

Hybrid Control Strategy for Nine-Level Asymmetrical Cascaded H-Bridge Inverter

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Abstract : Multilevel inverters are well used in high power electronic applications because of their ability to generate a very good quality of waveforms, reducing switching frequency, and their low voltage stress across the power devices. This paper presents the hybrid pulse-width modulation (HPWM) strategy of a uniform step asymmetrical cascaded H-bridge nine-level Inverter (USACHB9LI). The HPWM approach is compared to the well-known sinusoidal pulse-width modulation (SPWM) strategy. Simulation results demonstrate the better performances and technical advantages of the HPWM controller in feeding a high power induction motor.

Keywords : uniform step asymmetrical cascaded h-bridge high-level inverter, hybrid pwm, sinusoidal pwm, high power induction motor

Conference Title : ICEET 2015 : International Conference on Electrical Engineering and Technology

Conference Location : New York, United States

Conference Dates : June 04-05, 2015