

عنوان مقاله:

Performance Enhancement of Indirect Matrix Converter Based Variable Speed Doubly-Fed Induction Generator

محل انتشار:

اولین کنفرانس بین المللی الکترونیک قدرت و سیستم های درایو (سال: 1388)

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خلاصه مقاله:

The conventional type of DFIG system has some drawbacks mainly due to large DC link capacitor. Existence of this capacitor causes converter average lifetime and reliability of system reduction, and maintenance cost proliferation. In this paper a DFIG base wind turbine generation system proposed, in which its common back-to-back converter replaced with an indirect matrix converter (IMC) that uses Sigma-Delta ($\Sigma\Delta$) modulator to control switches matrix. In this system DC link capacitor is omitted, so system gets more reliable performance and it is cost effective. Furthermore by using $\Sigma\Delta$ modulator IMC performances enhanced. Therefore due to generated current THD reduction, pulsative torque of system reduces that has undeniable effect on mechanical system lifetime. Besides THD of output current wind turbine reduces, that improves power quality of generated power

کلمات کلیدی:

DFIG, Matrix Converter, Sigma-Delta, Wind Energy, Power Quality

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