

MPPT CONTROL OF A VARIABLE-SPEED WIND TURBINE

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Abstract: *This paper deals with the control of variable speed permanent magnet synchronous generator (PMSG) for a wind stand-alone system. In order to maximize a generated power, PMSG is controlled by a maximum power point tracking (MPPT) control and a maximum efficiency control. The studied system consists of permanent magnet generator, buck-boost converter, transformer, inverter, AC load, and battery bank (to store a surplus of wind energy and to supply power during a wind power shortage). Simulation results show the effectiveness of the proposed control method.*

Key words: *permanent magnet, synchronous generator, wind generator, variable-speed, stand-alone system.*

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