Performance Enhancement of PV Array Based on Water Spraying Technique

This paper experimentally presents water spraying technique to improve photovoltaic (PV) array efficiency and enhance the net power saving. A forced-water spraying and cooling technique with constant flow rate of water on PV array surface is designed and implemented. The decreasing rate in the panel surface temperature has a direct proportional relation with PV efficiency. Simultaneously, the output hot water is very beneficial for houses, buildings etc., as water heating system, specifically in the remote areas. The electrical performance of PV array was also studied. The cooling rate of panel surface for 5 min.= 4 in midday. The electrical performance of PV array also was studied. As a final point, the economical results were achieved as result of the power saving increases 7w/degree at midday