

Abstract Submitted
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EUV Spectroscopy During the DIII-D Tungsten Divertor Campaign¹ S.L. ALLEN, B.S. VICTOR, P. BEIERSDORFER, E. MAGEE, V. SOUKHANOVSKII, M. WELLER, LLNL, S. LOCH, Auburn U., D. THOMAS, GA — Two toroidal rings of tungsten-coated tile inserts were installed in the DIII-D lower divertor and a range of L- and H-mode plasma discharges were compared during a dedicated two week run campaign. A high resolution (1340 spectral channels) variable-ruling grating spectrometer viewing the core of the plasma was used to study the spectral region 10-70 Å; a second spectrometer viewing $\sim 20 - 150\text{Å}$ was also used. At DIII-D core plasma temperatures 2-3 keV, several emission lines from W38+ through W43+ were identified, including a quasi-continuum feature of W near 50 Å whose structure depends on core T_e . Molybdenum (TZM substrate) emissions between 20-30Å and near $\sim 70\text{Å}$ were also observed. ADAS calculations are used to guide the identification of W emission lines for the measured core plasma T_e and n_e profiles. The behavior of W emissions during both benign, pellet injection, and impurity accumulation conditions will be presented.

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