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Poster Presentation

## [AMDp1]Oxide TFTs

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

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10:40 AM - 1:10 PM

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

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Keywords:thin film transistor, metal oxide, Praseodymium doping, transparent display

*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 cm<sup>2</sup>/Vs, SS value of 0.15 V/decade, and  $I_{on}/I_{off}$  ratio of 10<sup>9</sup>. A prototype of fully transparent AMOLED display was successfully fabricated to demonstrate the potential of Pr-doping TFTs applied in transparent devices.*