

Title: Photovoltaic panel weak light detection

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Aiming at the current PV panel defect detection methods with insufficient accuracy, few defect categories, and the problem that defect targets cannot be localized, this paper proposes a PV panel ...

Within this research, we introduce a streamlined yet effective model founded on the "You Only Look Once" algorithm to detect photovoltaic panel defects in intricate settings.

In order to validate the efficacy of the proposed module, we conducted experiments using a dataset comprising 4500 electroluminescence images of photovoltaic panels.

This paper proposes a photovoltaic panel defect detection method based on an improved YOLOv11 architecture. By introducing the CFA and C2CGA modules, the YOLOv11 model is ...

To ensure solar panels function well, efficient and accurate defect detection of PV modules is essential. Visual-based deep learning detection methods, such as Transformer and Convolutional Neural ...

To address the current limitations of low precision and high image data requirements in defect detection algorithms based on visible light imaging, this paper proposes a novel visible light ...

To address these challenges, this paper proposes the LEM-Detector, an efficient end-to-end photovoltaic panel defect detector based on the transformer architecture.

Advances in automation, prediction, and management have enabled sophisticated fault detection methods to enhance system reliability and availability. This paper emphasizes the pivotal ...

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