

Abstract Submitted  
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**Structural and Electrical Properties of CVD and PECVD Grown Graphene** MICHELLE LANGHOFF, Missouri State University, Springfield, MO 65897, W. MITCHEL, Air Force Research Laboratory, AFRL/RXA, WPAFB, OH, E. GALLO, G. TOMPA, N. SBROCKEY, T. SALAGAJ, Structured Materials Inc, Piscataway NJ 08854, K. GHOSH, Missouri State University, Springfield, MO 65897 — There is a robust research effort on graphene due to its unique properties. While the ultimate goal of this research is to study the electrical properties of graphene, a multistep process of research is required to reach the point at which it is possible to make the necessary measurements. Graphene is typically grown using CVD on a copper substrate: this substrate has been found to offer the best results to date. Unfortunately, this requires the transfer to alternate, non-conducting, substrates in order to effect electrical measurements. This work seeks to determine the optimal transfer process of graphene using Raman spectroscopy and analyzing the prominence of the defect peak. Upon the success of the transfer, electrical properties are evaluated using AFM. This work will discuss the difference in growth quality between standard CVD growth and PECVD, evaluate the success of transfer to alternate substrates, and provide results from preliminary electrical measurements using AFM. We would like to acknowledge Structured Materials Industries Inc. for providing graphene samples.

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