Abstract

In this paper we adapt black holes optimization algorithms for binary search spaces by applying a sigmoid transformation to the gravity and electrical forces. Black holes algorithm is a Swarm Algorithm inspired of Black Holes for Optimization Problems. We supposes each solution of problem as a binary black hole and after calculating the gravity and electrical forces use a mapping function for set it. The proposed method is verified using several benchmark problems used in the area of optimization. The experimental results on different benchmarks show that the performance of the proposed algorithm is better than BPSO (Binary Particle Swarms Optimization), BAFS (Binary Artificial Fish Swarm Algorithm) and GA (Genetic Algorithm).

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**Index Terms**

Computer Science  
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**Keywords**

Binary Black Hole  
binary search spaces  
Optimization Problem  
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