
Poster Presentation

[AMDp1]Oxide TFTs

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[AMDp1-19L]Transparent AMOLED Display Derived by Metal Oxide Thin Film Transistor with Praseodymium Doping

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Praseodymium-doped indium zinc oxide (Pr:IZO) have been employed as the channel layer of thin film transistors (TFTs). The TFTs with Pr doping exhibited a remarkable suppression of the light induced instability. A negligible photo-response and remarkable enhancement in negative gate bias stress under illumination (NIBS) were achieved in the Pr:IZO TFTs. Meanwhile, the Pr:IZO TFTs showed reasonable characteristics with a high field effect mobility of 18.4 cm²/Vs, SS value of 0.15 V/decade, and I_{on}/I_{off} ratio of 10⁸. A prototype of fully transparent AMOLED display was successfully fabricated to demonstrate the potential of Pr-doping TFTs applied in transparent devices.