Abstract

In this paper, a genetic algorithm (GA) optimization technique is applied to cascaded multilevel photo voltaic inverter to remove pre specified order of harmonics and to reduce THD. Genetic Algorithm is developed as the preferred solution algorithm of specific harmonic elimination (PWM-SHE) switching pattern. This paper describes an efficient genetic algorithm that reduces significantly the computational burden resulting in fast convergence. An 11-level and 7-level inverter is preferred as a case study, and optimum switching angles are determined to eliminate low order harmonics and to reduce THD. Comparison has been done between the 7-level and 11-level with respect to the consideration of THD. Simulation results validate purpose method.

References

- J. Lai and F. Z. Peng, "Multilevel converters - A new breed of power
Genetic Algorithm based Approach for Reduction of Total Harmonic Distortion in Photo Voltaic Inverter


Index Terms

Computer Science Algorithms

Keywords

Genetic algorithm photo voltaic inverter Selective harmonic elimination pulse width modulation (SHEPWM) Total harmonic distortion