

عنوان مقاله:

Thermodynamic and Environmental Assessment of Mounting Fin at the Back Surface of Photovoltaic Panels

محل انتشار:

مجله مکانیک کاربردی و محاسباتی، دوره 7، شماره 4 (سال: 1400)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Nowadays, researches on different kinds of renewable energies including photovoltaic technology are developing rapidly. It is proved that the output power of a PV cell is reduced by increasing the temperature. In this paper, mounting aluminum fins at the back surface of the PV module is proposed as a simple and low-cost method to decrease the PV cell temperature. It was found that using aluminum fins caused more than 1°C reduction in the cell temperature. Besides, it was shown that the entropy generation of the PV module with fin, was ۳.۵% lower than the conventional one. Also, the positive environmental impacts of using fins at the back surface of the PV module were estimated by RETScreen software, so that it, leads to enhance the performance of the PV power plant by more than ۲۵ %, from an environmental viewpoint.

کلمات کلیدی:

Photovoltaic, Entropy, Environmental impacts, Fin

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