Hybrid energy storage capacity optimization solution

Overview

This method first introduces the static model of the whole life cycle cost, using batteries and super capacitors as hybrid energy storage devices for wind-solar hybrid systems, taking the minimum life cycle cost of the energy storage device as the goal, and the operating indicators such as the power shortage rate of the system as its constraints, a capacity optimization configuration model of the hybrid energy storage system is established; Secondly, an improved Golden Eagle optimization algorithm is proposed, the improvement strategy consists of a personal example learning strategy, a decentralized foraging strategy, and a random perturbation strategy. personal example learning and random perturbation can enhance the search capability of GEO and prevent the algorithm from falling into local optimal solutions, disperse foraging strategy can enhance the convergence rate and optimization accuracy of GEO; Finally, the model simulation and solution are carried out in Matlab.

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