Abstract Submitted
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Exposure of lithium-coated molybdenum samples to intense pulsed plasmas[1] H. ORTIZ-URIBE, CICATA-IPN, S. JUNG, UIUC, M. NIETO-PEREZ, CICATA-IPN, D. RUZIC, UIUC — Plasma facing components in fusion reactors are exposed to high flux/high energy plasmas during both normal and abnormal operation of the device. With lithium-coated plasma facing components showing beneficial effects on reactor performance and molybdenum showing good chemical compatibility with it, the study of the Mo/Li system subject to intense plasmas is relevant to establish operational limitations on these surfaces. In this study, 304 stainless steel samples with a molybdenum coating deposited using air plasma spray (APS) were exposed to the intense plasma generated in the DevEX facility at the University of Illinois, with a typical density of 10^{15} cm^{-3} and an electron temperature of tens of eV. The effect of plasma exposure on these surfaces was studied by means of a triple Langmuir probe located near the exposed surface and optical emission spectroscopy techniques to determine plasma parameters such as density, temperature and impurity content on the plasma formed near the target.

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