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Call for Papers for the Special Session on

Stability Control, Analysis and Implementation of Grid-following/Grid-forming Renewable Energy Systems

Organized and co-chaired by

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Technical Outline of the Session and Topics

With the exponential growth of renewable energy sources (RES) as wind and solar, Grid-following/Grid-forming RES are significant for large-scale utilization. Inverter integration reduces system inertia and raises stability risks, especially in weak grids.This session highlights VSG-enabled stability control, covering impedance-time domain analysis correlation, multi-inverter coordination and fault ride-through-stability integration. Both theory- and application-driven studies are invited for participation.

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

- Advanced control strategies for grid-following/grid-forming RES
- Grid strength assessment and optimization for diverse grid operation scenarios
- Modeling and control of grid-forming RES: inertia and Performance
- Adaptive tuning of virtual inertia and damping for low-inertia power systems
- Stability enhancement and power allocation of parallel VGSs
- Coordinated and decoupled control of grid-forming RES
- Fault ride-through and stability integration for grid-following/grid-forming inverters
- Mode switching control and validation of energy storage systems
- Small-signal stability analysis and oscillation suppression for converter-dominated grids
- Correlation analysis of impedance and time-domain methods for system stability assessment

Timeline for Authors

Paper Submission deadline: April 15th, 2026

Acceptance Notification: May 15th, 2026

Final Submission and registration: July 15th, 2026