عنوان مقاله:

Optimal Location of UPFC Device Considering System Loadability,Total Fuel cost, Power losses and Cost of Installation

محل انتشار:

بیست و چهارمین کنفرانس بین المللی برق (سال: 1388)

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خلاصه مقاله:

The main purpose of this paper is to identify the optimal location of the Unified Power Flow Controller (UPFC) in electrical power systems. The proposed algorithm is based on the power injection model for UPFC incorporating Optimal Power Flow (OPF) in steady-state analysis. The problem is formulated to find the best location of UPFC in order to optimize the fuel cost function, power losses and the system loadability as objective functions while the investment on the UPFC device is minimized. Simulation results on the IEEE 14-, 30-, and 118- bus test systems are presented to show that the roposed approach can obtain better solution and require less CPU time than evolutionary programming, genetic algorithm and differential evolution.

کلمات کلیدی:

OPF, optimal location, UPFC, fuel cost function, power losses, system loadability

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