

Abstract Submitted  
for the MAR07 Meeting of  
The American Physical Society

**Polarization Studies of PL from QD's Multi-Excitons** CHUN-YI HUNG, JUI-HUNG HSU, National Sun Yat-sen University — We study the multi-exciton emission from single CdSe/ZnS quantum dots. Fluorescence decay dynamics as well as bunching behaviors at various excitation fluence indicates the fast PL dynamics due to the relaxation from multi-exciton. The results show threshold energy level for multi-exciton generated from exciton states. At low excitation fluence, anti-bunching behavior, and nearly single exponential relaxation dynamics are observed. Above a certain threshold, additional fast relaxation and bunching behavior from the same QD indicates that the multi-step radiative cascade relaxation processes. In addition, polarization dependence of the fast relaxation dynamics will be reported.

Jui-Hung Hsu  
National Sun Yat-sen University

Date submitted: 26 Nov 2006

Electronic form version 1.4