

Abstract

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Comparison Study Between two Dynamic Breaking Resistor Techniques in Protecting the Doubly Fed Induction Generator

Variable speed wind turbines are more popular than fixed speed one, due to its ability to capture more energy from the wind. One of the most common generators, which is used in variable speed wind turbines, is the doubly fed induction generator (DFIG). In this paper the most common protection techniques of the DFIG are overviewed. A comparative study between the Dynamic Breaking Resistance (DBR) connected to the DFIG stator protection topology with the Dynamic Breaking Resistance connected to the DFIG rotor protection topology is conducted. This study is obtained using the Matlab/Simulink. The simulation results show that the DBR connecting to the stator windings technique offers a better performance of the DFIG during fault voltage dips.