

Abstract Submitted  
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**Photoluminescent Lifetime Measurements of Indium Gallium Arsenide Quantum Dot Structures Using Time-Correlated Single Photon Counting** SCOTT THALMAN, JOHN COLTON, Brigham Young University, HAEYEON YANG, Utah State University — We will be presenting the results of time-resolved photoluminescence measurements performed on self-assembled InGaAs quantum dot samples. The samples were grown by molecular beam epitaxy and annealed at high temperatures with some samples potentially forming quantum dot chains. Lifetimes were measured using the technique of “time-correlated single photon counting” (TCSPC). With a 30 fs pulsed Ti:Sapphire laser, a silicon avalanche photodiode detector and an Ortec fast digitizer we were able to achieve time resolution of 100 ps. After deconvoluting the measured data with our instrument response function, lifetimes of 0.6-0.9 ns were obtained.

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