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Dependence of the chemical sputtering of deuterated carbon on the surface temperature[1] MOSTAFA JONNY DADRAS, University of Tennessee, PREDRAG KRSTIC, Oak Ridge National Laboratory — We study chemical sputtering of carbon irradiated by 1-30 eV deuterium atoms, in range of surface temperatures 300-1000 K. At each temperature and each impact deuterium energy a quasi-stationarity of the total carbon erosion is reached by cumulative bombardment. Dependence of the mass, energy and angular spectra of sputtered hydrocarbons, as well as density of the sp^3 and sp^2 moieties on the surface temperature are also studied. We compare our results with available experimental data on methane, acetylene and the total carbon sputtering.

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