

EFFECT OF SHADING ON THE PERFORMANCE ON SOLAR PHOTOVOLTAIC

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ABSTRACT

The output of the solar cell is a very significant parameter in the design of production of the photovoltaic one, although the electric output generated by a photovoltaic module or a solar cell can be decreased compared to the optimum conditions for production (maximum power point MPP). This article investigates the losses which occur in the performances of a photovoltaic cell, the main objective is to find the parameters of the nonlinear $I-V$ equation by adjusting the curve at three points: voltage open circuit, maximum power point, and current short circuit. Especially when the level of the solar irradiation is not uniform. Then we studied experimental the shadow effect of a PV cell and also the influence of temperature, finally we show the importance of this point MPP in a photovoltaic module of monocrystallin type illuminated according to the two faces (side and opposite the sun).

KEYWORDS: Silicon Mono-Crystalline, Solar Cells, Shadow Effect, Maximum Power Point, Fill Factor, Efficiency