

## عنوان مقاله:

A Review Study of the PV Cell Modeling under Shading Conditions

## محل انتشار:

ششمین کنفرانس ملی پژوهش های کاربردی در مهندسی برق، مکانیک و مکاترونیک (سال: 1399)

تعداد صفحات اصل مقاله: 8

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## خلاصه مقاله:

With the growth of population and progress in technology, the need for energy is increased. The former energy resources have some limitations and they cannot fulfill the needed sufficient amount of energy. Hence renewable energy resources are used more often recently, and solar power is one of the most available resources all around the world. However, transforming solar energy into electricity by Photovoltaic (PV) technology has faced some issues. Partial shading condition is the most important issue that leads to reduction in output power and efficiency. A model for investigating the solar cell voltage, current and power is highly essential to evaluate the efficiency of the system in all conditions. This paper studies how PV cells and panels are modeled and, the equations and their parameters are discussed. Series resistance and shunt resistance are studied as well. Different patterns for connecting cells is expressed and the effect of shading conditions (shading in both uniform irradiance and non-uniform irradiance) on the operation of PV cells are studied.

## کلمات کلیدی:

PV, Partial Shading, Uniform Irradiance, Series Resistance, Shunt Resistance

## لینک ثابت مقاله در پایگاه سیویلیکا:

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