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Abstract:

This work represents an effective design of a temperature regulated PV module by integrating phase change materials for Malaysian weather condition. Through the initial experimental setup it has been shown that if a PCM layer of width 0.02 m of (RT 35) is used as a cooling arrangement with a PV module; the surface temperature of the module is reduced by 10°C, which remains constant for a period of 4-6 hours. This reduction of temperature will definitely increase the conversion efficiency of the module. Experiment and analysis has been carried out considering typical Malaysian weather. Finally, obtained result has been included to evaluate the performance of the prototype.