

Title: Photovoltaic panel attenuation detection

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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 ...

With the global solar market projected to reach \$373 billion by 2029, understanding photovoltaic panel attenuation detection parameters isn't just technical jargon--it's financial survival. ...

Photovoltaic (PV) technology plays a crucial role in the transition towards a low-carbon energy system, but the potential-induced degradation (PID) phenomenon can significantly impact the ...

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 ...

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 imaging, ...

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

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 ...

This paper develops a novel internal crack detection device for PV panels based on air-coupled ultrasonics and establishes a dedicated model for PV panel crack detection.

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 ...

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