

ABSTRACT

This research studied the effect of gold particle inserted in TiO₂ solar cells. Insertion of gold particle in TiO₂ layer using electroplating method. TiO₂ material is mixed with distilled water and then deposited on FTO using doctor blade method. TiO₂ layer inserted gold particle with electroplating method to form a metal contact layer electrons to flow faster to the electrode (FTO). Polymer electrolyte was dedicated as a hole transport is composed of a mixture of LiOH and PVA. Structure of solar cell has been characterization by using a Keithley 617 meter to determine the performance of solar cell. I-V characteristic showed an increase in the efficiency of solar cell with TiO₂ inserted gold particles using electroplating method at 0,08% compared with solar cell TiO₂ without inserted gold particles at 0,002%.

Keywords: Solar Cell, TiO₂, Electroplating.