树木图像拼接系统特征点匹配 Tree Image Mosaicing System Based on Featured Area Matching

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关键词： 树木 图像拼接 模板提取 特征点匹配 相似性测度

摘 要： 运用模板提取和搜索匹配特征点的方法进行了树木图像拼接研究，通过树木图像的颜色分割、灰度化、梯度化获取模板，以相似性测度寻找匹配特征点，结合模板半径与拼接成功率和拼接时间的关系，最终达到拼接成功率94.9%、一次拼接时间174 ms的综合水平，为农药精确对靶喷雾技术中扩大采集树木图像视野实时树木图像拼接提供了方法。The tree image mosaicing was analyzed by template extraction and featured matching point searching. The template was obtained through tree image segmentation, image grey processing and image gradient processing. Then the matching featured point was searched and determined by similarity measure evaluation. With the relationship between template radius and the success rate of mosaicing, the relationship between template radius and the mosaicing of time, the success rate of 94.9% and 174 ms each time were achieved. A tree image real time mosaicing was provided for expanding the field-of-view in precision pesticide target-oriented-spraying technique.

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