

Abstract Submitted  
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**Measurements of W Erosion using UV Emission from DIII-D and CTH**<sup>1</sup> CURTIS JOHNSON, DAVID ENNIS, STUART LOCH, Auburn Univ, CONNOR BALANCE, Queen's Univ Belfast, BRIAN VICTOR, STEVE ALLEN, CAMERON SAMUELL, LLNL, TYLER ABRAMS, GA, EZEKIAL UNTERBERG, ORNL — of Plasma Facing Components (PFCs) will play a critical role in establishing the performance of reactor-relevant fusion devices, particularly for tungsten (W) divertor targets. Erosion can be diagnosed from spectral line emission together with atomic coefficients representing the 'ionizations per photon' (S/XB). Emission from W I is most intense in the UV region. Thus, UV survey spectrometers (200-400 nm) are used to diagnose W PFCs erosion in the DIII-D divertor and from a W tipped probe in the CTH experiment. Nineteen W emission lines in the UV region are identified between the two experiments, allowing for multiple S/XB erosion measurements. Initial W erosion measurements are compared to erosion using the 400.9 nm W I line. Complete UV spectra will be presented and compared to synthetic spectra for varying plasma conditions. Analysis of the metastable states impact on the S/XB will be presented as well as possible electron temperature and density diagnosis from W I line ratios. supported by USDOE grants DE-SC0015877 & DE-FC02-04ER54698.

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