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Analysis of the Effectiveness of Solar Cell Voltage Based on the Angle of Exposure to Sunlight

Analisa Efektivitas Tegangan Sel Surya Berdasarkan Sudut Paparan Cahaya Matahari

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Solar Power Plant is a system that is able to convert solar energy into electrical energy, it is incorporated in several components in the form of solar panels (photovoltaic), battery testing (solar charger controller), inverter, battery, Lux Meter and other accessories. In order to get the maximum voltage, current, and power results, it is necessary to place the solar panels correctly, by determining the angle of inclination according to previous research, and measuring the angle of inclination based on the equator. In this study, solar cells are expected to get the maximum voltage (Volt), Current (Ampere), and Power (Watt) so that solar cells can be applied optimally in the Ponorogo Regency area. This research is to determine the Tilt Angle of the Solar Panel, Voltage (Volt), Current (Amperes), and Power (Watt). The results showed that the best slope angle was at an angle of 15º to the north, with a power value of 8.23 Watt, and the best absorption of sunlight was obtained during the day at 10.00-11.00 WIB, and the best results were obtained in March 2021.

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