

Special Issue

The Networked Control and Optimization of the Smart Grid

Message from the Guest Editor

While the concept has been seemingly understood for decades, there is an increasing awareness that a utility's infrastructure does not operate in isolation, but is rather closely coupled; this is especially as the electric grid morphs from a singular structure to a networked design. The interdependencies of these networked infrastructure components/subsystems exhibit spatial, temporal, operational, and organizational characteristics. For example, the tight coupling between a grid's infrastructure elements can depend on their geography, simultaneously directly affecting or influencing their operations according to location and potentially inducing cascading failures in a wide area. Specifically, the operation of networked utility systems such as microgrids places additional constraints on traditional SCADA control systems. As the networks increase in size, the complexity of the interaction of multiple technologies may cause unforeseen operations. This Special Issue, entitled "The Networked Control and Optimization of the Smart Grid" highlights a variety of such intersecting technical areas.

Guest Editor

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Deadline for manuscript submissions

closed (31 January 2025)



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