

عنوان مقاله:

Design of a Photovoltaic System for Preheating in Solar Desalination

محل انتشار:

کنگره بین المللی علوم و مهندسی (سال: 1396)

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خلاصه مقاله:

Demand for water is substantially on the rise fueled by the unbridled population growth worldwide. Solar stills can be a proper solution to this demand in less densely populated areas with enough solar irradiation. The main drawback of these desalination systems is their low efficiency, which can be addressed by preheating. Microwave preheating was used in this study. Sunlight is a clean energy source that can be harnessed through solar cells. The study aimed at designing a photovoltaic system to supply power for an automated stepped solar desalination system with preheating. The system included a water pump, a microwave stirrer, electric valves and a microwave device. The photovoltaic system was designed for conditions of Tehran, Iran located at 35° latitude to store energy in a battery for three days and was implemented at TarbiatModares University.

کلمات کلیدی:

Solar desalination, Preheating, Microwave, Photovoltaic system

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