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Gold Films and Coatings on Mica and Their Properties Studied Via Atomic Force Microscope (AFM)[1] TYLER ADAMS, BRIAN EVANS, Lock Haven University, Department of Chemistry, CHADD MILLER, INDRAJITH SENEVITATHNE, Lock Haven University, Department of Geology and Physics —
Gold thin films deposited via magnetron sputter on clean mica can yield a variety of different structures and there are many variables that can change these nanoscale films. Several processing procedures were used to understand changes in the thin films. The preparation of a mica substrate was one of the first things studied. A standard clean was conducted each time as well as cleaving by two methods to expose a fresh, clean surface of mica. Gold was then deposited through magnetron sputtering to yield clean, consistent, and smooth surfaces. The films were then imaged using the AFM to test the surface morphology and structure properties. This was used as a baseline and a set of procedures for future gold film deposition.

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