

Abstract Submitted  
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**Neutron Scattering Studies of Graphene** ALICE ACATRINEI, ZHI-JUN LIN, LUKE DAEMEN, Los Alamos National Laboratory, LANSCE, Lujan Neutron Scattering Center — We synthesized graphene by thermal exfoliation at 500 deg C. The material is nanosize, as confirmed by TEM/SEM, with flake transverse dimensions 50-100 nm. We present the first detailed measurement of the vibrational Spectrum of both graphene and graphite using INS, along with a neutron Scattering study of hydrogen adsorbed on graphene. Our measurements were collected at 10K using the Filter Difference Spectrometer (FDS) at Lujan Neutron Scattering Center, Los Alamos National Laboratory.

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