

Automatized Segmentation of Cracks in Solar Cells

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Abstract—

Index Terms—Crack detection,

I. INTRODUCTION

- Some basics and marketing
- State-of-the-art methods
- Many algorithms have been proposed for crack detection in Si-PV, but no standard or reference algorithm has been established so far
- The computer science standard to publish the code (use for comparison) is often not followed
- Aim of this work: establish a reference algorithm for scientific community which may be used as benchmark

II. MATERIALS & METHODS

- Samples
 - EL
 - Polycrystalline because more difficult for automatized segmentation
 - Number of images
- Preprocessing
 - Fourier Filtering
 - ROI of the solar cell
 - Noise-reduction filters

A. Crack Detection

- BP description (as one of the computer vision techniques used in industry)
- Vesselness
- Adapted Vesselness

III. RESULTS AND DISCUSSION

IV. CONCLUSION

V. REFERENCES