

AlN 버퍼층위에 성장된 다결정 3C-SiC 박막의 라만 특성

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Raman characteristics of polycrystalline 3C-SiC thin films grown on AlN buffer layer

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Abstract : This paper presents the Raman scattering characteristics of poly (polycrystalline) 3C-SiC thin films deposited on AlN buffer layer by atmospheric pressure chemical vapor deposition (APCVD) using hexamethyldisilane (MHDS) and carrier gases (Ar + H₂). The Raman spectra of SiC films deposited on AlN layer of before and after annealings were investigated according to the growth temperature of 3C-SiC. Two strong Raman peaks, which mean that poly 3C-SiC admixed with nanoparticle graphite, were measured in them. The biaxial stress of poly 3C-SiC/AlN was calculated as 896 MPa from the Raman shifts of 3C-SiC deposited at 1180 °C on AlN of after annealing.

Key Words : Raman, polycrystalline 3C-SiC, AlN