

A Unified Power Control Method for Standalone and Grid Connected DFIG-DC System

In this project, to transfer unified power from grid connected mode to standalone mode without changing control strategy and vice versa, a unified power control method for DFIG-DC system is proposed. There is no need to detect the interconnection switch to identify whether it is grid connected or standalone. The dc voltage and stator active power are both positive correlations with the magnitude of rotor current vector, which indicates that these two objectives can be combined as the unified power to generate the rotor current reference. The stator frequency can be controlled by the rotating speed of rotor current vector without calculating stator frequency which can reduce the parameter dependency. The effectiveness of the proposed system is verified by simulation in MATLAB/SIMULINK.

Domain: Power Systems solar Power Generation

Technology: Electrical