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عنوان مقاله:

THD Minimization of Multilevel Inverter's Output Voltage Waveform Using IHBMO Algorithm

محل انتشار:

دومین کنفرانس نوآوری در علوم کامپیوتر و مهندسی برق (سال: 1397)

تعداد صفحات اصل مقاله: 10

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خلاصه مقاله:

One approach to improve the quality of the multi-level inverter's voltage waveform is minimization of the total harmonic distortion (THD). In this strategy, desired fundamental component of output voltage is satisfied and Line voltage THD is minimized. Corresponding equations for this work are nonlinear and in some cases are complicated. One of the best solutions to solve these equations is using of the optimization algorithms with a multi objective function. In this study an optimal solution based on the Improved Honey-Bees Mating Optimization (IHBMO) algorithm is presented to get the desirable fundamental component and minimize the THD of a 7 -level cascaded multilevel inverter with equal DC sources. The results of two famous algorithms namely Genetic Algorithm (GA) and Imperialist Competitive Algorithm (ICA) are compared with the results of the IHBMO algorithm. Simulation results demonstrate the superiority of proposed algorithm over the two other methods in rate of reaching to global minima and .convergence

کلمات کلیدی:

Improved Honey-Bees Mating Optimization (IHBMO) algorithm, Multilevel Inverter, THD Minimization (THDM), . (Genetic Algorithm (GA), Imperialist Competitive Algorithm (ICA

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