Abstract Submitted
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Spectroscopic measurements and modeling of tungsten erosion in the DIII-D divertor[1] T.D. ABRAMS, R. DING, ORISE, H.Y. GUO, A.W. LEONARD, D.M. THOMAS, GA, S.L. ALLEN, A.G. MCLEAN, LLNL, A.R. BRIESEMEISTER, E.A. UNTERBERG, ORNL, C. CHROBAK, R.P. DOERNER, D.L. RUDAKOV, UCSD, J.D. ELDER, P.C. STANGEBY, UTIAS, W.R. WAMPLER, J.G. WATKINS, SNL — In situ time-resolved measurements of the gross W erosion rate have been performed in DIII-D by monitoring W/I (400.9 nm) emission in the divertor via a filtered camera and high-resolution spectrometer. The erosion rate of a thin W coating on DiMES, inferred via the S/XB method, was found to be $\sim$ 0.7 nm/s during deuterim L-mode exposure, in fair agreement with post-mortem IBA analysis but lower than REDEP/WBC modeling. During H-mode He bombardment of W disks, average erosion rates of $\sim$ 2.9 nm/s and $\sim$ 9.0 nm/s were estimated during the inter-ELM and intra-ELM phases, using ne and Te from divertor Thomson scattering and Langmuir probes. Results will also be presented from additional W erosion experiments in preparation for the DIII-D mini-campaign to measure high-Z transport in the edge plasma. Comparisons will be made with ERO modeling

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T. Abrams
Oak Ridge Institute for Science Education

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