

Preparation of multi-component thin film by facing target sputtering system

Kyung Hwan Kim

경원대학교 전기공학과

AIZTO (Al-In-Sn-ZnO) thin film was deposited on glass substrate at room temperature by facing target sputtering (FTS) system. The FTS system was designed to array two targets facing each other. Two different kinds of targets were installed on FTS system. We used the ITO (In₂O₃ 90wt%, SnO₂ 10wt%) target and the AZO (ZnO 98wt%, Al₂O₃ 2wt%). AIZTO films were deposited in each of the applied power of the targets.

The electrical and structural properties of the as-deposited AIZTO thin films were then examined by hall-effect measurement, and by using atomic force microscope (AFM), X-ray diffractometer (XRD), and energy dispersive x-ray spectroscopy (EDX). The optical property was measured by an UV-VIS spectrometer.