



Multi-objective optimization using metaheuristics: non-standard algorithms

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Auteur Talbi, El-Ghazali [1], Basseur, Matthieu [2], Nebro, Antonio J [3], Alba, Enrique [4]

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In recent years, the application of metaheuristic techniques to solve multi-objective optimization problems has become an active research area. Solving this kind of problems involves obtaining a set of Pareto-optimal solutions in such a way that the corresponding Pareto front fulfils the requirements of convergence to the true Pareto front and uniform diversity. Most of the studies on metaheuristics for multi-objective optimization are focused on Evolutionary Algorithms, and some of the state-of-the-art techniques belong this class of algorithms. Our goal in this paper is to study open research lines related to metaheuristics but focusing on less explored areas to provide new perspectives to those researchers interested in multi-objective optimization. In particular, we focus on non-evolutionary metaheuristics, hybrid multi-objective metaheuristics, parallel multi-objective optimization and multi-objective optimization under uncertainty. We analyze these issues and discuss open research lines.

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