

عنوان مقاله:

Selective Harmonic Mitigation PWAM Control Strategy for Three-Phase Four-Leg Voltage Source Inverters

محل انتشار:

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نویسندگان:

Amene Zabihian - Dept. Of Computer and Electrical Engineering, Tarbiat Modares University

Ali Yazdian Varjani - Dept. Of Computer and Electrical Engineering, Tarbiat Modares University

Hoda Ghoreishy - Babol Noshirvani University of Technology

خلاصه مقاله:

In this paper, a selective harmonic mitigation pulse width and amplitude modulation (SHM-PWAM) control strategy, for three-phase four-leg inverters has been proposed. In this way, the pulse amplitude modulation (PAM), which is mainly used in communication systems, is applied simultaneously with the pulse width modulation (PWM), to the three-phase four-leg inverter. Considering PAM increases the system degrees of freedom in mitigating harmonics compared with the conventional PWM strategy. The control signals of three legs voltage source inverter, mathematically expressed using Fourier-based equations to eliminate lower order nontriplen harmonics, and the fourth leg produces the harmonics that are equal to the lower order triplen harmonics which produced by the other legs. Simulation results show the performance of the SHM-PWAM strategy from the THD point of view, compared with SHM-PWM strategy.

کلمات کلیدی:

PWM, PAM, SHM-PWAM, Three-phase four-leg inverter, Total harmonic distortion

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