Nano-Scale Movement Induced In Graphene Ripples by Multi-Probe Microscopy

Mona Alyobi[1,2],Chris Barnett[1], Richard Cobley[1]
[1]College of Engineering, Swansea University, Swansea, UK
[2]College of science, Taibah University, Medina, Kingdom of Saudi Arabia
609349@swansea.ac.uk

***Abstract*— An Omicron low temperature multi-probe technique is used for manipulation of mechanically exfoliated suspended and attached graphene sheets on SiO_2 substrates. Scanning electron microscopy (SEM) and Raman spectroscopy are used to detect the graphene sheets and determine their thicknesses and quality, respectively. The interaction of the etched tungsten tip with the graphene is used to lift and release the sheet and induce artificial ripples. Both suspended and attached sheets onto the substrates show different behaviour in response to bias voltage.**

***IndexTerms*: graphene,multi-probe microscopy, ripples.**

IJARE