Implementation of a Single Phase Switched-Capacitor Nine-Level Inverter for PV System Applications with Selective Harmonic Elimination

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Abstract

The main objective of this paper is to present a test a single phase switched capacitor nine-level inverter for PV system applications, with a simple harmonic elimination method. The main elements of the used multilevel inverter are a high power switched capacitor DC-DC converter and a high power DC-AC converter. The studied system with the proposed control method was tested on MATLAB/SIMULINK with solar panels. Also, an experimental test bench was prepared and used to validate the simulation results. The all obtained results prove the high efficiency of the studied PV system with the implemented control method.

References


Index Terms

Computer Science Power Systems
Keywords

PV, Multilevel inverter, Switched capacitor converter, THD, Induction motor.