



## CALL FOR PAPERS

### Journal of Modern Power Systems and Clean Energy

### Special Section on Integrating Ultra-High Levels of Variable

### Renewable Energy

There is great interest around the world in integrating higher levels of variable renewable energy such as wind and solar photovoltaic into electric power systems from small village power systems to large-scale bulk power grids. This special section of the *Journal of Modern Power Systems and Clean Energy* will explore ultra-high levels of variable renewable energy (VRE) and their impact on planning and operation of electric power grids. At these levels, the grid becomes dominated by power electronic inverter-based generation, which have significantly different operational characteristics from the synchronous generators used in conventional power plants. Synchronous generators have mechanical inertial that allows them to ride-through system disturbances to maintain grid voltage and frequency levels. Inverter dominated grids will need to develop techniques that provide grid stability during system disturbances. Inverter-based VRE also have different characteristics regarding fault current contributions and black-start capability. In addition, the variable and uncertain nature will require grid operators to think about the best ways to provide operating reserves and in the case where there is organized market, they will need to understand the impacts of providing economic incentives for a variety of market products.

The special section is aimed at discussing the current state and future evolution integrating ultra-high levels of VRE into electric power grids.

The topics of interests include, but are not limited to:

- Advanced power electronics interfaces and controls that allow integration of higher levels of VRE without compromising system stability and reliability
- Modeling and simulation results of power grids with ultra-high levels of VRE
- Operational controls and experience with power grids with ultra-high levels of VRE
- Protection schemes and considerations for integrating ultra-high levels of VRE
- Electrical market and market products that may help power grids with organized markets deal with ultra-high levels of VRE

#### Submission Guidelines

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### **Important Dates**

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## **About Journal of Modern Power Systems and Clean Energy (MPCE)**

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