Abstract

In many research papers, Pulse Width Modulation (PWM) techniques have been carried out in different angles but this paper reveals a new idea to enhance the performance of MultiLevel Inverter (MLI). An attempt is made to improve the performance of MLI and also to reduce the significant third harmonic energy by using amalgamation technique. A Trapezoidal Amalgamated Rectangular (TAR) reference signal is developed to study the performance of chosen five level cascaded MLI. To validate the developed technique, simulation and experimentation are carried out through MATLAB/SIMULINK and dSPACE respectively. Three different modulation strategies, Unipolar Amalgamated Phase Disposition (UAPD), Unipolar Amalgamated Phase Shift (UAPS) and Unipolar Amalgamated Carrier Overlapping (UACO) PWM methods are developed and implemented. Harmonic analyses are done for above amalgamated reference techniques which provide better results. The simulation and
experimental results closely match with each other validating the strategies presented.

Reference


Index Terms

Computer Science

Power Systems
### Key words

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