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Transient and Steady State Analysis of Modified Three Phase Multilevel Inverter for Photovoltaic System

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Abstract

The transient and steady state analysis of Modified Three Phase Multilevel Inverter (MMLI) for Photovoltaic (PV) system fed from single DC input is presented in this paper. The transient and Steady state conditions of modified three phase multilevel inverter are analyzed using Proportional Integral (PI) and Fuzzy Logic Controller (FLC) with change in irradiance level of PV panels. The three phase multilevel inverter is designed with reduce number of power semiconductor switches, components, single DC input and effectively controlled by using Space Vector Pulse width Modulation technique (SVPWM). The obtained results are validated using MATLAB/ Simulink.Finaly, semiconductor switches and componets utilization of MMLI is compared with other similar topologies.

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