

Abstract Submitted
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Review of C-Be mixed material plasma experiments in PISCES-B¹ J. HANNA, D. NISHIJIMA, R.P. DOERNER, M. BALDWIN, K.R. UMSTADTER, R. SERAYDARIAN, R. HERNANDEZ, University California, San Diego — The current ITER design employs a Be first wall, and a W divertor with C strike points. ITER also calls for severe heat loads on these plasma-facing components. A beryllium-seeded deuterium plasma is used in PISCES-B to investigate mixed-material erosion and redeposition properties of ITER relevant divertor materials. Ongoing experiments using C samples in these Be-seeded deuterium plasmas will be reviewed. Of specific interest is the formation of beryllium carbide on the sample surface that effectively mitigates C chemical erosion. Changes in hydrogen retention in the samples due to mixed-material layer formation will also be discussed. Effects of transient heating of the samples to simulate surface temperature excursions on the carbide layer formation and hydrogen retention will also be presented.

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