

## عنوان مقاله:

Using solar tracking systems to Increase performance of photovoltaic power plants

## محل انتشار:

اولین همایش ملی مهندسی برق باشگاه پژوهشگران جوان و نخبگان (سال: 1395)

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## خلاصه مقاله:

The use of renewable energy resources to produce the electricity is a rising trend in various countries worldwide. This is especially because these energies do not produce the greenhouse gases; therefore, don't become a destructive factor on the ozone layer and the environment. Besides, the fossil energies are always exposed to price changes and will eventually end, while the renewable energies don't pose such problems and are freely acquired from the nature. Some of the most important of these re-producible energy resources are the energies of the wind and the solar energy. The generation capability of a photovoltaic power plant is largely dependent on the intensity of the sun radiation. On the other hand, the changing of position causes the sun to have a variable shining intensity in different seasons and different times of the year; therefore, some of the solar power plants possess solar tracking systems. This paper studies the different types of photovoltaic systems including fixed panel, photovoltaic farms equipped to the single axis and double axis tracking systems and their effects on the performance of the solar power plants. In order to determine the position of the sun in the sky, the zenith and azimuth angles of it are used to extract the relations between the different parameters of the sun radiation. The resulted parameters are used in the modeling of the single axis and double axis systems. In the paper it is utilized from the sun parameters in Qeshm Island of Iran in the summer of 2011.

## کلمات کلیدی:

Azimuth and Zenith angles, Photovoltaic Farm, Single and Double axis sun tracker systems

## لینک ثابت مقاله در پایگاه سیویلیکا:

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