Cyclotron Resonance of Graphene-Boron Nitride Heterostructures

JORDAN RUSSELL, BOYI ZHOU, ERIK HENRIKSEN, Washington University in St. Louis — We have constructed an apparatus for performing Fourier-transform infrared magneto-spectroscopy on microscopic samples of atomically-thin materials. The design and operation of the instrument will be presented, along with initial observations of the infrared cyclotron resonance in a 200 μm² sample of boron nitride-encapsulated monolayer graphene in magnetic fields up to 11 T. Additionally we will report on progress toward the goal of performing spectroscopy on the Hofstadter butterfly state in graphene-hBN moire superlattices.

Jordan Russell
Washington University in St. Louis