

Abstract Submitted  
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**Magneto-photoluminescence studies of CdTe/CdSe/ZnS nanoparticles** Y.H. CHANG, C.C. HUANG, L.W. CHANG, C.H. HSU, Department of Physics, National Taiwan University, CHIH-WEI LAI, CHIEN-LIANG LIU, PI-TAI CHOU, Department of Chemistry, National Taiwan University, Y.W. SUEN, Department of Physics, National Chung Hsing University — Recently, the effect of the magnetic flux on the excitonic energy has received much attention. Optical Aharonov-Bohm was observed on negatively charged exciton in InGaAs/GaAs quantum ring as well as neutral exciton in type-II InP-GaAs heterostructure. In this talk we'll present our magneto-photoluminescence studies on the optical properties of CdTe/CdSe/ZnS system. The nanoparticles that were grown by chemical method have size of about 6 nm and the band alignment between the core (CdTe) and the shell (CdSe) is a type-II band alignment. The addition of ZnS layer is to passivate the surface of CdSe and to enhance the light emitting efficiency. Magneto-photoluminescence experiment was performed at  $T=1.4$  K with a 14 T superconducting magnet in conjunction with a green diode laser and a monochromator. Oscillation on the peak energy of the photoluminescence spectra as well as oscillation in the integrated intensity as a function of magnetic field were observed and are attributed to the optical Aharonov-Bohm-like effect.

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