عنوان مقاله:

Application of Krill Herd and Water Cycle Algorithms on Dynamic Economic Load Dispatch Problem

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خلاصه مقاله:

Dynamic economic dispatch (DED) is a complicated nonlinear constrained optimization problem and one of the most important problems in operation of power systems. In this paper two novel optimization algorithms have been proposed to be applied on DED problem. The first method, Krill herd (KHA) is a novel meta heuristic algorithm for solving optimization problems which is based on the simulation of the herding of the krill swarms as a biological and environmental inspired method and is applied on DED problem with two configurations named KHA1 and KHA2. The second algorithm is based on how the streams and rivers flow downhill toward the sea and change back in nature, named Water Cycle (WCA) method. Two common case studies considering various constraints have been used to show the effectiveness of these methods. The results and convergence characteristics show that the proposed methods are capable of giving high quality results which are better than many other previously applied algorithms.

کلمات کلیدی:

Dynamic Economic Dispatch, Water Cycle, Krill Herd, Optimization

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