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Open Invited Track proposal

Title: Optimal operation and control in smart grids

Keywords:

Smart grids;
Optimal operation and control of power systems;
Modeling and simulation of power systems.

Abstract:

Energy assumes such an important role in today's societies that it is increasingly seen as a vital civilization issue. The use of renewable energy has largely increased, mostly to mitigate the environmental impact of the power industry, bringing huge challenges to power systems operation. There is an urgent need for innovative business models and policies and new mathematical models and approaches for operation and control of smart grids to ensure the efficient integration of distributed energy resources in power and energy systems.

This track covers the "Optimal operation and control in smart grids" aspects, taking into account the diverse players and resources available in each smart grid environment, in order to catch and explore the full potential of each resource, bringing advantages for all the involved players.

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

AI, intelligent systems, big data and machine learning
Cyber security
Demand flexibility and demand side response
Electric vehicle, G2V and V2G
Electricity markets
Energy management systems
Energy storage systems
Generation flexibility
Microgrids
Modelling and control
Optimal design, control and operation of renewables
Optimization methods
Renewable energy sources
Stability and reliability
Transactive energy, peer-to-peer, and local energy transactions.

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