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Exploration of new methods for growing Ag films on Au(111) studied by ARPES DAH-AN LUH, National Central University, CHENG-MAW CHENG, National Synchrotron Radiation Research Center, CHI-TING TSAI, National Central University, KU-DING TSUEI, National Synchrotron Radiation Research Center — Ag/Au(111) thin films have attracted lots of interests as a model system in the past decades. Ag and Au are lattice-matched, and thin Ag films of very high quality are expected to grow on Au(111). However, the intermixing between Ag and Au at elevated temperatures has been a major concern during the growth of Ag films on the Au(111) surface. In many previous studies, Ag was deposited on the Au(111) surface at near room temperature to avoid the intermixing problem. Investigating the results from these studies, the Ag films on Au(111) grown by this recipe still show clear thickness variation. This thickness variation may result from Ag-Au intermixing or film roughening during the process of room temperature deposition. We are revisiting this classical model system with new growth methods. Our goal is to find growth methods that will stop the intermixing between Ag and Au and reduce the variation in the thickness of Ag films. Preliminary results from our study will be presented in this poster.

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