

Abstract Submitted  
for the MAR10 Meeting of  
The American Physical Society

**The Morphology of Silver Layers on SU8 polymers prepared by Electroless Deposition**<sup>1</sup> ANIRUDDHA DUTTA, BIAO YUAN, HELGE HEINRICH, CHRIS GRABILL, HENRY WILLIAMS, STEPHEN KUEBLER, ANIKET BHATTACHARYA, University of Central Florida — Silver was deposited onto the functionalized surface of polymeric SU-8 where gold nanoparticles (Au-NPs) act as nucleation sites using electroless metallization chemistry. Here we report on the evolution of the nanoscale morphology of deposited Ag studied by Transmission Electron Microscopy (TEM). In TEM of sample cross sections correlations between the original gold and the silver nanoparticles were obtained while plan-view TEM results showed the distribution of nanoparticles on the surface. Scanning TEM with a high-angle annular dark field detector was used to obtain atomic number contrast. The morphology of the deposited Ag was controlled through the presence and absence of gum Arabic. The thickness and height fluctuations of the Ag layer were determined as a function of time and a statistical analysis of the growth process was conducted for the initial deposition periods.

<sup>1</sup>Supported by grant #0809821 from the National Science Foundation, Chemistry Division.

Aniruddha Dutta  
University of Central Florida

Date submitted: 24 Nov 2009

Electronic form version 1.4