

An Improved Cuckoo Search Algorithm for Voltage Stability Enhancement in Power Transmission Networks

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Abstract : Many optimization techniques available in the literature have been developed in order to solve the problem of voltage stability enhancement in power systems. However, there are a number of drawbacks in the use of previous techniques aimed at determining the optimal location and size of reactive compensators in a network. In this paper, an Improved Cuckoo Search algorithm is applied as an appropriate optimization algorithm to determine the optimum location and size of a Static Var Compensator (SVC) in a transmission network. The main objectives are voltage stability improvement and total cost minimization. The results of the presented technique are then compared with other available optimization techniques.

Keywords : cuckoo search algorithm, optimization, power system, var compensators, voltage stability

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