

For defect detection in crystalline silicon photovoltaics, the industry currently widely uses technologies such as manual visual inspection, current-voltage (I-V) curve analysis, infrared thermal ...

In this paper, the main objective is to compare two YOLO models for detecting PV panels in aerial images.

Although several review papers have investigated recent solar cell defect detection techniques, they do not provide a comprehensive investigation including IBTs and ETTs with a greater granularity of the ...

Advancing renewable energy solutions requires efficient and durable solar Photovoltaic (PV) modules. A novel mechanism based on Deep Learning (DL) and Residual Network (ResNet) for accurate...

Therefore, accurate and efficient defect detection technology for PV panels has become crucial for improving efficiency and ensuring product quality in the PV industry.

The deployment of solar photovoltaic (PV) panel systems, as renewable energy sources, has seen a rise recently. Consequently, it is imperative to implement efficient methods for the ...

This study explores the potential of using infrared solar module images for the detection of photovoltaic panel defects through deep learning, which represents a crucial step toward enhancing the ...

This technique allows the detection of thermal patterns associated with faults in the photovoltaic panels, although image analysis and fault detection require novel processing methodologies.

This paper discusses a deep learning approach for detecting defects in photovoltaic (PV) modules using electroluminescence (EL) images.

This identification algorithm provides automated inspection and monitoring capabilities for photovoltaic panels under visible light conditions.

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