

Research Title: Robust Power System Stabilization by Doubly Fed Induction Generator Wind Turbine with Power Oscillation Damper

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ABSTRACT

This paper proposes the new robust coordinated control of doubly fed induction generator (DFIG) wind turbine equipped with power oscillation damper (POD) for damping of power oscillation considering system uncertainties. The optimization of POD parameters is based on an enhancement of stabilizing performance and robust stability. Simulation study in IEEE Two-area Four-machine power system shows that the superior stabilizing effect and robustness of the proposed robust POD.

Keywords: Doubly-fed induction generator, power oscillation damper, robust stability, system uncertainties