

Comparative Analysis of Multilevel Inverter and its PWM Schemes

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Abstract— Inverter is the device that will convert DC voltage into AC voltage by switching the DC input voltage in preset sequence so that generate AC voltage. A very simple inverter can give output of two or three voltage level depending on the switching mechanism used. Multilevel inverters are broadly use in electric utility and many industrial applications. Multilevel inverter offers multiple voltage level that looks nearly a sinusoidal wave in staircase shape. Multilevel inverter offers great advantages over traditional inverter such as increasing power quality with reduce harmonics content. Numerous multilevel inverters have developed such as diode clamped multilevel inverter, flying capacitor multilevel inverter and cascaded H-bridge inverter.

Keywords—Multilevel inverter (MLI), Diode clamped multilevel inverter (DCMLI), flying capacitor multilevel inverter (FCMLI), cascaded H-bridge multilevel inverter (CHMLI), pulse width modulation (PWM), Multi-carrier PWM (MC-PWM), Carrier overlapping PWM (CO-PWM), Variable frequency PWM (VF-PWM).