

COMPARATIVE STUDY OF VARIOUS CASCADED H-BRIDGE MULTILEVEL INVERTER TOPOLOGIES

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ABSTRACT

Multilevel inverters are becoming more popular in the power conversion systems for high power and power quality demanding applications. The MATLAB based simulation on simulink platform is presented for three various topologies of Single Phase cascaded H-bridge Multilevel Inverter for 5, 7 and 9 levels. A detailed comparison of various Topologies is presented in the paper based on number of power devices used, Total Harmonic Distortion, average voltage stress, maximum voltage stress and utilization factor. The Topology I and Topology II are cheap and efficient because number of conducting power devices are less as compared to the conventional Topology.

KEYWORDS: Multilevel Inverter, Reduced Number of Switches, Reduced THD, Voltage Stress and Utilization Factor