



**CENTER FOR NANOHYBRID
FUNCTIONAL MATERIALS**

**FRIDAY
JANUARY 18, 2013
3:00 – 5:00 PM
UNL - 237 SEC
SCOTT ENGINEERING CENTER**



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Shedding light on epitaxial graphene by spectroscopic ellipsometry techniques

New materials with superior transport properties are pursued to achieve further technological advances in high-speed and high-frequency electronics. High electron mobility transistor device structures based on epitaxial graphene on SiC hold great potential for THz frequency applications. Understanding the physical origin of the substantially different transport properties of epitaxial and free-standing graphene remains one of the major issues in the field and prevents further progress. The key point is to identify and control the substrate effects on graphene uniformity, thickness and carrier mobility. In this work we exemplify two different types of spectroscopic ellipsometry techniques to shed light on the properties of epitaxial graphene. We explore the properties of epitaxial graphene grown by high temperature sublimation on Si and C faces of home-grown 3C-SiC(111) bulk and the C-face of 6H SiC (0001) in relation to the substrate surface status, defects and polarity, and growth conditions.

Seminar hosted by Dr. Tino Hofmann, UNL Electrical Engineering Department



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