ABSTRACT

Obstacles in the development of power supply systems using solar energy, one of which is the efficiency of energy conversion and power transmission from PV to its energy storage and the pattern of electricity consumption of people who use electricity at night. For that, a solar power supply system device is needed that can control energy storage well in order to maximize battery charging during the day. In this study, a Solar Charge Controller system simulation was created with Buck-Boost Converter as a voltage regulator to regulate the battery charging process. Buck-Boost Converter simulation is done using the LTSpice circuit simulator application every Buck-Boost Converter operation mode.

In this final task has been done some simulation of Buck-Boost Converter operating mode. Buck-Boost Converter simulation is able to show a stable output of 14V for battery charging purposes and is ready to be implemented.

Keywords: Solar Charge Controller, Buck-Boost Converter