عنوان مقاله:

FA-ABC: A Novel Combination of Firefly Optimization Algorithm and Artificial Bee Colony for Mathematical Test Functions and Real-World Problems

محل انتشار:

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خلاصه مقاله:

In this research study, an attempt is made to present a new optimization scheme by combination of the firefly algorithm and artificial bee colony (FA-ABC) to solve mathematical test functions and real-world problems as best as possible. In this regard, the main operators of the two meta-heuristic algorithms are employed and combined to utilize both advantages. The results are compared with those of five prominent well-known approaches on sixteen benchmark functions. Moreover, thermodynamic, economic and environmental modeling of a thermal power plant known as the CGAM problem is represented. The proposed FA-ABC algorithm is used to reduce the total cost and increase the efficiency of the system as shown in the Pareto front diagrams.

کلمات کلیدی:

Artificial bee colony algorithm, CGAM problem, Firefly Algorithm, Hybrid optimization algorithm