A Low Pressure Graphene Epitaxy on Cu from Activated Solid Amorphous Carbon

Manz, Noah

Graphene and Carbon nano-materials are amongst the most exciting materials of the next decades. Graphene’s superbly low resistivity and extraordinary strengths characteristics give it tremendous potential to reinvent outdated technologies. However, while evocative, the current boundaries to developing these systems lie in the ability to successfully and reliably produce the material. In this study, the possibility of low pressure, H2 excluded Graphene synthesis on Cu foil from amorphous Carbon was investigated as a means to environmentally aware, large-scale monolayer Graphite production. The experimental results were characterized via Raman spectroscopy. Carbon precipitate was identified, though the presence of monolayer Carbon was not confirmed. Spectra of post-growth Cu catalyst surfaces showed interesting and unexpected Raman scattering at ˜3250cm-1.

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