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Contribution ID: 236

Type: **Poster Presentation**

## Effect of temperature on spectral response measurements of crystalline silicon photovoltaic cells

*Thursday, 12 July 2012 17:30 (2 hours)*

### Abstract content <br> &nbsp; (Max 300 words)

The SR of a PV is a measure of the effectiveness of the conversion of the light power into electrical current. It is essential for understanding current generation, recombination, and diffusion mechanism in photovoltaic devices. This work presents systematic measurements of the SR of two crystalline silicon PV devices (mono-Si and poly-Si) measured in a narrow cell temperature ranges from 25 °C to 65 °C in the dark and under bias lights conditions. In the dark the SR intensity of the mono-Si device decreased with increasing temperature at wavelengths range below 1125 nm whereas the SR intensity of the poly-Si device increased with increasing temperature at wavelengths range  $\lambda > 400$  nm. Under bias lights conditions the SR intensities for both devices increased slightly at long wavelengths ( $\lambda > 900$  nm) with increasing temperature. This paper is aimed at explaining and discussing the dependence of mono-Si and poly-Si SR's on cell temperatures in the dark and under bias light illumination.

### Apply to be<br> consider for a student <br> &nbsp; award (Yes / No)?

Yes

### Level for award<br>&nbsp;(Hons, MSc, <br> &nbsp; PhD)?

PhD

### Main supervisor (name and email)<br>and his / her institution

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### Would you like to <br> submit a short paper <br> for the Conference <br> Proceedings (Yes / No)?

Yes

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**Session Classification:** Poster Session

**Track Classification:** Track F - Applied Physics