Genetic Controller Stator-Flux Orientated Vector Control of Doubly-Fed Induction Generator for Wind Power Generation System

Abstract

In this paper, a genetic controller that is described in wind power generation system. In order to model the system that based on stator vector control oriented (VCO), a dynamic mathematic model of doubly-fed induction generator (DFIG) is utilized. The comprehensive designed system includes the modeling of DFIG with space vector PWM on the rotor side grid as well as the grid area. The genetic algorithm used active and reactive power to obtain the required reference currents components. The simulation results demonstrate that the system performs a speed response without over shoot. The obtained simulation results are simulated by Matlab/Simulink 2017a.

References

2. Tapia, G.; Tapia, A, Wind generation optimization algorithm for a doubly fed induction


**Index Terms**

Computer Science

Control Systems

**Keywords**

Wind turbine, genetic speed controller, DFIG model.