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Sublimation of Atomic Layers from a Chromium Surface WACEK SWIECH, SHU-JUNG TANG, SUNEEL KODAMBAKA, IVAN PETROV, PETER FLYNN, TAI-CHANG CHIANG, University of Illinois at Urbana-Champaign — We employ low-energy electron microscopy to study the kinetics of thermal etching, or sublimation, of Cr(001) at ∼1100 K. Atomic layers are removed from the surface by spontaneous nucleation and growth of two-dimensional vacancy islands, by rotation of spiral steps, and by island decay. The growth rates of vacancy islands and the rotation frequencies of double spirals are measured as a function of temperature, and the results are correlated with activation barriers of surface processes. Mass transport between the surface and bulk is shown to be unimportant.

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