your paper, please select your manuscript type "Special Issue." The information about manuscript preparation and requirements is provided on http://www.cjeecmp.com/EN/column/column334.shtml. Manuscripts submitted for the special issue will be reviewed separately and will be handled by the guest editorial board noted below.

Deadline for Submission of Manuscript: Extended to May 15, 2022

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Proposed Timeline:

- May 15, 2022 – Manuscripts Submission Deadline
- June 30, 2022 – Final Acceptance Notification
- July 31, 2022 – Manuscripts Forwarded to CJEE for Publication
- August 31, 2022 – Special Issue Appears in CJEE