

# NONPARABOLIC CONDUCTION SUBBANDS IN InGaAs/InAlAs MULTI-QUANTUM WELLS WITH PHOTOCURRENT AND TRANSMISSION MEASUREMENT

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## Abstract

Optical interband transitions of p-i-n and modulation-doped  $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}/\text{In}_{0.52}\text{Al}_{0.48}\text{As}$  multi-quantum wells structures were clearly observed in photocurrent and transmission spectra. Steps of the transitions coincided between both spectra. Effective masses of conduction subbands were estimated in fitting the transition energies to an effective mass equation. The masses of modulation-doped multi-quantum wells agreed with undoped multi-quantum wells in p-i-n junctions. In normal to the quantum well plane, the effective mass was more 75%-heavier than the bulk bandedge mass of InGaAs at a top of the quantum wells.