DETERMINATION OF OPTIMAL LOCATION AND SIZE OF SSSC CONTROLLER IN OPF PROBLEM USING GENETIC ALGORITHM

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Abstract

This paper presents a Genetic Algorithm (GA) based solution method for finding the optimal location of SSSC controller and also finding the optimal value of the controller parameters. The primary objectives are to minimize the total fuel cost of thermal generating units having quadratic cost characteristics, bus voltage deviations, and line losses subjected to limits on generator real and reactive power outputs, bus voltages, transformer taps and power flow of transmission lines. The proposed method has been tested under simulated conditions on IEEE 30-bus system.