EVOLUTIONARY OPTIMIZATION METHODS APPLIED TO SMART GRID

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The operation of modern power systems with an increasing focus on incorporating the smart grid features such as distributed generation, energy storage systems, plug-in electric vehicles, and demand-side management, has become a complex problem. Hence, new algorithms are necessary for the efficient operation of the modern power systems. This special session is intended to bring together the most recent advances in the application of Evolutionary Algorithms to Smart Grid problems. The submissions can focus on addressing the challenges and opportunities to enhance the future power systems' sustainability, reliability, and efficiency.

Topics

Development and application of Evolutionary Algorithms for problems related to design and control of Smart Grid such as:

- Optimal allocation and management of distributed generation sources
- Efficient integration and control of energy storage systems
- Charging scheduling and real-time co-ordination of plug-in electric vehicles
- Demand response and demand-side management at the grid level
- Smart home energy management
- Resilient distribution systems