

棉种图像精选方案与算法研究 Scheme and Algorithm of Cottonseed Selection Based on Image Processing

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关键词: 棉种 精选 红种子 破损种子 图像处理

摘要: 提出了一种基于图像处理的棉种精选算法。精选作业前,先设定种子通道工位;精选过程中,使用首帧差分阈值分割的方式提取种子区域的二值图像,然后在原图像的种子区域计算红色像素数并判断红色种子,通过分析二值图像判断破壳种子,最后对种子图像进行微分处理并去除边缘像素判断裂纹种子。实验结果表明,该算法能够很好地判断出缺陷棉种,速度快、准确性高。 An algorithm based on image processing to select cottonseeds was proposed. Firstly, each position of cottonseed channels in the image was located before selecting operation. And then, these cottonseeds were separated from the backgrounds by the difference between current image and first image, and the binary images of cottonseeds were obtained. The number of red pixels of cottonseed regions in the color image was calculating, and the red cottonseeds were determined. The broken seeds were judged by analyzing the binary image. Finally, the edge of cottonseed was extracted by differential calculus, and the exterior pixels were removed to determine the crack seed. Experimental results indicated that the algorithm could judge the cottonseeds fast and accurately.

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