

Abstract Submitted
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Investigation of large-area graphene synthesized on palladium surface XIAOHONG AN, FANGZE LIU, Department of Physics, Northeastern University, YUNGJOON JUNG, Department of Mechanical and Industrial Engineering, Northeastern University, SWASTIK KAR, Department of Physics, Northeastern University, DEPARTMENT OF PHYSICS COLLABORATION, DEPARTMENT OF MECHANICAL AND INDUSTRIAL ENGINEERING COLLABORATION — We present a detailed study of large-area growth of graphene on palladium substrates. By studying the growth at different stages through appropriate variations of the temperature and time intervals of growth, and by investigating the growth at different regions of the metal substrate we have been able to observe a number of important properties of graphene growth on Pd surfaces. We have explored the nature of the as-synthesized graphene through a combination of electron microscopy and Raman spectroscopic analysis. Raman analysis of the graphene enables us to identify different kinds of as-synthesized graphene, including monolayer, turbostratic multi-layer, and mixed Bernal-turbostratic graphene layers. We further demonstrate a systematic study of the evolution of these different types of graphene as a function of temperature and growth-time.

Xiaohong An
Department of Physics, Northeastern University

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