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Raman spectra of strained bilayer graphene DUHEE YOON, SUNYOUNG JEGAL, YUJIN CHO, Department of Physics, Sogang University, Seoul 121-742, Korea, YOUNG-WOO SON, Korea Institute for Advanced Study, Seoul 130-722, Korea, HYEONSIK CHEONG, Department of Physics, Sogang University, Seoul 121-742, Korea — In the Raman spectra of strained single layer graphene, modified electron and phonon dispersions result in the splitting of the double resonance 2D Raman band. It originates from significant changes in the resonant conditions owing to both the distorted Dirac cones and anisotropic modifications of the phonon dispersion under uniaxial strains [D. Yoon et al., Phys. Rev. Lett. **106**, 155502 (2011)]. In unstrained bilayer graphene, the Raman 2D band consists of 4 Lorentzian peaks corresponding to the double resonance Raman scattering processes between the two conduction bands and the two valance bands. Under uniaxial strain, each of the four peaks in the Raman 2D band. We examined the polarization behaviors of the split 2D band and analyzed using a model similar to the one used for single layer graphene.

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