

Abstract Submitted
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Effect of built-in electric field in stacked type-II ZnTe/ZnSe submonolayer quantum dots: enhancement and narrowing of Aharonov-Bohm oscillations¹ BIDISHA ROY, SIDDHARTH DHOMKAR, HAOJIE JI, Queens College of CUNY, MARIA TAMARGO, The City College of New York of CUNY, IGOR KUSKOVSKY, Queens College of CUNY — Robust and narrow Aharonov-Bohm (AB) oscillations were observed in both intensity and energy of the magneto-photoluminescence (PL) from stacked type-II ZnTe/ZnSe submonolayer quantum dots (QDs) grown via migration enhanced epitaxy. The narrowness and enhancement in the AB oscillations is a consequence of the built-in electric field in the system. Spectral analysis of cw magneto-PL and time-resolved PL suggest that the QD stacks size distribution is not large and thus broadening of the PL is possibly due to strong electron-phonon interaction as generally seen in bulk Zn-Se-Te systems.

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