

Active Disturbance Rejection Control for Wind System Based on a DFIG

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Abstract : This paper proposes the study of a robust control of the doubly fed induction generator (DFIG) used in a wind energy production. The proposed control is based on the linear active disturbance rejection control (ADRC) and it is applied to the control currents rotor of the DFIG, the DC bus voltage and active and reactive power exchanged between the DFIG and the network. The system under study and the proposed control are simulated using MATLAB/SIMULINK.

Keywords : doubly fed induction generator (DFIG), active disturbance rejection control (ADRC), vector control, MPPT, extended state observer, back-to-back converter, wind turbine

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