A multi-carrier pulse width modulator for the auxiliary converter and the diode rectifier

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Abstract

This study analyzes the circulating current and investigates the use of multi-carrier PWM for its suppression. This multi-carrier PWM can synthesize the desired output voltage without using zero vectors for the active filtering and re-generation operations of the AXC, thus significantly suppress the circulating current and common mode voltage. Computer simulation and laboratory test results will be presented to validate the effectiveness of the proposed multi-carrier PWM in the AXC circuit system.

Keyword：auxiliary converter,multi-carrier pulse width modulator