

Poster Presentation

## [AMDp1]Oxide TFTs

Thu. Nov 28, 2019 10:40 AM - 1:10 PM Main Hall (1F)

---

10:40 AM - 1:10 PM

### [AMDp1-25L]Photo-induced instability behaviors of IGZO TFTs caused by the reversible charge trapping

\*ChangBum Park<sup>1</sup>, Ji Xiang Gong<sup>1</sup>, Martin S<sup>1</sup> (1. China Star Optoelectronics Semiconductor Display Technology (China))

Keywords:IGZO transistor (TFT), photo-irradiation, charge trapping

*Photo-induced instability phenomena were investigated in IGZO TFT. The photo-responsivity behaviors attributed to the induced gate bias reveal that, resulting from their substantial trapping feature, photo-carriers (electrons and holes) activated in IGZO solid contribute differently to the negative shift  $V_{th}$  of the device. The bidirectional switching behavior under photo-irradiation also clearly indicates that the hysteresis enhancement predominantly comes from the long-lived reversible charge effect (holes) in n-type devices.*