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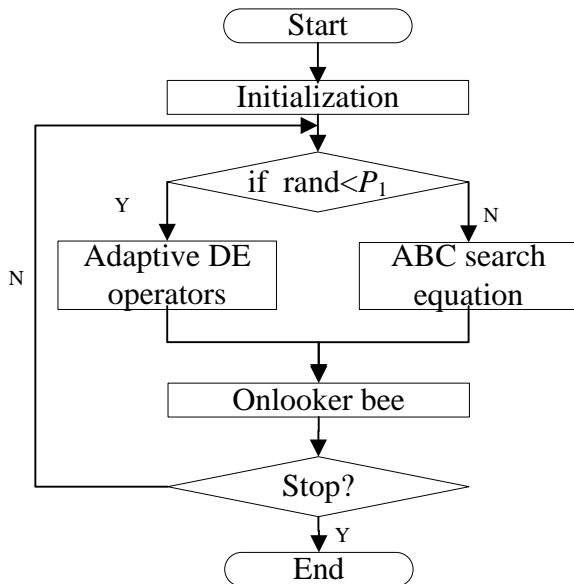
An Enhanced Artificial Bee Colony Algorithm with Adaptive Differential Operators

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Graphical abstract



The flowchart of ABCADE

Highlights:

- An adaptive differential operator is embedded into the employed bee phase of ABC to enhance global convergence capability of the algorithm.
- A stair-step probability calculation method is designed for onlooker bees to differentiate the good solutions and bad solutions, such that more computational effort can be put into the local search of promising areas.
- A novel ABC variants namely ABCADE is formed by combing the basic framework of ABC and the two proposed algorithmic components. The experimental results show that ABCADE obtains superior or comparable performance to other representative state-of-the-art ABC and DE

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