



Call for Papers

CPSS Transactions on Power Electronics and Applications

Special Issue on Robust and Reliable Power Electronics, 2018

Scheduled Publication Time: June 30, 2018

As power electronic systems have gradually gained an important status in a wide range of applications, their reliability has become an important issue. In recent years, the automotive and aerospace industries have brought stringent reliability constraints on power electronic systems because of safety requirements. The industrial and energy sectors are also following the same trend, and more and more efforts are being devoted to improving power electronic systems in order to account for reliability with cost-effective and sustainable solutions. The paradigm shift in reliability research in power electronics is going on in terms of the design methodologies, reliability testing concepts, and robustness validation approaches. Research on active switching devices, passive components, and interconnections is of interest to have a better understanding on the component-level reliability physics and it is extended to system-level reliability based on component level reliability physics. Furthermore, with the consideration of reliability as performance, the existing or new power converter topologies and control schemes are to be studied in multi-physics domains. The fault-tolerant design and prognostic health management are also interesting research areas to provide additional opportunities to ensure the reliable field operation of power electronic systems, especially in reliability-critical applications.

Prospective authors are invited to submit original contributions or survey papers for peer review for publication in CPSS Transactions on Power Electronics and Applications. Topics of interest of this Special Issue include, but are not limited to:

- Design for reliability in power electronics – robustness design
- Stressors in reliability of power electronics – impact and status
- Handling reliability in embarked systems: automotive, aircraft and space applications
- Failure mechanism in power electronic components
- Lifetime modeling and prediction
- Condition monitoring in power electronic systems
- Fault-tolerant strategies of power electronic converters
- Mission profile modeling in power electronics
- Optimization for reliability in power electronics
- Reliability in emerging power devices (eg. SiC, GaN)
- Life cycle cost analysis of power electronic systems
- Robustness and reliability validation testing
- And other related topics

The manuscripts should be submitted through Manuscript Central at <https://cn03.manuscriptcentral.com/tpea-cpss>. Submissions must be clearly marked “Special Issue on Robust and Reliable Power Electronics, 2018” on the cover page. The information about manuscript preparation and requirements is provided on http://tpea.cpss.org.cn/a/For_Authors/. Manuscripts submitted to this Special Issue will be reviewed and handled by the guest editorial board as noted below.

Deadline for Submission of Manuscripts: May 15, 2018

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Proposed Timeline:

- May 15, 2018 – Manuscripts submission deadline
- June 15, 2018 – Final acceptance notification
- June 30, 2018 – Camera-ready manuscripts for publication