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## Novel Quantum Dot Field-Effect Transistors Free of the Bias-Stress Effect

Tech ID: 24860 / UC Case 2015-323-0

### BRIEF DESCRIPTION

Novel quantum dot field-effect transistors without bias-stress effect that also have high mobility and are environmentally stable.

### FULL DESCRIPTION

When a quantum dot (QD) field-effect transistor (FET) is turned on in n-channel or p-channel mode, the established drain-source current rapidly decreases from its initial magnitude in a stretched exponential decay, resulting in the bias-stress effect. This instability associated with bias-stress precludes technological applications of QD FETs, e.g., in flexible displays or chemical sensing. Researchers at the University of California, Irvine have developed novel QD FETs that eliminate this instability thus allowing the use of QD FETs in displays for TVs, tablet, phones, and more.

### PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,224,422	03/05/2019	2015-323

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### OTHER INFORMATION

#### KEYWORDS

Quantum dots, Field effect transistors, displays, Bias-stress effect

#### CATEGORIZED AS

- » **Computer**
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2015-323-0

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