

## عنوان مقاله:

Optimal Allocation of Electric Parking and Distributed Generation in distribution system Based on Hybrid Water Cycle-Moth Flame Optimizer Algorithm

## محل انتشار:

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## خلاصه مقاله:

In this paper optimal allocation of electric vehicles parking and distributed generations (DGs) with objective of minimizing energy costs is proposed by using a hybrid water cycle-moth flame optimizer (WCMFO) algorithm. The purpose of the study is reduction the losses of distribution system, improvement the voltage profile, minimization the distribution system voltage deviations, and reduction the energy received from the main feeder. The optimization problem is implemented on a 33 IEEE bus distribution system. In this study, due to the optimal combination of WCA and MFO methods, WCMFO method is used to solve the problem with high convergence rate. In this study, the proposed method is compared with WCA, MFO and particle swarm optimization (PSO) methods. The simulation results show superiority of the proposed hybrid method in achieving lower cost and high convergence rate. The results show that with the optimal use of electrical parking and also DGs, the system capacity can be released and the level of upstream system dependency can be reduced. It also reduced the amount of system energy not supplied.

## کلمات کلیدی:

Distribution system, PHEV Parking Lots, Energy Cost, Water Cycle-Moth Flame Optimizer Algorithm

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