Abstract

Due to the rapid depletion of conventional energy sources, there arises a need to use renewable energy sources for power generation in many applications. Sun is the most prominent renewable energy resource. Photovoltaic technology uses sun as its energy source, which is being mostly used now a day.

This paper presents a model which is designed for generating electricity used for irrigation. The model consists of Photovoltaic Panels, Fuzzy logic controller to control the speed of DC motor to a desired value, DC motor which is directly coupled with centrifugal pump. DC Motor is used in this model because of its favourable torque and robust speed control characteristics. The model is implemented using MATLAB/Simulink, which verifies the efficient torque and robust speed of the model.

Index Terms

Computer Science Fuzzy Systems

Keywords
Photovoltaic Panels (PV), DC Motor, Centrifugal Pump, Fuzzy logic controller.