

PROCEDURE FOR THE PREPARATION OF GRAPHENE SAMPLES USING PMDS STAMPS

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Single layer graphite (graphene) is a two-dimensional conductor with very unusual electronic properties. In particular, its electrons behave as if they were massless, relativistic fermions. Graphene is a semimetallic conductor that presents ballistic conduction even at room temperature and its transport properties can be controlled by an external electric field applied with a gate electrode, which makes graphene very attractive for future electronic applications.

Graphene can be prepared using a micromechanical cleavage procedure as described by Novoselov et al^[1]. In this poster we present a new procedure for the preparation of thin graphite films using PMDS stamps^[2].

Our technique focuses on getting samples with high density of flakes composed by few layer graphene (FLG). Utilization of PMDS stamps improves the quality of the samples by reducing the amount of impurities left on the samples during the procedure.

The characterization of these flakes has been done by an optical microscope and by atomic force microscopy (AFM) in both contact and tapping mode.

References:

[1] K.S. Novoselov et al. PNAS, vol. 102, no. 30, (2005) pag. 10451-10453.

[2] M.A. Meitl. et al. *Transfer printing by kinetic control of adhesion to an elastomeric stamp*. Nature Materials, vol.5 (Jan 2006) pag. 33-38.