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Measuring Resistivity Change on Au (1,1,1) Thin Films and Installing an Argon Sputtering Device RYAN MCGUINNESS, DENNIS KUHL, Marietta College — We test the free electrons with random point scattering (FERPS) model by introducing dimethyl sulfide and dibutyl sulfide onto a gold (1,1,1) thin film in ultra-high vacuum and measuring resistivity both before and after dosing. Argon ion sputtering is used to ensure that the gold sample is clean prior to dosing. A temperature programmed desorption technique was used to look for adsorbates on the gold surface after dosing the sample. The FERPS model predicts an increase in resistivity. We have not detected an increase in resistivity of the thin film, but may have detected a decrease in resistivity when introducing dimethyl sulfide.

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