

Abstract Submitted  
for the OSS08 Meeting of  
The American Physical Society

**Low-Energy Electron Diffraction investigation of the clean, stepped Cu(511) surface** CHRISTOPHER LEMON, MELLITA CARAGIU, Ohio Northern University, RENEE DIEHL, KELLY HANNA, HSIN LI, RUNDONG WAN, Pennsylvania State University — Results of a Low-Energy Electron Diffraction (LEED) investigation of the clean, stepped Cu(511) surface are reported for two different sets of experimental data. The results show a good match between experimental and theoretical beams for one experimental set, but not so good in the case of the second set, in which case the results presented are only preliminary. The origin of the disparity is attributed to the angle of incidence of the electron beam probing the Cu(511) surface. Ideally, the electron beam would hit the surface under normal incidence, a situation hard to control due to the existence of only one symmetry plane of the real structure, which, in turn, gets translated into only one symmetry plane in the reciprocal space. The uncertainty in the angle of incidence together with computational problems arose by the very small interlayer spacing of the stepped sample [K. Pussi, M. Caragiu, M. Lindroos, R.D. Diehl, Surf. Sci. 544 (2003), 35], make the investigation of this particular surface challenging.

Mellita Caragiu  
Ohio Northern University

Date submitted: 05 Mar 2008

Electronic form version 1.4