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ISSN (Print) : 2347-6729
ISSN (Online) : 2348-3105

Volume 2, Issue 8,
August 2014

DIIF IF :1.46
SJIF IF: 1.329

Bee Colony Optimization for Selective Harmonic Elimination

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Abstract - Literature review revealed that multilevel inverter is one of the most popular inverter in power electronics. In this paper multilevel inverter with Bee algorithm is introduced for solving the non-linear equations by deter mining optimum switching angles in 7 level cascaded multilevel inverter. The algorithm is based on the food foraging behavior of swarm of a honey bees and it may performs a neighborhood search combined with a random search. The main objective is to eliminate the lower order harmonics using selective harmonic elimination pulse width modulation strategy (SHEPWM) and there by the total harmonic distortion (THD) is mitigated by obtaining optimum switching angles. The efficiency is enhanced significantly and has higher precision when compared to genetic algorithm (GA).Simulation work is carried out by using the MATLAB software which validates the proposed method and finally THD comparison is presented for analysis.