

IEEE JOURNAL ON EMERGING AND SELECTED TOPICS IN CIRCUITS AND SYSTEMS

CALL for PAPERS

Special Issue on: Design of Energy-Efficient Distributed Power Generation Systems

Guest editors

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Scope and purpose

The IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS) seeks original contributions for an issue on “Design of Energy-Efficient Distributed Power Generation Systems”, scheduled to appear in September 2015. The increasing demand for cleaner power production and transmission as well as safety and cost make the usage of distributed power generation necessary for future power grids. In such systems a power converter is frequently required in order for the energy to be delivered from various local sources to local loads and storage facilities. This converter must be suitably designed and controlled so that the overall efficiency is maintained at the highest possible level under wide operating conditions. This requirement makes the full analysis of these converters necessary and therefore their nonlinear dynamics and interaction among between the different stages cannot be neglected. Even though in the past there has been considerable work done on the nonlinear dynamics of dc-dc converters, this special issue focuses on two main areas a) new advanced converter topologies used in distributed energy systems, and b) stability analysis of the overall distributed energy system.

Topics of interest

Topics of interest for this issue include, but are not limited to:

1. Nonlinear dynamics of multi-source, multi-load power converters used in power systems.
2. New topologies of power converters used in distributed generation systems
3. Nonlinear analysis, design and control methods of switching converters used in microgrid applications.
4. Nonlinear analysis and design of multiple input switching power converters for energy harvesting applications.
5. Plug-and-play, decentralized inverters employed in microgrids.
6. Nonlinear analysis of complex networks of power generation systems.
7. Stability analysis of power systems.

Important dates

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| • Manuscript submissions due | March 1, 2015 |
| • First round of reviews completed | April 15, 2015 |
| • Revised manuscripts due | May 15, 2015 |
| • Second round of reviews completed | June 30, 2015 |
| • Final manuscripts due | July 14, 2015 |

Request for information

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