Abstract Submitted
for the GEC09 Meeting of
The American Physical Society

Feature Profile Simulator Algorithm Utilizing Finite Penetration Depth PAUL MOROZ, TEL US Holdings — Fast particles, such as ions or fast neutrals, coming to the material surfaces in plasma etch systems typically possess enough energy to penetrate many mono-layers into materials, leading to the volume-type reactions. This is very different from typical low-energy gaseous species that could interact only with the upper mono-layer. Our feature profile algorithm represents materials as consisting of cells. The cell size could vary from the smallest (containing a single atom) to a very large one containing many mono-layers of atoms. The penetration depth and energy loss in mono-layers is calculated for each fast incoming particle and is used in calculation of its fate and the following reaction mechanisms. Results obtained with the corresponding feature profile simulator FPS, currently, for 2D3V cases (two-dimensional in space with three velocity components of incoming particles) will be presented.

Paul Moroz
TEL US Holdings

Date submitted: 10 Jun 2009 Electronic form version 1.4