Weak current system of wind power generation

The Irish power system has been studied in detail for current and (potential) future stability issues. Ireland is a small-sized island system where there are fewer large rotating masses to provide ...

The results here obtained have shown that the incorporation of the wind farm with fix-speed wind turbines into a weak power system introduces important problems in the quality of voltage.

Under the weak power grid, the grid connection of wind turbines is unstable, and the current quality is poor. Based on DFIG output impedance model, a stability analysis method ...

These numerical findings assures that the ANFIS-SRF-controlled DSTATCOM outperforms traditional control methods in ensuring reliable and efficient wind energy ...

When wind generation systems operate under weak grid conditions, synchronization stability issues may arise, restricting the wind farms" power transfer capacity. ...

This paper addresses the dynamic stability of a hybrid photovoltaic (PV) and wind turbine (WT) system tied to a weak grid by back-to-back voltage-source converters (VSCs).

Under an extreme event, an effective control system of wind power generators can enhance the reliability of wind power generation and prevent wind farms from tripping, which ...

Advanced control approaches can be developed to enhance the wind turbine performance to increase the stability margins, and thus ...

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To settle such an issue, a small-signal impedance model of the DFIG-based WT with negative-sequence current control is established in this paper. Based on the proposed ...

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