

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Role of CNTs in inorganic electroluminescence JIN-YOUNG KIM, Sungkyunkwan Univ., SEGI YU, Hankuk Univ. Foreign Studies — Inorganic electroluminescence (EL) has been considered to be utilized in flat panel displays in the future. However, the progress of the display device utilizing EL phosphor is rather mild due primary to its low brightness, high voltage operation, and poor expectation lifetime. Carbon nanotubes (CNTs) has been focused in many areas since this material has a number of useful characteristics such as good chemical inertness, high aspect ratio, good thermal conductivity, and etc after the first observation by Dr. Iijima. By adopting (CNTs) in inorganic EL devices of ZnS-based powder phosphor, the performance of devices has improved substantially, i.e., high brightness but with reduced current density. The main reason for this improvement is considered to be caused by the strong local field near the end tips of CNTs. Further efforts have been poured to use the enhanced local field around CNTs but with an intention to maintain the low current density. The details will be posted in this poster and underlying mechanism for this phenomenon will be explained. Email: segiyu@hufs.ac.kr

SeGi Yu
Hankuk Univ. Foreign Studies

Date submitted: 19 Nov 2010

Electronic form version 1.4