عنوان مقاله:

An Application of Heuristic Method to Solve Multistage Transmission Expansion & Reactive Power Planning

محل انتشار:

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نویسندگان:

Ehsan Lashkari - *Shahid Bahonar University of Kerman, Kerman*

Masoud Rashidinejad
Amin Mahmoudabadi

خلاصه مقاله:

A heuristic technique for solving multistage transmission expansion planning problem (TEP) associated with reactive power planning (RPP) using an AC model ispresented in this paper. Multistage planning problem is more complicated and difficult to solve than single stage (static) TEPproblem, because it takes into account not only the optimalnumber of lines and location that should be added to an existing network but also the most proper times to carry out theinvestment. A Real Genetic Algorithm (RGA) aimed at obtaining a significant quality solution for concurrent transmissionexpansion and reactive power planning problem is developed. TEP is a very complex mixed integer nonlinear programming problem (NLP) which it will be better to solve by heuristic optimization techniques. The cost of added transmission lines, real power losses and also reactive power sources are includedin the NLP objective function. The proposed methodology is tested on two medium complexity systems, and the results verify its effectiveness

کلمات کلیدی:

Multistage planning, optimization, real genetic algorithm, reactive power planning, transmission expansion

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