

ABSTRACT

This final project studies the MoS₂ layer deposited on PET, ITO / PET and SiO₂ substrates using two methods, namely drop casting and spin coating. To get a thin and evenly distributed MoS₂ layer, a good spin coating parameter optimization is needed. In this experiment, the rotating speed and pick dwell were varied in order to optimize the layer distribution. Which might affect optical and electrical properties. The deposited MoS₂ layer using spin coating results in a thinner layer thickness than the drop casting method. The distribution of MoS₂ / PET has more gaps between two layers compared to the distribution of MoS₂ / ITO / PET and MoS₂ / SiO₂ layers. The average thickness of the MoS₂ / PET layer & MoS₂/ITO layers are 7 nm and 5 nm, respectively. The shorter the pick dwell, the thicker the layer. The thickness decreases with the increasing of the spin coating rotating speed. Electrical characteristic measurement was being done by observing I-V characteristic curve of MoS₂ layer on each substrates. Deposition methods do not influence significantly the electrical properties which are more dependent on substrat types.

Keywords : MoS₂, PET, ITO/PET, SiO₂, drop casting, spin coating.