

Abstract Submitted  
for the MAS17 Meeting of  
The American Physical Society

**Pristine Mica: substrate base for micro/nanotechnologies via gold deposition**<sup>1</sup> BRIAN EVANS, TYLER ADAMS, Lock Haven University Department of Chemistry, CHADD MILLER, INDRAJITH SENEVIRATHNE, Lock Haven University Department of Geology and Physics — Mica has many useful properties in the chemical and physics world. The ability of mica to be cleaved in layers to form pristine layers allows it to be an excellent substrate for micro/nanotechnologies via gold deposition. The smoother starting base provides a more consistent and precise base for the development of the film with minimal strain on the interface. Two different cleaving processes, Tape cleaving and Blade cleaving, were conducted to form pristine layers of mica. Tape cleaving utilized adhesive tape to peel apart the mica to reveal a fresh pristine layer. Blade cleaving utilized a Razor blade which was used to separate the layers of mica. The Atomic Force Microscope (AFM) in intermittent contact mode was used to image the surfaces. Measurements of surface roughness and consistency were obtained for each of the surfaces. These were compared in order to establish a set of rules to get better mica surfaces.

<sup>1</sup>Monetary support: Lock Haven University Nanotechnology Program, Lock Haven University Department of Chemistry, NSF STEM Awards 0806660 and 1058829, NSF MRI Award 0923047, PASSHE grant LOU 2010-LHU-03.

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Date submitted: 28 Sep 2017

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