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Study of the performance of a Cadmium Telluride photovoltaic system

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Abstract content
   (Max 300 words)
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Thin film photovoltaic (PV) modules, due to their lower thermal coefficients, are often suggested for deployment in warm climates. This paper models and analyses the performance of a 15.66 kW rooftop PV system installed using Cadmium Telluride modules. The location of the system is Gueldenboden Farm, 150 km north-east of Windhoek in Namibia and has an average annual temperature of 20°C. The measured energy yield is 23% lower than the expected when compared to the calculated yield based on long-term meteorological data. Measurements of the current-voltage (IV) characteristic curves of the system strings show that 2 of the 24 strings are not functioning. This fact, however, does not account completely for the lower energy production. The reasons for the lower energy output are investigated and a detailed analysis of the system configuration and performance is done.

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