

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Far-from-equilibrium Ag-Cu thin-films on Cu(100) and Ag(100) substrates ANTONIO CADILHE, T-12 Group, MS B268, Los Alamos National Laboratory, Los Alamos, NM 87545, USA; GCEP-Centro de Fisica da Universidade do Minho, 4710 Braga, Portugal, NUNO A.M. ARAUJO, GCEP-Centro de Fisica da Universidade do Minho, 4710 Braga, Portugal; T-12 Group, MS B268, Los Alamos National Laboratory, Los Alamos, NM 87545, USA, A.F. VOTER, T-12 Group, MS B268, Los Alamos National Laboratory, Los Alamos, NM 87545, USA — We study the dynamics of multilayer, heteroepitaxial deposition of mixed incoming fluxes of Ag and Cu atoms and the corresponding post-deposition relaxation on Ag (100) and Cu (100) substrates. To this end, we carried out extensive temperature accelerated dynamics (TAD) simulations at different substrate temperatures to characterize the morphology of the resulting films. Depending on the flux of impinging atoms, the number of layers, and the substrate temperature, the system can exhibit kinetically trapped, far-from-equilibrium configurations. Complex multi-adatom moves, not usually accounted for in regular Monte Carlo simulations, have a non-trivial relevance in the dynamics.

T-12 Group, MS B268, Los Alamos National Laboratory, Los Alamos, NM 87545, USA; GCEP-Centro de F

Date submitted: 11 Dec 2007

Electronic form version 1.4