

Matlab/Simulink Simulation of Solar Energy Storage System

Authors : Mustafa A. Al-Refai

Abstract : This paper investigates the energy storage technologies that can potentially enhance the use of solar energy. Water electrolysis systems are seen as the principal means of producing a large amount of hydrogen in the future. Starting from the analysis of the models of the system components, a complete simulation model was realized in the Matlab-Simulink environment. Results of the numerical simulations are provided. The operation of electrolysis and photovoltaic array combination is verified at various insulation levels. It is pointed out that solar cell arrays and electrolyzers are producing the expected results with solar energy inputs that are continuously varying.

Keywords : electrolyzer, simulink, solar energy, storage system

Conference Title : ICECCE 2014 : International Conference on Electrical, Computer and Communication Engineering

Conference Location : Barcelona, Spain

Conference Dates : February 27-28, 2014