

弱可视环境下卫星图像粘连区域高精度分割方法研究

贾润亮

(太原理工大学 财经学院, 山西 太原 030024)

摘要: 弱可视环境下粘连区域存在孔洞与震荡突变问题, 传统方法容易产生过分割现象, 得到的分割结果存在较大的偏差, 分割精度较低. 为此, 提出一种新的弱可视环境下卫星图像粘连区域高精度分割方法, 通过 Bernsen 算法对卫星图像进行二值化处理, 在此基础上, 将可体现卫星图像目标边界复杂程度的形状因子看作粘连区域的判别依据对卫星图像粘连区域进行确定, 通过距离变换获取卫星图像粘连区域的距离图, 对种子点进行选择, 依据得到的种子点对距离图进行重建, 通过快速浸没分水岭变换模型对重建的粘连区域图像进行分割. 实验结果表明, 所提方法具有很高的分割精度和有效性.

关键词: 弱可视环境; 卫星图像; 粘连区域; 高精度; 分割

Weak Satellite Image Visual Environment Adhesion Area and High Precision Method Research

JIA Run-liang

(College of Finance & Economics, Taiyuan University of Technology, Taiyuan 030024, China)

Abstract: Weak visual environment problems holes and shock mutation adhesion area, traditional method is prone to over-segmentation phenomenon, the segmentation results in larger deviation, low precision segmentation. Weak to do this, put forward a new visual environment adhesion area and high precision satellite image segmentation method, through the Bernsen algorithm of satellite image binarization processing, based on this, will be able to reflect the shape of the target satellite image boundary complexity factor as the discrimination on the basis of the satellite image of adhesion area to determine the adhesion area, the distance of the satellite images captured by the distance transformation adhesion area diagram, of the seed point selection, on the basis of the seed point to rebuild from the figure, through rapid immersion watershed transformation model of reconstruction image segmentation adhesion area. The experimental results show that the proposed method has high segmentation accuracy and effectiveness.

Key words: weak visual environment; satellite image; adhesion area; high precision; segmentation

作者简介:

胡竟伟 女(蒙古族), (1981-), 硕士, 讲师. 研究方向为计算机软件与理论.

E-mail: 20524787@qq.com.