

عنوان مقاله:

Optimum Tilt Angle of Solar PV Arrays and Collectors for Different Time Periods Used in Iran

محل انتشار:

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خلاصه مقاله:

One of the most important parameters in the solar energy received by the solar panels is the tilt angle of the panels. Precise determination of the optimum tilt angle of the panels, especially in high-capacity solar arrays, leads to saving considerable energy and cost. Determining the optimal tilt angle of the panels depends on the panels geographic location in terms of latitude and the clearness index at different times of the year. In this paper, the optimal monthly, seasonal, semi-annual, and annual (fixed) tilt angles of the solar panels are calculated using the maximum solar energy received per unit area in different cities of Iran. Also, the energy received by panels for each angle is evaluated at different time periods. The results show that the optimum tilt angle for each city is approximately 4 to 8 degrees lower than the latitude of that city.

کلمات کلیدی:

solar energy, tilt angle, optimum tilt angle, solar panel

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