

저온 성장법을 이용한 ZnO 나노막대 성장 및 버퍼층의 영향 연구

탁영조, 용기중*

포항공과대학교

(kyoung@postech.ac.kr*)

We characterized the properties of ZnO nanorod array fabricated on Si wafer using a low temperature solution method. For ZnO nanorod growth, we prepared ZnO buffer layer coated silicon substrates using metalorganic chemical vapor deposition and sputter-oxidation method. Aligned ZnO nanorod was deposited on the substrate by hydrothermal treatment in the zinc salt and ammonia aqueous solution. The growth temperature was 90 °C. Prepared ZnO nanorod array was characterized by scanning electron microscopy (SEM), X-ray diffraction (XRD), X-ray photoelectron spectroscopy (XPS), Raman spectroscopy and photoluminescence (PL) spectroscopy. Also, we studied annealing effects on the ZnO nanorod properties.