Thesis Title Calculation of temperature dependence of transition energy

for quantum well structure

Student Mr.Bunjong Jukgoljun

Student ID 45064004

Degree Master of Science

Program Applied Physics

Year 2007

Thesis Advisor Assoc.Prof.Wichan Techitdheera

Thesis Co-Advisor Assoc.Prof.Dr.Wisanu Petcharapa

ABSTRACT

In this thesis, the transition energy of electron for quantum well structure semiconductor from hh1 energy level in valence band to e1 energy level in conduction band was studied. The numerical method is employed for determination of the ground state energy in each subband based on Schrödinger's equation and consequently energy transition value. The temperature-dependent numerical values were calculated using the Passler's method with the condition of the temperature dependence. The results are also based on both infinite and finite square wells.