

Abstract Submitted  
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**Investigation of a strain generated internal field in an InGaAs/GaAs quantum well heterostructure**<sup>1</sup> KALEB GILBERT, JAMES MATTHEWS, SAUNCY TONI, Angelo State University — Piezoelectrically active InGaAs/GaAs quantum wells grown along the  $\langle 111 \rangle$  crystal axis have been investigated using temperature dependent photoluminescence spectroscopy. The goal of this work is to determine the temperature dependence of the internal electric field generated by strain within the quantum well layer as a function of temperature. Data was collected over a temperature range of 8-150 K; Excitation intensity was varied at each temperature using neutral density filters. By examination of the emission energy as a function of incident excitation power density, we have determined the electric field within the well at each temperature. An automated custom MATLAB code was developed to correct each data plot for system response. The temperature dependence of the internal field based on preliminary analysis is discussed

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Toni Sauncy  
Angelo State University

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