

博士论坛

基于凹点搜寻的重叠细胞图像自动分离的算法研究

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摘要 提出了一种重叠细胞图像自动分离的新算法。根据重叠细胞的凹凸性, 从细胞重叠区域的凹区域中找到凹点, 根据凹点数与细胞个数的关系, 判断是细胞串联还是细胞并联; 如果是串联的情况, 则直接将成对的凹点连成直线分离重叠区域; 如果是并联的情况, 则将凹点与重叠区域的中心连接成直线分离重叠区域。该算法在 Matlab 环境下对重叠细胞图像进行了自动分离, 实验结果表明该算法实现简单, 效果理想, 且能基本保持原细胞的大小和形状。

关键词 [重叠细胞](#) [凹点](#) [细胞串联](#) [细胞并联](#) [自动分离](#)

分类号

Research of automatically separating algorithm for overlap cell based on searching concave spot

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Abstract

This article proposes a new algorithm for automatically separating overlap cell image. According to the rugged topography of overlap cell, we seek concave spots from the concave regions in the overlap cell image, and judge whether image is cell series or cell parallel by comparing the numbers of concave spots with cores. In the series situation, drawing line by connecting couple of concave spots to separate overlap region; In the parallel situation, drawing line by connecting concave spot with core to separate the overlap region. This algorithm is carried to separate the overlap cell image under the Matlab environment. The experimental results indicate this algorithm is simple and effective.

Key words [overlap cell](#) [concave spot](#) [cell series](#) [cell parallel](#) [automatically separation](#)

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