

## عنوان مقاله:

A New Method for Root Detection in Minirhizotron Images: Hypothesis Testing Based on Entropy-based Geometric Level Set Decision

## محل انتشار:

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## خلاصه مقاله:

A new method is introduced here for root detection in minirhizotron images for root investigation. In this method, a hypothesis testing framework is defined first to separate roots from background and noise. Then, the correct roots are extracted by an entropy-based geometric level set decision function. Performance is evaluated on real captured images in two different scenarios. In the first scenario, images contain several roots while the second scenario belongs to no-root images, which increases the chance of false detections. The results demonstrate better capability of the proposed method in root detection compared to the present approaches in all the cases investigated. Furthermore, it can be shown that better detection of roots in the proposed algorithm not only does not lead to extracting more false particles, but also it decreases rate of false detections compared to the existing algorithms.

## کلمات کلیدی:

Root Detection, Minirhizotron Images, Hypothesis testing, Entropy, Geometric Level Set

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/255015>

