CSEE Journal of
Power and Energy Systems

Call for Papers

Special Issue on "Analysis and Control of the Stability of Large-scale Power Systems with Renewable Power Generation"

Important Dates

Full Paper Submission: May 30, 2024

Final Decision Notification: August 30, 2024

Publication of Special Issue: November 30, 2024

Modern power systems are facing unprecedented challenges in terms of both small-disturbance and transient stability due to the growing structural complexity of grids and heterogeneity of components. Renewable power sources, high-voltage direct-current transmission stations, and other power electronics equipment make it extremely difficult to acquire proper modelling and efficient methods for stability analysis. Extensive efforts have been made to deal with these issues caused by renewable power generators which will be dominated in the future power system. Various analysis methods and stability mechanism have been proposed. Nevertheless, in the last few years, power systems worldwide frequently encountered stability problems introduced by renewable power generators that have not encountered nor noticed before. Quantitatively estimating and enlarging the stability region of the power system is becoming a key challenge in the planning, operation, and control, which cannot be resolved by time-domain simulation investigations. Therefore, it is timely demanded for analyzing and controlling the stability of large-scale power systems with renewable power generation.

This "call for paper" aims to collect recent achievements in the following area:

- Modelling of large-scale power systems for the analysis and control of small-disturbance and transient stability;
- Methods for accurately estimating the stability region of large-scale power systems;
- Impacts and optimal design of distributed controllers on enlarging the stability region of power systems;
- Transient stability enhancement with the control of renewable power generators;
- Interaction between converter control modes and power system transient stability;
- Industrial cases and experience.

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