

Abstract Submitted
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Features of electrostatic landscape on graphene surfaces IRMA KULJANISHVILI, Department of Physics & Astronomy, Northwestern University, DMITRIY DIKIN, Department of Mechanical Engineering, Northwestern University — Electronic inhomogeneities in graphenes on the substrate are important for understanding the limiting factors for future device applications. One can study the length scale and distribution of potentials on single or few layers graphene sheets with local probe methods. We employ scanning probe imaging techniques such as AFM and EFM in ambient conditions and scanning electron microscopy for correlating studies of topological and electrostatic variations in a variety of mechanically cleaved graphenes and chemically modified graphene sheets. Enhanced contrast in phase signal, that is tunable via tip-substrate bias, indicates variations in the potential distribution which differ from the topographic landscapes. The nature of these structures has yet to be explored. Authors would like to thank for graphene oxide samples provided by L. Cote, J. Huang (MSE, Northwestern University).

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