NEW H-BRIDGE BASED MULTILEVEL CSI USING INDUCTOR-CELL AND CURRENT-MODULE METHODS

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Abstract	This paper presents application of a new method to develop a novel multilevel inverter circuit with new features. The new method was developed by employing inductor-cells and current modules. The method was applied to H-bridge current-source inverter to produce a nine-level AC current waveform. Compared to the inductor-cell method, the new strategy was able to lessen the number of controlled power switches required to made inverter circuits. Hence, a simpler inverter can be constructed. Compared to current module method, the count of DC current sources can be reduced. Some experiments by using computer simulations and laboratory prototype were performed to test the working principle of the new inverter circuits. The test results indicated that the new inverter circuit functioned well in generating a multilevel AC current waveform.
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