Contribution ID: **284** Type: **Oral Presentation**

Comparison of indoor and outdoor current-voltage characterisation of photovoltaic modules

Friday, 12 July 2013 09:20 (20 minutes)

Abstract content
   (Max 300 words)

Photovoltaic modules are specified based on their power output and thus it is very important that the maximum power (Pmax), voltage (V) and current (I) of photovoltaic (PV) modules be accurately determined. The power measurements are made at standard test conditions (STC) of irradiance (1000W/m2), temperature (25℃) and spectral distribution (AM 1.5). Temperature and irradiance can be corrected within a certain range but spectral distribution is related to the atmospheric conditions and tilt of the earth. Indoor PV module testing allows the performance parameters of a module to be determined under controlled conditions.
The current-voltage (I-V) characteristic are determined by measuring the current and voltage of the module with a varied load either outdoors in natural sunlight or using a xenon flash lamp in a solar simulator. The solar simulator takes all these measurements during the very short period of time the light flash. In this paper indoor and outdoor testing procedures are presented and compared, and advantages and disadvantages of the two approaches are discussed. The uniformity of intensity of the flash light over the test area is investigated and discussed. I-V curves acquired using the different methods will also be presented and discussed.

Apply to be
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Yes

Level for award
 (Hons, MSc,
   PhD)?

PhD

Main supervisor (name and email)
and his / her institution

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Would you like to <br> submit a short paper <br> for the Conference
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Yes

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Session Classification: Applied

Track Classification: Track F - Applied Physics