

عنوان مقاله:

A New Sensorless Reduced Switch Count Variable-Speed Wind Energy System

محل انتشار:

بیست و هشتمین کنفرانس بین المللی برق (سال: 1392)

تعداد صفحات اصل مقاله: 9

نویسندگان:

Mojtaba Heydari - *Power Electronics and Protection Laboratory, Electrical Engineering and Computer Science
Department Tarbiat Modares University Tehran, Iran*

Ali Yazdian Varjani - *Power Electronics and Protection Laboratory, Electrical Engineering and Computer Science
Department Tarbiat Modares University Tehran, Iran*

Mustafa Mohamadian - *Power Electronics and Protection Laboratory, Electrical Engineering and Computer Science
Department Tarbiat Modares University Tehran, Iran*

خلاصه مقاله:

Nowadays using of the wind energy has a growing trend in the world due to their numerous advantages. The wind energy is free, inexhaustible and it produces no waste or greenhouse gases. MPPT is of the paramount importance in wind energy conversion systems for not only to maximize the system's efficiency but also the return on investment. To achieve MPPT control the generator speed measurement is needed in each moment. Using a rotor speed sensor for this purpose poses some obstacles to practical implementation and has an impact on drive's cost, machine size, reliability, and noise immunity. In this paper a sensorless reduced switch count PMSG based wind energy system is proposed. In this system, the generator speed is estimated by an observer method. Simulation results are presented to verify the performance of the proposed sensorless system under steady state and transient conditions

کلمات کلیدی:

Wind Energy System; Maximum Power Point Tracking; Reduced Switch Count Converter; Sensorless Control

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