

Abstract Submitted
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An Update on W I and W II Atomic Data for use in Erosion, Re-deposition, and Transport Studies¹ S.D. LOCH, D.A. ENNIS, C.J. FAVREAU, C.A. JOHNSON, Auburn University, C.P. BALLANCE, N. DULEAVY, Queen's University of Belfast — In support of tungsten experiments on DIII-D, we present a summary of the excited state ionization calculations for neutral W and recommend a set of rate coefficients for use in plasma modeling and diagnostics. For redeposition measurements, emission from higher charge states must also be used, so, we also report on a new *R*-matrix calculation for electron impact excitation of W^+ , comparing with spectral observations from the Auburn CTH experiment, as well as preliminary *R*-matrix with pseudostates calculations for the electron-impact ionization of W^+ and W^{2+} . Spectroscopic techniques to measure erosion, re-deposition, and transport for tungsten plasma facing components require accurate atomic data, with the near-neutral ion stages being the most critical. The available atomic data has been undergoing significant improvements in the past few years using large-scale quantal calculations. This work updates the progress on these calculations and reviews the current status.

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