Graphene nanoribbons and flakes produced from graphite in solution

GABRIEL SETZLER, L.K.K.D CHAMATH, ZHIXIAN ZHOU, Wayne State University — We developed a method to fabricate graphene nanoribbons and flakes from graphite in solution without covalent chemical functionalization. Atomic force microscopy (AFM) was used to characterize individual graphene samples deposited onto Si/SiO₂ substrates. Few layer (and possibly monolayer) graphene sheets were observed, including micron size graphene flakes and nanoribbons with very high aspect ratios. Possible mechanisms of graphite exfoliation and graphene nanoribbon formation will be discussed.