

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

LEEM and STM studies of Ag on Ge (110)¹ BRET STENGER, CORY MULLET, MARSHALL VAN ZIJLL, EMILIE HUFFMAN, DYLAN LOVINGER, SHIRLEY CHIANG, University of California Davis — The growth of Ag deposited on Ge(110) was studied with low energy electron microscopy (LEEM) and scanning tunneling microscopy (STM). The LEEM studies showed the formation of long one dimensional islands as Ag was deposited above 430 °C. Island nucleation proceeded from defects in the Ge substrate. During deposition, the length of the islands increased while the width remained constant. The size and distribution of the islands was dependent on the substrate temperatures during deposition. At 480 °C, islands were 100 nm wide and 1-20 μm long at 9 ML of coverage. At 530 °C, islands were 200nm wide and 1-3 μm long at 9 ML of coverage. STM images showed that the islands were composed of Ag and that the surface regions between the islands exhibited a reconstruction which is characteristic of pure Ge.

¹Funded by NSF CHE-0719504 and NSF PHY-1004848.

Shirley Chiang
University of California Davis

Date submitted: 17 Nov 2011

Electronic form version 1.4