

ABSTRACT

Indonesia, which has an astronomical area, is located in a tropical area and is crossed by the equator which causes very high levels of solar radiation. Solar energy can be used as an energy provider through two kinds of technologies. They are solar thermal energy and photovoltaic. In this research, one of the technologies is photovoltaic. The electricity that will be generated from sunlight, the energy that will be generated is 5% - 16% with the energy obtained is enough to heat the water in the aquarium.

To take advantage of the abundant energy from the sun, research will be carried out to utilize solar energy to heat the aquarium temperature using the photovoltaic method. The photovoltaic method is done by taking solar radiation through solar cells and it will be converted into electrical energy from the electrical energy that will be used as energy to heat the water in the aquarium.

This study aims to design a solar radiation analysis tool on the power that will be generated with the aim of knowing how much power is generated in solar cells in the area within Telkom University that can be used as an aquarium temperature heater. The research will be carried out for 3 days and the results of this research show that the size or speed of heating water depends on the weather if the weather is not sunny resulting in less light reception on solar cells so that less power and current are generated which can cause less than optimal heating of water.

Keywords : Photovoltoic, Solar cell, Aquarium, Solar Radiation