PERFORMANCE MONITORING OF LEAD ACID BATTERIES FOR PHOTOVOLTAIC SYSTEM

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ABSTRACT
In stand-alone photovoltaic system, the main components are important and need to be considered is the battery storage devices. One type of batteries that are widely used are lead-acid batteries. Characteristics of the battery is an important factor in the performance of the system. Many parameters that need to be in charge and discharge batteries such as voltage, current, temperature, resistivity, etc.

The purpose of this final project is to design tool to determine the characteristic curve battery charge and discharge or monitoring the battery charge (State of charge). State of charge is the battery capacity during charge and discharge. From the analysis we found that the cut-off voltage of the lead-acid battery at 10.5 volts, while the temperature and open circuit voltage of the battery affect the residual value and the initial battery charge and be able to determine the initial battery state of charge. The changing of SOC in an experiment depends on the charging current, which is in line with the results of the simulation modeling.

Keywords: Lead-acid batteries, Stand-Alone PV, State of charge.
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