

Cheng Gong's research interests revolve around advanced solar energy harvesting and device physics, particularly inverted perovskite solar cells . He investigates how carrier transport ...

To address this issue, an improved VarifocalNet has been proposed to enhance both the detection speed and accuracy of defective photovoltaic modules.

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.

This study explores deep learning-based techniques for identifying and classifying visual defects in photovoltaic modules, including cracking, shading, decolorization, and delamination, to ...

To address this, a photoluminescent RC coating with spectrally selective reflectivity is developed to be integrated it with bifacial photovoltaic (biPV) panels.

Currently, Dr. Gong is involved in two projects: one with Indian and Chinese stakeholders to design nationally determined contribution (NDC) pathways, and another focused on technology choices ...

This study presents an implementation of a deep learning model to detect solar panel defects using an advanced object detection algorithm called You Look Only Once, version 7 ...

A promising technological advancement has enabled the installation of PV panels in the spaces on the top of the sleeper between the two rails, further exploiting the solar potential of the ...

This validates our success in developing a photothermal, transparent, and superhydrophobic coating with excellent anti-icing capabilities, suitable for use on photovoltaic ...

In this work, a new image classification network based on the MPViT network structure is designed to solve the problem of fault detection and diagnosis of photovoltaic panels using image ...

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