Abstract

Knowledge of the characteristic of photovoltaic module is a prerequisite for designing and dimensioning a PV power supply. This is the reason for the development of PV module models useful for electrical applications. 7 variables studying model was proposed in this paper as a simple method of modelling and simulation of photovoltaic module using Matlab Simulink. The method is used to determine the characteristic of PV module and studying models successfully reproduce Ipv – Vpv and Ppv - Vpv curves and matches real module data under different scenarios of the influence of different values of solar radiation at different temperatures and wind speed into consideration as environment effects and Saturation Current, Ideal Factor, Series and Shunt resistances as a PV module construction variables, the output current and power characteristic of photovoltaic module are simulated using the proposed model.

References

Modeling of PV Module Performance under Influence of Surrounding and Essential Factors Variation using Matlab Simulink

Matlab-Simulink GUI Environment. IEEE, Clean Electrical Power, International Conference on Clean Electrical Power (ICCEP '07), June 14-16, Ischia, Italy.


Index Terms

Computer Science Power Systems

Keywords

Photovoltaic Module; Modelling and Simulation; Matlab Simulink; Solar Cell.