基于组合变异的果蝇优化算法

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摘要： 针对原始果蝇优化算法在寻优过程中存在易于陷入局部极值的不足,提出一种基于组合变异的果蝇优化算法.在算法陷入局部极值时引入组合变异策略,更新种群飞行方向,增强种群逃逸能力，使算法继续迭代寻找全局极值.选取 6 个基准函数进行实验仿真，实验结果表明：基于组合变异的果蝇优化算法较好平衡了算法局部搜索能力和全局开采能力，使算法在收敛速度和收敛精度方面均获得较大提高.

关键词： 果蝇优化算法；组合变异；函数优化

Fruit Fly Optimization Algorithm Based on Combined Mutation

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Abstract： Aiming at solving the problems of trapping into local extremes easily in the process of optimization, there is a fruit fly optimization algorithm based on combinatorial variation proposed. In this paper the combined mutation strategy is introduced when the algorithm falls into the local extreme. In the basis of this, the flight direction is updated and the population escape ability is enhanced, Thus, the algorithm continues to iterate to find the global extreme value. The experimental results show that the fruit fly optimization algorithm based on combinatorial variation is a good way to balance the algorithm's local search ability and global mining ability, and the algorithm is improved in terms of convergence speed and convergence accuracy.

Key words： fruit fly optimization algorithm; combined mutation; benchmark function