

Abstract Submitted
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Raman measurements of graphene in magnetic fields SEBASTIAN REMI, ANNA SWAN, BENNETT B. GOLDBERG, Boston University — Electron phonon interactions in graphene are effectively measured using Raman spectroscopy. For example the G-Band of graphene grown on SiC shows characteristic anticrossings when tuning an external magnetic field exactly at the resonances between the G-Band phonon and the electronic Landau Levels. We measure the micro Raman spectra of mechanically exfoliated graphene lithographically prepared as field effect devices. Unlike prior high magnetic field studies, this provides charge tunability and allows simultaneous Raman and transport measurements under variable B-field. Our initial results show a Landau Level dependent splitting of the G-band for magnetic fields $B > 10\text{T}$. We present our latest results of studies of the Raman G and 2D Band and single and bilayer graphene at $T=4.2\text{K}$ and fields to 12T .

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