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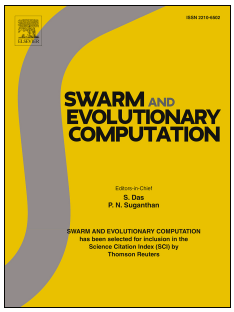

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A Dynamic Multiobjective Evolutionary Algorithm Based on A Dynamic Evolutionary Environment Model

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Abstract

Traditional dynamic multiobjective evolutionary algorithms usually imitate the evolution of ~~creature~~ nature, ~~maintain~~ maintaining diversity of population through different strategies and ~~make~~ making the population track the Pareto optimal solution set efficiently after the environmental change. ~~Nevertheless~~ However, these algorithms neglect the role of the dynamic environment in evolution, ~~lead~~ leading to the lacking of active ~~instructional~~ guieded search. In this paper, a dynamic multiobjective evolutionary algorithm based on a dynamic evolutionary environment model is proposed (DEE-DMOEA). When the environment has not changed, this algorithm makes use of the evolutionary environment to record the knowledge and information generated in evolution, and in turn, the knowledge and information guide the search. ~~While~~ When a change is detected, the algorithm helps the population adapt to the new environment through building a dynamic evolutionary environment model, which enhances the diversity of the population by ~~guided fashion~~ the guided method, and makes the environment and population evolve simultaneously. In addition, an implementation of the algorithm about the dynamic evolutionary environment model is introduced in

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