

Oral Presentation

[MEET2]EL Quantum Dots Technologies

Special Topics of Interest on Quantum Dot Technologies

Chair: Frank Yan (Fuzhou University)

Co-Chair: Jang Hyuk Kwon (Kyung Hee University)

Thu. Nov 28, 2019 5:20 PM - 6:40 PM Conference Hall (1F)

6:00 PM - 6:20 PM

[MEET2-3(Invited)]Ultra-Bright Quantum-Dot Light-Emitting Diodes

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Keywords: quantum dot, light-emitting diodes, device structures, ultra-bright, thermal management

Thermal stability of quantum dots (QDs) and thermal management of QD light-emitting diodes (QLEDs) could significantly affect the performance, especially the efficiency roll-off behaviors of QLEDs. With effective thermal management, the efficiency roll-off is significantly suppressed and consequently our developed green QLEDs exhibit an unprecedented high brightness of over 10^6 cd/m² at a current density of $J=3500$ mA/cm² and a external quantum efficiency of ~10%, which is an order of magnitude higher than that of all reported QLEDs.