



UNSW
SYDNEY

Optimisation of Photovoltaic Modules for Electricity Yield

Using simulations to identify interconnection and light structuring approaches that maximise electricity yield, which is a more useful determinant of the levelised cost of electricity for a location than standard test conditions.

Competitive advantage

- Expertise and software in optical simulation that allows for efficient matrix-based computation of electricity yield at particular locations
- Up-to-date knowledge of state-of-the-art interconnection designs for silicon photovoltaic modules

Impact

- Reduced LCOE by optimisation of photovoltaic modules for increased electricity yield

Successful outcomes

- Predictions of both power and electricity yield gains for modules interconnected with wires and ribbons with light redirecting films
- New interconnector geometries that can enhance the optical performance of photovoltaic modules
- Collaborations with leading photovoltaic module manufacturers and producers of interconnection ribbons and light re-directing films
- Demonstrated results identifying optical benefits of different interconnection methods (e.g. Smartwire, MultiBB, ribbons with light redirecting films)

Capabilities and facilities

- Optical modelling software and expertise
- Facilities for fabricating and testing modules under STC and angular illumination

Our partners

- LONGi Solar
- Sizhuo PVTech Hebei
- 3M
- DSM
- ECN (part of TNO)

More Information

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