

Photovoltaic Cells Characteristics Measurement Systems

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Abstract : Power provided by the photovoltaic array varies with solar radiation and temperature, since these parameters influence the electrical characteristic (Ipv-Vpv) of solar cells. In Scientific research, there are different methods to obtain these characteristics. In this paper, we present three methods. A simulation one using Matlab/Simulink. The second one is the standard experimental voltage method and the third one is by using LabVIEW software. This latter is based on an electronic circuit to test PV modules. All details of this electronic schemes are presented and obtained results of the three methods with a comparison and under different meteorological conditions are presented. The proposed method is simple and very efficiency for testing and measurements of electrical characteristic curves of photovoltaic panels.

Keywords : photovoltaic cells, measurement standards, temperature sensors, data acquisition

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