Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Spectral dependence of the Aharonov Bohm effect in the magneto-photoluminescence of layered ZnTe-ZnSe structures BIDISHA ROY, Queens College of CUNY,The Graduate Center of CUNY, HAOJIE JI, SIDDHARTH DHOMKAR, Queens College of CUNY, The Graduate Center of CUNY, LE PENG, City College of CUNY, The Graduate Center of CUNY , RICHARD MOUG, City College of CUNY, UTTAM MANNA, Columbia University, MARIA TAMARGO, City College of CUNY, FRED CADIEU, Queens College of CUNY, IGOR KUSKOVSKY, Queens College of CUNY, The Graduate Center of CUNY — Aharonov-Bohm (AB) oscillations in the mangeto-photoluminescence (PL) intensity of multilayered ZnTe/ZnSe structures grown via migration enhanced epitaxy (MEE) using three submonolayer deposition cycles of Zn-Te-Zn sandwiched between ZnSe barriers confirmed the presence of type-II ZnTe-based QDs. These co-exist with isoelectronic centers (ICs) as evident from the PL spectra. The spectral dependence of the transition magnetic field and the magnitude of the AB oscillation in intensity are investigated. A qualitative probing of distribution in the ensemble of QDs and ICs was done. The transition magnetic field changed from a lower value at the lower energy side of the PL emission to a higher value at the higher energy side which confirmed the lateral QD size distribution. AB oscillations at spectral positions dominated by emission from ICs were also observed suggesting that the presence of QDs also affects the ICs although the magnitude of the oscillation in the AB peak decreases at such spectral positions.

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Date submitted: 11 Nov 2011 Electronic form version 1.4