

عنوان مقاله:

Application of Imperialistic Competitive Algorithm to Fault Section Estimation Problem in Power Systems

محل انتشار:

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خلاصه مقاله:

In this paper, an application of Imperialistic Competitive Algorithm (ICA) is presented to improve the fault section estimation performance in power systems. By employing the proposed method, faulty sectors can be estimated accurately among voluminous alarms. Moreover, using the selected algorithm the feasibility of inaccurate diagnosis is reduced. The proposed method is versatile and can deal with uncertainties in fault section estimation such as the cases with failure performance of relays and circuit breakers, or multiple faults simultaneously. Using the method, the fault diagnosis can be accomplished in a very short time for large scale power systems. In order to validate the effectiveness of ICA, the method is applied on simulated and practical power systems and the results are compared to results of some other optimization algorithms i.e. Cuckoo Optimization Algorithm (COA) Differential Evolution (DE), Artificial Bee Colony (ABC), Conventional Particle Swarm Optimization (CPSO) and a modified version of it known as Type1 PSO (T1PSO). The results demonstrate the superiority of the proposed method compared to other methods

کلمات کلیدی:

Fault section estimation, Imperialistic Competitive Algorithm

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