

High Efficiency Organic Light Emitting Diodes

Tech ID: 23494 / UC Case 2013-001-0

INNOVATION

Professor Qibing Pei and colleagues at the UCLA Department of Materials Science and Engineering have developed a novel approach to fabricating organic light emitting diodes (OLEDs) using transparent composite electrodes, that greatly increases their emission efficiency. The new OLEDs are highly flexible and are at least twice as efficient as comparable OLEDs fabricated on ITO/glass. These new techniques can be used to produce higher-efficiency OLEDs more economically, which are becoming increasingly prevalent in medical devices, smartphones, and other portable electronics.

APPLICATIONS

- ▶ OLED lighting
- ▶ Lower-cost displays
- ▶ Stretchable displays

ADVANTAGES

- ▶ Yields OLEDs that are highly flexible
- ▶ OLED emission efficiency increased by 100%
- ▶ Fabrication method compatible with low-cost processes

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,490,454	11/08/2016	2013-001

RELATED MATERIALS

- ▶ Li L, Yu Z, Hu W, Chang C, Chen Q, and Pei Q. Efficient flexible phosphorescent polymer light-emitting diodes based on silver nanowire-polymer composite electrode. Adv. Mater. 2011, 23, 5563-7.

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OTHER INFORMATION

KEYWORDS

OLED, organic electronics, thin-film

lighting, stretchable electronics,

cleantech

CATEGORIZED AS

- ▶ Optics and Photonics
 - ▶ All Optics and Photonics
- ▶ Computer
 - ▶ Hardware
- ▶ Materials & Chemicals
 - ▶ Chemicals
 - ▶ Composites
- ▶ Nanotechnology
 - ▶ Electronics
 - ▶ Materials

RELATED CASES

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