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A Novel Crow Search based Strategy for Maximum Power Point Tracking of Wind Turbines Driven by Doubly Fed Induction Generator

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Abstract

We propose a Maximum Power Point Tracking (MPPT) algorithm for grid linked to Doubly Fed Induction Generator (DFIG) for wind energy conversion systems. This Doubly-Fed Induction Generator (DFIG) is widely used in the upgrading market of Wind Energy Conversion System (WECS). It has the stator and rotor part, the stator part is linked directly on grid and its rotor part is linked on the back to back converter and (RL) filter respectively. RSC is responsible for the flow of power from stator part of DFIG to the grid. The Grid Side Converter (GSC) is responsible for assurance of controlling the DC voltage to specific value and to control the power flow initiates from rotor part of Doubly-Fed Induction Generator till the grid by altering the current filters. In this current paper, a latest intelligent higher power point tracker called crow search optimization for wind energy conversion system is used. The simulations are done in the software called MATLAB/SIMULINK

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Wind turbines, Doubly-fed induction generator (DFIG), MPPT, Crow search

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