

ABSTRACT

Langgeng Kanugrahan. 2023. **USE OF PROTOTYPE STABILIZER TO STABILIZE TEMPERATURE OF POLYCRYSTALLINE PHOTOVOLTAIC SOLAR PANEL**

This research is based on changes in solar panel power depending on changes in solar panel temperature. Previous research attempted to develop a stabilizer prototype in its way. However, information on the electric energy consumption of the stabilizer prototype was not conveyed. This study consisted of 11 treatments, 1 without treatment, 1 water stabilization treatment with 5 pipes of different lengths, and 1 treatment of stabilizer prototype stabilizer with 5 pipes of different lengths. This study aims to determine the temperature difference between solar panels before and after using the stabilizer prototype and to find out if the stabilizer prototype on the solar panel is efficient. The research design is a Pre-Experimental Design with the One-Group Pretest-Posttest Method. Furthermore, this study states that there is a difference in solar panel temperature before and after the use of the stabilizer prototype, and the use of the stabilizer prototype is still considered inefficient. The average temperature data for solar panels without a stabilizer is 45.41 °C with an increase in solar panel temperature per second of 0.017°C/s. Whereas for the average temperature of pipes 1 to 5 with water stability successively 43.45 °C, 46.95 °C, 42.29 °C, 44.51 °C, 38.57 °C and an increase in solar panel temperature per second respectively 0.015°C/s, 0.013°C/s, 0.016°C/s, 0.011°C/s, 0.011°C/s. Furthermore, for the average temperature of pipes 1 to 5 with stabilizer stabilization respectively 42.29 °C, 44.27 °C, 47.56 °C, 50.25 °C, 42.80 °C and an increase in solar panel temperature per second respectively 0.014°C/s, 0.016°C/s, 0.014°C/s, 0.013°C/s, 0.012°C/s.

Keywords: efficiency, electricity, stabilizer, temperature