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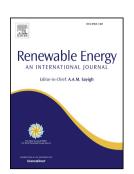
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Evaluating the reliability of crystalline silicon photovoltaic modules in harsh environment

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Abstract

- Electricity generated using photovoltaic system can only be commercial
- ₂ if the photovoltaic modules operate reliably for 20-25 years under field condi-
- 3 tions. Understanding the performance degradation of photovoltaic modules
- 4 is critical for optimizing its financial viability. Performance degradation of
- 5 photovoltaic modules is due to multiple factors such as installation site and
- 6 module technologies. In order to gain insight on performance degradation
- of crystalline silicon PV technology in harsh environment, a degradation ef-
- 8 fects study of c-Si photovoltaic modules in desert environment was carried.
- The main contribution of this paper is focused on the evaluation of c-Si PV
- 10 modules performance that operated in extreme environmental conditions.
- 11 This evaluation usually consists of I-V curve field measurements and visual
- inspections.

Keywords:

c-Si PV modules, Degradation, Failure, Desert, Performance evaluation.

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