

Solar energy is one of renewable energy. To convert solar energy into electrical energy, photovoltaic module is needed. One of the problem on solar energy conversion is the process of battery charging. To maximize energy conversion, then PV system needs another system called Maximum Power Point Tracking (MPPT). This journal will studied about charging optimization using constant voltage (CV) method. This method has a function of determine output voltage from PV system on maximal condition, so PV system will always produce maximal energy. To show a difference between PV system with MPPT and PV system without MPPT, then model of system are build on Simulink. PV system simulation shows the different outcome energy because of the different solar radiation and the number of solar module that being used. The greater solar radiation, the greater the outcome energy of PV module. PV system with MPPT produce 261.7598 Watt energy, and PV system without MPPT produce 252.6743 Watt energy.