

Abstract Submitted
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Effect of impurities on the thermo-oxidative removal of codeposits from DIII-D and JET divertor tiles¹ A.A. HAASZ, C. TSUI, J.W. DAVIS, University of Toronto, Inst. Aerosp. Studies — Results are presented for the thermo-oxidative removal of codeposits from DIII-D and JET divertor tiles. The DIII-D codeposits are relatively thin (1-2 μm) and contain B impurities (0-45%), while the JET codeposits are thick (up to $\sim 250 \mu\text{m}$) and contain up to $\sim 75\%$ Be. Erosion rates, D-removal rates and the remaining D content in the codeposits were measured as a function of (i) pressure (2.1-79 kPa), (ii) temperature (523-673 K), and (iii) oxidation time (15 min to 8 h). The DIII-D results show that for C-D codeposits with less than a few percent B, it is possible to remove $>95\%$ of the D content in the codeposit in 15 minutes. The D-removal rate decreases with higher levels of B concentration. Our first results for the ‘thick’ Be-containing JET codeposits suggest that the initial rate of D removal is much higher for these thicker codeposits than for the previously studied relatively ‘thin’ (1-2 μm) DIII-D and JET deposits. This is despite the large Be concentration. Implications for ITER will be discussed.

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