

A Firefly Based Optimization Technique for Optimal Planning of Voltage Controlled Distributed Generators

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Abstract : This paper presents a method for finding the optimal location and capacity of dispatchable DGs connected to the distribution feeders for optimal planning for a specified power loss without violating the system practical constraints. The distributed generation units in the proposed algorithm is modeled as voltage controlled node with the flexibility to be converted to constant power node in case of reactive power limit violation. The proposed algorithm is implemented in MATLAB and tested on the IEEE 37-nodes feeder. The results that are validated by comparing it with results obtained from other competing methods show the effectiveness, accuracy and speed of the proposed method.

Keywords : distributed generators, firefly technique, optimization, power loss

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