

## Quantum Hall Effect in epitaxial graphene on off-axis (000-1) SiC

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In this presentation, we will discuss on different methods we have used in order to obtain good epitaxial graphene monolayers grown on SiC. Then, we will focus on one of the method, which gives promising results: using high temperature annealing conditions with a graphite cap covering the C-face of an 8° off-axis SiC sample, large and homogeneous single epitaxial graphene layers can be grown. Raman spectroscopy shows evidence of the almost free-standing character of these monolayer graphene sheets. Magnetotransport measurements confirm these results. We find moderate p-type dopings, high carrier mobilities, and half integer quantum Hall effect typical of high quality graphene samples. This opens the way to a fully compatible integration of graphene with SiC devices on wafers that constitute the standard in today's SiC industry. This is also promising for quantum metrology.

N. Camara et al., *Applied Physics Letters* **97**, 093107 (2010).