

Abstract Submitted
for the TSF10 Meeting of
The American Physical Society

The Growth and Characterization of PbTe/CdTe at Texas State University KEVIN DOYLE¹, KYOUNG-KEUN LEE², AMANDA GREGORY³, GOKUL RADHAKRISHNAN⁴, RAVI DROOPAD⁵, THOMAS MYERS⁶, Texas State University-San Marcos — The new Materials Science, Engineering, and Commercialization program at Texas State University (MSEC) has developed a state-of-the-art nine-chamber molecular-beam epitaxy (MBE) growth chamber for semiconductor growth, consisting of II-VI, III-V, and IV-VI compounds. We present the results of heteroepitaxial PbTe/CdTe growth doped with Tl that was characterized through a variety of techniques, including variable-field Hall measurement and quantitative mobility spectrum analysis. We report on the need for consideration of the anisotropy of the conduction and valence bands during analysis. By producing then analyzing these structures, MSEC can work to improve devices such as photodiodes and thermo-electrics for a wide variety of applications.

¹Visiting Scholar, MSEC

²Post-Doctoral Fellow, MSEC

³Graduate Student-Physics

⁴Post-Doctoral Fellow-Physics

⁵Professor-Physics

⁶Director-MSEC

Kevin Doyle
Texas State University-San Marcos

Date submitted: 28 Sep 2010

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