Optimal Placement of Optimal Unified Power Flow Controller Using Genetic Algorithm

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Abstract:

In this paper a new placement methodfor optimal unified power flow controller in power systemsby using genetic algorithmis introduced. The considered cost–based optimal power flow (OPF) in power systems is appliedto decrease the costs of operation. Optimal placement of OUPFCs is formulatedin multi–objective functions by applying OUPFC's power injection model. The proposed method is utilized in 30–bus IEEE network. Simulation results show considerable mitigation on total cost of power system.

Keywords: Optimal Placement, Optimal Unified Power Flow controller, Genetic Algorithm, Cost Function