

ABSTRACT

Spin Coating is one of the methods used to create a thin layer of one of the application is to deposited active layer in organic solar cell applications. One type of organic solar cells are solar cells made from TiO₂ is commonly used in research Dye sensitized Solar Cell (DSSC). In a theoretical study, rotational speed spin coating effect on the thinness of the film were made, but no further investigation of the relationship between the rotational speed of the spin coating of the resulting solar cell performance. In addition, the heating temperature in the spin coating process is also becoming one of the sections that can affect the overall performance of solar cells, but there is no research that describes the effect of temperature on the spin coating process and its influence on the performance of the resulting solar cells. This final project examines the influence of rotational speed and temperature on a simple spin-coating process created using Arduino Uno as proportional-integral control, brushless DC motor fan as a spinning system, and Electric Thermostat as a heating system, so it can be seen the optimum spinning speed and annealing temperature in the fabrication of organic solar cells. The results showed that the rotational speed and thickness have a linear effect on the efficiency of solar cells made with optimum speed of 2800 RPM (Rotation Per-Minute) resulted in an efficiency of 0.008%. While the temperature also affects the efficiency of the solar cells with an efficiency linear of 0.026% at 2800 RPM spin conditions and a temperature of 75 ° Celcius.

Key words :Spin Coating, Organic Solar Cells, DSSC, Temperature, Spinning Speed,

Efficiency