

Control Of Packed U-Cell Multilevel Five-phase Voltage Source Inverter

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Abstract

A seven level five-phase voltage source inverter with packed U-cell topology is presented in this paper. This is called Packed U-cell because each unit of the inverter is of shape U. Fig. 1 presents a five-phase seven-level inverter power circuit configuration using Packed U-cell. Depending upon the number of capacitors in the investigated topology different level of voltages can be achieved. In the presented topology two capacitors have been used to obtain seven levels (V_{dc} , $2V_{dc}/3$, $V_{dc}/3$, 0 , $-V_{dc}/3$, $-2V_{dc}/3$, $-V_{dc}$). The Voltage across second capacitor (C) must be maintained at one-third of the voltage of the dc link.