Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

High Energy Intersubband Transitions in InAs/AlSb QWs DIANE LARRABEE, JUN KONO, Rice University, SHIGEHIKO SASA, YOJI NAKAJIMA, MASATO NAKAI, MASASHI FURUKAWA, MASATAKA INOUE, Osaka Institute of Technology — InAs/GaSb/AlSb heterostructures are a promising material system for intersubband optically-pumped applications due to their large conduction band offsets ($\sim$2 eV in InAs/AlSb). Applications include FIR generation and ultrafast all-optical switching at the communication wavelength of 1.55 μm. We have observed intersubband absorption at E_{12} up to 670 meV (1.85 μm) in 2.1 nm Si-doped InAs/AlSb QWs. We have also attempted THz generation by difference frequency mixing in resonant InAs/AlSb asymmetric double quantum wells.

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Date submitted: 01 Dec 2004 Electronic form version 1.4