Abstract

Renewable energy has attracted the interests of researchers all around the world. The major challenge is to combine various existing sources in a single model so as to extract the usefulness of each of them while complementing each others weaknesses. This paper proposes a method to integrate solar photovoltaic system, wind turbine system and diesel generator connected to a load. A dump load is also connected to the system to absorb the excess power. The hybrid system model has been developed in MATLAB/Simulink. An Adaptive Neuro Fuzzy Inference System (ANFIS) based controller has been designed and the system is analysed in terms of the power generation and consumption. The results obtained are encouraging in terms of their stability.

References


Performance Analysis of a Standalone PV-Wind-Diesel Hybrid System using ANFIS based Controller


25. Kanzumba Kusakana; ‘Optimal scheduled power flow for distributed photovoltaic/wind/diesel generators with battery storage system.


Index Terms

Computer Science

Information Sciences

Keywords

Hybrid system, Adaptive Neuro Fuzzy Inference System (ANFIS), Maximum Power Point Tracking (MPPT), consumer load, dump load.