Microgrid state estimation

This paper mainly deals with the DC microgrid state estimation (SE) using a modified long short-term memory (LSTM) network, which until recently has been applied only in forecasting studies. The ...

With the advancement of information technology, traditional power systems have gradually transformed into advanced Cyber-Physical Systems (CPS). However, the increase in the degree of ...

In microgrid systems, one of its core components is the Battery Energy Storage System (BESS) that facilitates all indispensable operations of a microgrid, including peak shaving, grid-frequency regulation, ...

This robustness indicates that manifold optimization could be a more reliable method for state estimation in practical DC microgrid scenarios where measurement data may be incomplete or noisy.

Network control, optimization, and security analysis are facilitated by accurate microgrid state estimation. By utilizing phasor measurement units (PMUs), a combined robust centralized dynamic ...

In this paper, a robust dynamic and algebraic state estimation scheme for microgrids was proposed, in which the state variables of the synchronous generator of the slack bus are estimated locally, ...

In [21], a novel microgrid dynamic state estimation is developed for monitoring the system states along the time based on singular perturbation theory. In this paper, a novel technique is proposed for micro ...

State and parameter estimation are powerful technologies for inferring unknown states and models of microgrids from available measurements. This chapter addresses the motivation, concept, ...

An error-resilient state estimation is devised to calculate authentic states for microgrids equipped with hierarchical controls. New contributions include: 1) a state estimation incorporating droop control which ...

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