

## **MODELING OF PHOTOVOLTAIC PANEL AND EFFECT OF VARIOUS PARAMETERS ON ITS PERFORMANCE**

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### **ABSTRACT**

As per the present scenario lot of power shortages are there all over the world especially country like India the grid transferring problem is also high. Almost the power from the fossil fuels is becoming so less. There is increasing demand for the use of power from renewable based energy sources such as solar, wind, biomass, tidal etc which does not cause any damage to the environment. Unlike conventional generation the solar energy is available at no cost and is pollution free. This paper shows a model for a photovoltaic system consisting solar source in order to estimate the I-V & P-V characteristics for various values of solar radiation keeping the cell temperature constant. The proposed model can also obtain the effect of variation of physical and environmental parameters and observe voltage profile with the proposed model and effects caused by randomness of solar radiation on the voltage profile. In addition, PV module model and PV array is also developed and their voltage profiles are observed. This model provides a tool to predict the behavior of any solar cell, module and array under the variation of several parameters.

**KEYWORDS:** Cost Benefit Analysis, Photovoltaic Cells, Photovoltaic Effects