Abstract

The aim of this paper is to propose different methods of control for a Doubly-Fed Induction Generator (DFIG) used in wind energy conversion systems. This paper presents a comparative study on the performance of three control methods for DFIG wind turbine. The study focuses on the regulation of the active and reactive power exchanged between the generator and the grid by the generator inverter using the control algorithm based on vector control concept (stator flux orientation), with classical PI controllers: proportional–integral. The different methods of control for the generator are simulated in MATLAB / SIMULINK and discussed. Therefore, we conclude which is a suitable control of DFIG in Wind Energy Conversion System.

References

- Aouzellag D, Ghedamski K, Berkouk EM. Modelling of doubly fed induction generator with variable speed wind for network power flow control, JTEA’06, Tunis.

**Index Terms**

| Computer Science | Control Systems |

**Keywords**

Doubly fed induction generator  stator flux orientation  Power control