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A GA-based Method for Performance Improvement of Distribution Systems Using DG Sources

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Abstract:

This paper presents a Genetic Algorithm (GA)- based method to determine the location and size of DG sources in distribution systems using single DG placement algorithm for determining the locations at first. Then, the GA is utilized to determine the global sizes of DG sources which minimize single- or multi-objective function related to these systems. The influence of active- and reactive-power injection on the sizing and placement of DG sources is investigated. The predictions of the proposed method as regards the sizing and placement of DG sources are compared with those obtained before using particle swarm optimization at steady weather conditions.

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