

Abstract Submitted
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Creation of deuterium protective layer below the tungsten surface¹ PREDRAG KRSTIC, Stony Brook University, IGOR KAGANOVICH, EDWARD STARTSEV, Princeton Plasma Physics Laboratory — By cumulative irradiation of both pre-damaged and virgin surfaces of monocrystal tungsten by deuterium atoms of impact energy of few tens of eV, we simulate by classical molecular dynamics the creation of a deuterium protective layer. The depth and width of the layer depend on the deuterium impact energy and the diffusion rate of deuterium in tungsten, the latter being influenced by the tungsten temperature and damage. Found simulation results are in concert with the experimental results, found recently in DIFFER [1].

[1] M.H.J. 't Hoen et al 2013 , Phys. Rev. Lett. 111, 225001 (2013)

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