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).

References

- Hsing-Chih Tsai, Yong-Huang Lin, "Modification of the fish swarm algorithm with


- Zahra Beheshti, Siti Mariyam Shamsuddin, Siti Sophiayati Yuhaniz, "Binary Accelerated Particle Swarm Algorithm (BAPSA) for discrete optimization problems", Journal of Global Optimization, December, Published by Springer (2012).


Index Terms

Computer Science

Algorithms

Keywords

Binary Black Hole  binary search spaces  Optimization Problem  Sigmoid Function

gravity and electrical forces