

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Enhanced Electroluminescence and efficiency droop behavior of direct current aged InGaN-based light-emitting diodes TZUNG-TE CHEN, HAN-KUEI FU, CHIEN-PING WANG, SHIH-CHUN YANG, AN-TSE LEE, SHENG-BANG HUANG, MU-TAO CHU, Industrial Technology Research Institute, HAN-YU SHIH, YANG-FANG CHEN, National Taiwan University — The enhancement of electroluminescence from the various direct current aged InGaN-based light-emitting diodes (LEDs) is presented. It is found that the light output intensity of the aged LED shows an enhancement of about 150% at low driving current density compared with that of the original LEDs. The efficiency increases and the peak-efficiency-current shifts toward lower magnitude of the aged LEDs with increasing the stressing time. Since the EL enhancement issue is inherently an efficiency problem, the physics origin of the efficiency droop behaviors and the increased EL intensity could be highly related.

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Date submitted: 01 Dec 2009

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