

Abstract Submitted
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Particle, Energy and Rovibrational Spectra of Molecules Chemically Sputtered of Carbon Surfaces¹ PREDRAG KRSTIC, CARLOS REINHOLD, Oak Ridge National Laboratory, STEVEN STUART, Clemson University — We perform classical molecular dynamics simulations of the chemical sputtering of deuterated amorphous carbon surfaces by deuterium atoms and molecules at impact energies from threshold to 50 eV/D. Particular attention is paid to the preparation of the target surfaces for varying impact projectile fluence, energy and species [1]. The spectra of hydrocarbon molecules C_xD_y , with x in range 1 to 5 are observed, and spectral distributions of their translational, rotational and vibrational energies are analyzed. Angular spectra of the sputtered molecules are also analyzed. Our results show good agreement with existing experimental data. [1] P. S. Krstic, C. O. Reinhold, and S. J. Stuart, Europhysics Letters 77, 33002(2007).

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