



4th International Conference on Smart Grid and Renewable Energy

www.sgre-qa.org

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Doha, Qatar

Special Session on **Integration of Photovoltaic Power into Distribution Grids: Advanced Topologies and Control Strategies** **organized and co-chaired by:**

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Call for Papers

Outline of the Session:

The integration of renewable energy, such as photovoltaic (PV) and wind power, into the distribution network, has significant environmental benefits and leads to carbon neutral of future power generating units. The increased level of renewable energy in the grid throws various challenges associated with power system stability. The integration of distributed generations can provide solutions to these challenges in the context of the conventional grid transition towards smart grid. The solar energy is being widely used in the distribution networks for consumption in industrial and residential applications due to the diminution in installation cost, static design, low maintenance cost, no fuel cost, and small size as a result of skill development, emerging technologies, and market penetration. The PV based integration procedure is a feasible methodology during the future expansion of PV/other renewable energy integration. For this, widespread investigations have been performed on advanced power electronic converter topologies and high-performance control methods, etc. The aim of this special session is to concentrate all related contributions on PV power integration into distributed grids to provide a common environment for presentation and discussion on their emerging research and development.

Topics of the session include, but are not limited to:

- Advanced single-stage inverter systems for PV power integration
- Modular multilevel converters for PV power integration
- Multifunctional inverter based integration in PV system
- High step-up power conversion system for PV power integration
- Dynamic model of PV generation system for grid integration
- Virtual synchronous generator control technology
- Model predictive control of grid-connected PV power systems
- Low voltage ride through characteristics of PV power grid integration
- High performance maximum power point tracking algorithms
- Power flow control and optimization algorithms
- Hardware-in-loop simulations of PV power integration

Author's schedule:

Deadline for submission of special session papers

September 15, 2023

Notification of acceptance

October 15, 2023

Deadline for submission of final manuscripts

November 15, 2023

All the instructions for paper submission are included in the conference website:

<http://www.sgre-qa.org/>