Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Growth of ZnSe/BeTe double-barrier quantum-well heterostructure on vicinal Si (100) surfaces by Molecular Beam Epitaxy EDUARDO MALDONADO, University of Texas at Arlington, KEVIN CLARK, SHWETA BHANDARU, WILEY KIRK — Growth of ZnSe/BeTe on arsenic passivated vicinal Si (100) substrates is reported with the intention to realize a double-barrier quantum-well structure. Such structures grown on GaAs have been reported by other research groups [1] and showed resonant tunneling at room temperature. In our case, the ZnSe/BeTe structure is grown on silicon via a $Zn_{0.06}$ $Be_{0.94}$ Te buffer layer that is lattice matched to GaAs. The silicon does not play an active role in the RTD behavior; it simply serves as a support layer for the entire structure. Reflection High Energy Electron Diffraction (RHEED) showed an epitaxial growth regime. [1] U.Lunz, M. Keim, G. Reuscher, F. Fischer, K. Schull, A. Waag, and G. Landwehr, J. Appl. Phys. **80**, 6329 (1996)

Eduardo Maldonado
University of Texas at Arlington

Date submitted: 30 Nov 2004 Electronic form version 1.4