

Special Issue

Dynamic Operation and Control of Wind Power Systems

Message from the Guest Editors

Since renewable energy sources, and particularly wind energy, have stochastic behaviour, the power output is not guaranteed. This is the main factor that imposes restrictions on the expansion because, in general, distributed energy sources do not contribute to the control and regulation of the system in the same way as conventional units. Another important point is associated with the technology of converting mechanical energy into electrical energy. The wind turbines are, in large part, equipped with asynchronous generators and, therefore, have substantial differences in the dynamic response over conventional units. This research focuses on developing dynamic models and control strategies for the wind farms, with the aim to optimise the operation of wind farms considering participation in power system control of power (frequency) and reactive power (voltage), maximise power production, keep good power quality and limit mechanical loads and lifetime consumption. Original submissions focusing on new control techniques and the practical implementation of these new control schemes are welcome in this Special Issue.

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