

Abstract Submitted  
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**Absorption coefficient computation for triple delta-doped wells in AlGaAs / GaAs in presence of electric and magnetic fields.**<sup>1</sup> ERIKA CECILIA CARRILLO TREJO, JUAN CARLOS MARTNEZ OROZCO, ANTONIO DEL RO DE SANTIAGO, Autonomous University of Zacatecas — The optoelectronic properties of nanostructured quantum systems are of great interest both from the point of view of basic physics and for their potential applications, specifically in recent times there is much interest in systems that operate in the terahertz region. In this case, the intersubband transitions of the semiconductor quantum wells based on the AlGaAs / GaAs heterostructure, due to the band offset, are precisely in this range. So in this work we present the calculation of the electronic structure, and the intersubband absorption coefficient for a triple delta-doped well as a function of electric and magnetic fields applied in the growth direction and in-plane, respectively. We found that the asymmetry in the considered charge carrier densities, which produce the profile, and the electromagnetic fields allow appreciable changes in both, the magnitude and in the location of the resonant peaks of the absorption coefficient. Thanks to the SEP-CONACyT A1-S-8842 project.

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