

Performance Evaluation of DCMI (Diode Clamped Multilevel Inverter) Using Nonlinear Modulating Function

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Abstract: *This paper presents a new five level diode clamped multilevel inverter topology which can be used for low-medium power industrial applications. In this work proposes single phase five level Diode Clamped Multilevel Inverter (DCMLI) topology using an auxiliary switch is presented, the number of power devices required to implement a five-level output. The topology is tested in the design of a 5 levels diode clamp multilevel inverter simplified; circuit operation is presented, simulated and validated with experimental tests performed on a laboratory prototype. In this paper, the concept of a 5-level diode-clamp and modulate principle are implemented to control the output waveform approaching to the sine-wave as close as possible. The simulation result, the output voltage waveform presents better harmonics profile..*

Keywords: Diode clamp multilevel inverter, Total harmonic distortion, Single-phase induction motor control