Abstract

Multilevel Inverters have emerged in power conversion systems due to their lower output harmonics and high power capability. This paper presents the performance analysis of a new seven level symmetrical multilevel inverter with reduced number of switches using Carrier Overlapping PWM strategies. Due to switch combination redundancies, there are certain degrees of freedom to generate multilevel AC output. The results are compared with sine and Trapezoidal references in Carrier overlapping technique. Harmonic analysis and performance measures for various modulation indices have been carried out.

References

- M. Leon Tolbert, G. Thomas. Habetler, "Novel Multilevel Inverter Carrier-Based
- Donald Grahame Holmes, P. Brendam and Mcgrath; Opportunities for Harmonic Cancellation with Carrier-Based PWM for Two-Level and Multilevel Cascaded Inverters; IEEE Trans. on Industry Applications, 2001,37(2), 574-582.
- Brendan Peter McGrath, Donald Grahame Holmes; An Analytical Technique for the Determination of Spectral Components of Multilevel Carrier-Based PWM Methods; IEEE Transactions on Industrial Electronics, Vol. 49, No. 4, August 2002.
- Brendan Peter McGrath, Donald Grahame Holmes and Thomas Lipo; Optimized Space Vector Switching Sequences for Multilevel Inverters; IEEE Transactions on Power Electronics, Vol. 18, No. 6, November 2003.

Index Terms

Computer Science
Power Electronics
Keywords
COPWM  Sub harmonic PWM  CFD  Total Harmonic Distortion  and VRMS