

Aqueous Organic Solution Based F- doped SnO₂ Coating on Glass Substrates

Ohnmar Soe^{*}

Abstract

An aqueous precursor of F-doped SnO₂ was prepared starting with hydrated tin (IV) chloride, ammonium fluoride and water. Concentrated hydrochloric acid has been used for simultaneous condensation and gelation. The films have been developed with fixed dopant concentration (F/Sn ratio at 7.5%). The spin rate is (3000) rpm, the spin time is (10) seconds and the number of coating process is repeated for 10 times. The spin coated films have been heat treated at temperature of 325°C , 350°C , 375°C, 400°C, 425°C, 450°C. The physical, optical and electrical properties of the prepared FTO films have been studied to use in the fabrication of DSSCs (dye sensitized solar cells).

Key words: Spin Coating- Fluorine doped tin oxide thin films- dye sensitized solar cells

^{*} Lecturer, Dr., Department of Physics, Yangon University of Education