

Special Session on Emerging Converter Topologies and Control for High-Performance PV Systems

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TOPIC OF THE SPECIAL SESSION

The cost and efficiency of PV systems improved significantly, which made them commercially attractive. Nevertheless, feasibility of small-scale installations is limited by the existing power electronic technologies that have not yet properly addressed issues like operation in weak grids, opaque and partial shading, etc. New market drivers such as warranty (reliability) improvement to match PV module lifespan; voltage operation range extension for application flexibility; and embedded energy storage for load shifting, have put small-scale PV systems again on the hot spot. This special session aims to concentrate the latest developments and allow researchers to discuss and share experiences to advance this technology.

Topics of the Special Session include but are not limited to:

- > Transformerless PV string inverters with a wide MPPT range
- > PV string inverter topologies without electrolytic capacitors
- Partial power processing dc-dc converters for distributed PV architectures
- ➤ High step-up voltage ratio dc-dc converters
- > PV power optimizers and their control
- > PV microinverters with an improved MPPT range
- > Topologies for increased reliability and warranty extension
- > Sub-module PV power converter topologies
- > Global MPPT algorithms for PV systems under shading
- Advanced control techniques for PV inverters to provide ancillary services to the grid
- Active power control strategies: absolute active power control, delta power control, ramp-rate control, etc.
- > Active power decoupling in single-phase PV inverters
- Module-level PV system monitoring and diagnosis
- > Efficiency and reliability of PV systems

IEEE IES Technical Committee Sponsoring the Special Session:

Power Electronics Technical Committee

For additional information please visit www.iecon2018.org

Author's schedule:

- Deadline for submission of special session papers: June 15, 2018
- Notification of acceptance: July 15, 2018
- Deadline for submission of final manuscripts: September 7, 2018

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