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**Growth of Au on Ge(110)**[1] ALEX DORSETT, BRET STENGER, MARSHALL VAN ZIJLL, CATRIANA PAW U[2], SHIRLEY CHIANG, University of California Davis — The clean Ge(110) surface is studied using Scanning Tunneling Microscopy (STM) to analyze potential sites for growth. The surface structure and growth mechanism of Au on Ge(110) is characterized with Low Energy Electron Microscopy (LEEM). Au is dosed at room temperature with approximately 0.5 monolayers (ML) of coverage. The temperature is increased up to 800C when the sample is imaged by LEEM As the temperature increases, the Au islands form into much larger one-dimensional structures, with all the islands growing along the same direction. This behavior is similar to that previously observed for Ag on Ge(110),[3] although the scale of the islands differs. As the temperature decreases, the island behavior is also studied and reveals rapid island contractions which leave traces on the Ge(110) surface.

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[3]Cory H. Mullet, Ph.D. Dissertation, UC Davis, 2012.

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