



Voltage Regulation of Stand-Alone Variable Speed Wind Energy SystemG.

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Abstract:

This paper presents simple control of a variable speed stand-alone wind turbine with a permanent magnet synchronous generator (PMSG) to get constant voltage. The system consists of wind turbine, PMSG, un controlled rectifier and voltage source inverter using PI control. The parameters of PI control are calculated by using try and error method. The system is modified by using a switch mode rectifier and a voltage source inverter between the PMSG and a three phase loads. The loads that used are resistive, inductive and capacitive loads. By adjusting the parameters of a buck converter, we get a good result. Results have been done using PSIM/SIMULINK.

Keywords:

stand-alone, wind turbine, PMSG, switch mode rectifier, voltage source inverter and controlled output voltage.

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