

Characterization of ZnO nanorod array fabricated on Si wafer by low temperature synthesis method

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We characterized the properties of ZnO nanorod array fabricated on Si wafer using a novel low temperature solution method. For ZnO nanorod growth, we prepared ZnO thin buffer layer coated silicon substrate using sputtering method. ZnO nanorods were grown on the ZnO buffer coated silicon substrate by hydrothermal treatment in the zinc salt and ammonia aqueous solution. The growth temperature was 90°C. Prepared ZnO nanorod array were characterized by scanning electron microscopy (SEM), X-ray diffraction (XRD). We also investigated the growth behavior of ZnO nanorod upon the buffer layer annealing.