

OPTIMAL PLACEMENT OF DISTRIBUTED GENERATOR IN DISTRIBUTION SYSTEM USING FUZZY COMPOSITION

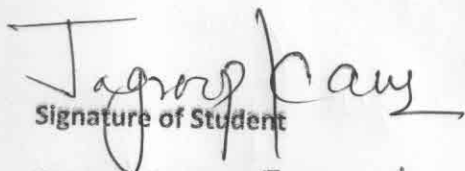
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ABSTRACT

This is extensively accepted that renewable energy resources are the means to sustainable energy supply infrastructure because both are unlimited and pollution free. Now, variety of renewable power techniques are viable accessible and the most prominent being wind power, photovoltaic, solar thermal systems, biomass and different types of hydraulic power. Distributed generation (DG) is promising technique for providing electric power in the heart of distribution system.

This thesis presents a simple and effective methodology for optimal siting of DG in distribution system. Three criteria viz. improvement in minimum voltage, reduction in difference between maximum and minimum voltage level and loss reduction have been selected for optimal placement of DG in distribution system. Backward forward sweep approach has been applied to carry out the load flow analysis. Fuzzy max-min and max-product composition have been applied for obtaining maximum satisfaction level based on above said criterion. The proposed methodology has been simulated on 11 bus and IEEE 33 bus distribution system in the MATLAB environment. The results obtained clearly.

The preface of DG is also directing to a basic change in how distribution networks are used and examined. Optimal place of DG lead to improved voltage profile, decrease in line losses and improve in energy efficiency.


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