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Direct water cooling effect on a photovoltaic module

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This paper gives the details of a photovoltaic water heating system and the effects of direct water cooling on the performance of a photovoltaic module. The SW 80 polycrystalline modules were used in the investigation. They were both fixed next to each other on a north facing rack located on roof top. One of the modules had a batch water cooling container and the other module had no cooling system attached to it. The water cooled module was noted to operate at an average temperature of 43°C on a sunny cloudless day, while the uncooled module's temperature rose to about 70°C impacting negatively on electricity production. Photovoltaic water heating system may improve life span of the module and at the same time alleviate the burden of conventional energy consumption in South Africa for heating and lighting purposes.

**Level (Hons, MSc,
 PhD, other)?**

PHD

**Consider for a student
 award (Yes / No)?**

no

**Would you like to
 submit a short paper
 for the Conference
 Proceedings (Yes / No)?**

yes

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