

遥感应用

基于模板搜索的高分辨率SAR图像机场提取方法

摘要:

针对高分辨率SAR图像机场提取问题, 设计了以尺度变换、边缘检测、短线提取、短线连接、平行线提取和验证识别等流程的机场提取方案, 并针对机场跑道特点在短线提取和短线连接两个关键步骤上提出了新的算法。直线提取利用了边缘线的结构特征, 将边缘曲线看成三种线基元的组合, 能从边缘图像中快速拟合出短直线。短线连接提出了一种基于模板搜索的直线连接方法, 将短直线连接问题转化为在模板参数空间里搜索峰值的问题。实验表明, 本文方法简单快速可行。

关键词: SAR图像 机场提取 直线提取 直线连接

A Method of Airport Extraction Based on Template Searching from |High Resolution SAR Image

Abstract:

Aiming at airport extraction from high resolution SAR image, we design an airport extraction scheme based on scale transformation, edge detection, line extraction, line connection, parallel lines extraction and recognition etc., and present new algorithm in two key steps: line extraction and line connection. Firstly, in line extraction step, we make use of edge structure feature and view curves as a composition of three types of line primitive, so lines can be fit fast from edge map. Then in line connection step, a method based on template searching is put forward, it transfers the problem of line connection to the problem of searching peak in template space. Experiments show that the method is simple, rapid and feasible.

Keywords: SAR image airport extraction line extraction line connection

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