

Abstract Submitted
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Temperature dependence of photoluminescence from a strained InGaAs/GaAs quantum well¹ MEAGAN SALDUA, TONI SAUNCY, Angelo State University — The goal of this project is to develop a model which best explains the temperature dependence of the photoluminescence (PL) emission from a single InGaAs quantum well. Due to lattice mismatch between the InGaAs and the GaAs substrates, the quantum well active region is under an approximately 1.3% compressive strain. The strain in the layer causes the temperature dependence of the photoluminescence to be complicated and unexplainable by standard bulk material relationships. Experimental measurements rule out the standard Varshni relationship for the PL temperature dependence, the most commonly used empirical equation. We will discuss luminescence data and initial model development

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