A Simulated Annealing Algorithm For Fuzzy Unit Commitment Problem

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Summary

This paper presents a new algorithm based on integrating simulated annealing and fuzzy logic methods to solve the unit commitment problem. The uncertainties in the load demand and the spinning reserve constraints are formulated in a fuzzy logic frame. The simulated annealing is used to solve the combinatorial part of the unit commitment problem, while the nonlinear part of the problem is solved via a quadratic programming routine. A simple cooling schedule has been implemented to apply the simulated annealing test in the algorithm. Numerical results show the superiority of the solutions obtained compared to the classical methods and the simulated annealing method as individual.

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