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Special Session on
“Virtual Synchronous Machines”

Organized by

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Call for Papers

Nowadays, power electronic converters are becoming ubiquitous components of power grids. This represents a change of paradigm in the control of conventional power grids, and raises the question of how to assure stability and how power converters can contribute to it, especially, in cases where power converters represent a significant share of power or the grid experiences low mechanical inertia. During the last ten years, virtual synchronous machines (VSM) of different types have been proposed to address this problem. The underlying philosophy entails using power electronic converters to emulate the behaviour or desired characteristics of a synchronous machine.

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

- Ancillary services provided by VSM.
- VSM based-control implementation in multi-inverter plants.
- VSM based-control of different converter topologies.
- VSM based-control of hybrid energy storage systems.

- VSM based-control of renewable energy plants.
- Modelling, analysis and simulation of VSM strategies.
- Parameter adaptation techniques in VSM.
- Analysis of performance limiting factors in practical VSM.