

## عنوان مقاله:

PERFORMANCE OF PHOTOVOLTAIC ARRAY IN HYDROGEN PRODUCTION USING ADVANCED ALKALINE ELECTROLYZER

## محل انتشار:

اولین کنفرانس و نمایشگاه بین المللی انرژی خورشیدی (سال: 1393)

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## خلاصه مقاله:

In this study, design and simulation of combination of photovoltaic array with alkaline electrolyzer is performed to get maximum hydrogen as reliable power resource. The detailed model of components including electrical model of PV cells, and both electrochemical and thermal model of electrolyzer is used. The solar irradiation calculations are done for the region of Tabriz, Iran, and obtained the optimal surface slope of 38° for PV cells. The size of PV array is optimized considering maximum hydrogen production and minimum excess power production in a diurnal operation of system. The results show that for a 10 kW alkaline electrolyzer, the PV array with nominal power of 12.3 kW is utilized. Hydrogen production and faraday efficiency of system are 697.21 mol and 0.3905, respectively.

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/254532>

