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IJCA Proceedings on International Conference
on Emergent Trends in Computing and Communication

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ETCC 2015 - Number 1

Year of Publication: 2015

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{bibtex}etcc4547.bib{/bibtex}

Abstract

A wind energy conversion system run by a variable speed wind turbine having pitch mechanism and two mass direct driven permanent magnet synchronous generator is implemented in this paper. Multilevel inverter is an emerging power technology recently for high-medium application. Out of different topologies, cascaded H bridge multilevel inverter is implemented with WECS as it requires fewer components as compared to other multilevel inverter. One of

the major limitations is the use of separate dc source for each H Bridge in cascaded multilevel inverter which can be overcome by inserting isolation transformer. For generation of seven level controlled output voltages, a phase- multi-carrier pulse width modulation is used. The proposed WECS having seven-level inverter having isolation transformers is simulated in MATLAB/SIMULINK. The simulated waveform of the output obtained from PMSG, DC link voltage, Pitch angle and three phase CHB MLI voltages are shown.

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Computer Science

Index Terms

Circuits And Systems

Keywords

Cascaded H-bridge Multilevel Inverter Topology Permanent-magnet Synchronous
Generator (pmsg) Pulse Width
Modulation
Isolation Transformer
Wind Energy Conversion System (wecs).