

SAIP2022



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## PVinsight: Determining photovoltaic module quality and degradation rates

*Tuesday, 5 July 2022 15:00 (30 minutes)*

Solar Photovoltaic (PV) Energy is a sustainable and practical alternative to fossil-fuel power in South Africa due to the abundant solar resource. However, the quality and long-term performance of PV modules is key to the success of large-scale PV installation. Manufacturers guarantee their solar modules with an expected degradation over a twenty-year period, generally a decrease in power of less than one percent a year. Module degradation can be determined by annual measurements of the power output of a module in an indoor Solar simulator under controlled standard test conditions. Due to the small year on year change attributed to expected module degradation, data from several years is required to see the trend of degradation. At the ISO 17025 accredited PVinsight Photovoltaic Testing Laboratory based at Nelson Mandela University, advanced PV characterisation techniques are implemented to assess module quality and degradation. These tests provide guidance to the PV industry, to ensure that their systems perform as expected.

**Apply to be considered for a student ; award (Yes / No)?**

No

**Level for award;(Hons, MSc, PhD, N/A)?**

N/A

**Consent on use of personal information: Abstract Submission**

Yes, I ACCEPT

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**Session Classification:** Physics Industry Day

**Track Classification:** Track E - Physics for Development, Education and Outreach