

Abstract:

Harmonics constitute one of the power quality headaches that need to be dealt with seriously in the modern power grids. Particularly, the integration of renewable energy systems has brought with it more harmonic pollution due to the need of power electronic switching devices. In this work, it is attempted to employ one of the proliferating optimisation techniques to solve the selective harmonic elimination problem in conjunction with a reduction of the overall system total harmonic distortion (THD). The moth flame optimisation technique is found very capable of handling such a problem and the results demonstrate the effectiveness of the method and the applicability of the designed switching system.