ABSTRACT

The increasing need for electric energy in the rapid depletion of conventional

sources of energy / fossil energy , has prompted efforts - efforts to develop renewable

energy alternatives. One source of renewable energy has enormous potential, especially

for Indonesia, which is located in the tropics is a solar energy / solar . Solar energy / solar

energy can be converted into electricity by using the photoelectric effect that occurs in

solar cell components. Solar cell can convert sunlight into electrical energy that can be

used directly or stored in batteries.

Dye- sensitized Solar Cell (DSSC) is a method of working principle of solar cell

that can convert light energy into electrical energy. DSSC solar cell is composed of a

semiconductor TiO2 located on a glass substrate berkonduksi and soaked with Dye .

Function for the photosensitizer dye made from plant extracts - plants that can be utilized

and used substrate types derived from conductive glass ITO (Indium Tin Oxide).

Construction DSSC using a layered system consisting of a working electrode (TiO2

semiconductor, dye, and electrolyte) and the counter electrode (carbon) which are both

placed on glass berkonduksi electron cycle to occur.

In the final task this time has succesfully designed solar cell semiconductor

material with a TiO2 DSSC method. The solar cell can work in the event of the conversion

of light into electrical energy. Expected in the final project can be created by a renewable

energy source that is economical and effective. That the source of electrical energy that

humans need to be fulfilled in accordance with the desired.

Keywords: DSSC, TiO2, Dye, ITO

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