

Abstract Submitted
for the OSS07 Meeting of
The American Physical Society

Resistivity Change During the Growth of Thin Cu Films MEREDITH ROGERS, DENNIS KUHL, Marietta College — The resistivity of thin metal films during growth by vacuum thermal evaporation of Cu was studied. It is known that during the first stages of growth atoms gather in small islands that increase in size and eventually form conducting paths across the substrate. Once a continuous film is formed, the resistivity decreases as the film grows. As long as the thickness of the film is smaller than the mean free path, scattering events from the surface contribute significantly to the resistivity causing it to be well above the bulk value. Once the film thickness exceeds the mean free path, the resistivity approaches the bulk resistivity of Cu.

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Date submitted: 13 Apr 2007

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