Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

Extending Spectroscopic Capabilities for Mo PFC Erosion Rate Diagnostics[1] S.D. LOCH, D.A. ENNIS, M.S. PINDZOLA, C.A. JOHNSON, G.J. HARTWELL, D.A. MAURER, Auburn University, D.C. GRIFFIN, Rollins College, C.P. BALLANCE, Queen's University Belfast, M. REINKE, ORNL, B. LIPSCHULTZ, University of York, V. SOUKHANOVSKII, LLNL — The use of ionizations per photon coefficients (SXB) provides a useful means of measuring wall erosion rates. Two problems hindering the use of such diagnostics for high-Z materials are a lack of accurate atomic data and determining which lines from the complex spectral features should be used for accurate erosion measurements. We present a new approach for generating and selecting SXB coefficients for high-Z materials. The theoretical spectra show strong agreement with spectra from the Alcator C-Mod and Compact Toroidal Hybrid experiments. Mo II spectral features are identified, including a line ratio suitable for electron temperature measurements which constrains the SXB implementation. Applications of the new SXBs to NSTX-U edge plasmas is described and future plans for Mo and W influx diagnostics are outlined.

[1]Work supported by US DoE Cooperative agreement DE-FC02-99ER54512 at MIT using the Alcator C-Mod tokamak, a DOE Office of Science user facility. This work is also supported by US Department of Energy Grant No. DE-FG02-00ER54610 to Auburn University

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Date submitted: 23 Jul 2015 Electronic form version 1.4