电力系统

基于群搜索优化算法的配电网重构

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摘要： 提出了基于群搜索优化算法的配电网重构方法，以系统有功网损最小为目标建立了配电网重构模型，选择种群中网损最小的个体为发现者，剩余个体分别作为加入者和游荡者。在寻优过程中，应用快速支路交换法对发现者进行局部物理寻优，加入者向发现者逐步靠近执行追随搜索，游荡者在解空间中随机搜索。该方法实现了全局搜索与局部寻优的良好配合，提高了搜索效率，具有较好的全局收敛性。算例结果验证了该方法的有效性。

关键词：

Distribution Network Reconfiguration Based on Group Search Optimizer

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Abstract: A new method for distribution networks reconfiguration based on group search optimizer (GSO) is proposed. In the population the individual with munimal network loss is chosen as the discoverer, and the residuals are respectively chosen as entrants and stragglers. During the searching, the local physical search of discoverer is perfomed by quick branch-exchange method, and the entrants are close to the discoverer step by step to carry out following search in the solution space. The proposed method realizes satisfied coordination of global search with local search, thus the searching effecency is improved and a better global convergency is implemented. Results of IEEE 69-bus system verify the effectiveness of the proposed method.

Keywords:

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