

# 基于改进布谷鸟算法的火焰图像阈值分割算法

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摘 要: 提出了改进的布谷鸟算法.在改进算法中, 首先利用混沌理论进行种群的初始化, 提高了种群的多样性.然后自适应选择利用莱维随机游走或者改进的蛙跳算法局部搜索方式更新新的解, 提高了算法的局部搜索能力和算法的收敛速度.与其他算法相比较, 改进算法显示了其强大的优化精度和高速度性, 提高了图像的分割效率.

关键词: 布谷鸟算法; 火焰图像; 阈值分割; 蛙跳算法; 混沌理论

## Threshold Segmentation Algorithm of Flame Image Based on Modified Cuckoo Search Algorithm

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Abstract: To improve the performance of the algorithm, an modified cook search algorithm is proposed . In the modified algorithm, first chaos theory is utilized to enhance the variety of the initial population. Then, Levy random walk or modified' s shuffled frog leaping algorithm local search is adaptively chosen to update the new solution, improving the local search ability and convergence rate of the algorithm. Comparison results with other algorithms indicate that the modified algorithm displays strong optimizing accuracy and high speed, improving the segmentation efficiency of the algorithm.

Key words: cook search algorithm; flame image; threshold segmentation; shuffled frog leaping algorithm; chaos theory

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