

Hot wall epitaxy에 의해 성장된 HgCdTe 에피레이어의 광전기적 특성  
Opto-electrical properties for a HgCdTe epilayers grown by hot wall epitaxy

홍광준  
조선대학교 물리학과  
(kjhong@mail.chosun.ac.kr)

Hg<sub>1-x</sub>Cd<sub>x</sub>Te (MCT) was grown by hot wall epitaxy. Prior to the MCT growth, the CdTe (111) buffer layer was grown on the GaAs substrate at the temperature of 590 °C for 15 min. When the thickness of the CdTe buffer layer was 5 μm or thicker, the full width at half maximum values obtained from the x-ray rocking curves were found to significantly decrease. After a good quality CdTe buffer layer was grown, the MCT epilayers were grown on the CdTe (111) /GaAs substrate at various temperatures *in situ*. The crystal quality for those epilayers was investigated by means of the x-ray rocking curves and the photocurrent experiment. The photoconductor characterization for the epilayers was also measured. The energy band gap of MCT was determined from the photocurrent measurement and the x composition rates from the temperature dependence of the energy band gap were turned out.