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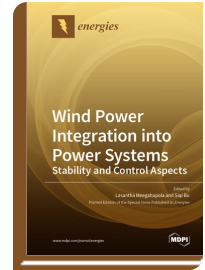
Special Issue Reprint

Wind Power Integration into Power Systems: Stability and Control Aspects

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Power network operators are rapidly incorporating wind power generation into their power grids to meet the widely accepted carbon neutrality targets and facilitate the transition from conventional fossil-fuel energy sources to clean and low-carbon renewable energy sources. Complex stability issues, such as frequency, voltage, and oscillatory instability, are frequently reported in the power grids of many countries and regions (e.g., Germany, Denmark, Ireland, and South Australia) due to the substantially increased wind power generation. Control techniques, such as virtual/emulated inertia and damping controls, could be developed to address these stability issues, and additional devices, such as energy storage systems, can also be deployed to mitigate the adverse impact of high wind power generation on various system stability problems. Moreover, other wind power integration aspects, such as capacity planning and the short- and long-term forecasting of wind power generation, also require careful attention to ensure grid security and reliability. This book includes fourteen novel research articles published in this *Energies* Special Issue on Wind Power Integration into Power Systems: Stability and Control Aspects, with topics ranging from stability and control to system capacity planning and forecasting.



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