

Abstract

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LOW VOLTAGE RIDETHROUGH INVESTIGATION USING A MODULAR SIMULINK IMPLEMENTATION OF DOUBLY FED INDUCTION GENERATOR WIND TURBINES

This paper investigates the Low Voltage Ride-Through (LVRT) capability of grid-connected Doubly Fed Induction Generators through the construction of a developed comprehensive and modular model of the DFIG and its associated converters and controllers. Stator Voltage Oriented Control (SVOC) is used to control both converters. System transients are further analyzed with and without addition of an active crowbar to the rotor terminals of the DFIG. Areas of improved performances, current restrictions and recommended enhancements are further included.