replacing DPP17-2017-001283
I'd like my presentation to be scheduled in the same session as:
Dwaipayan Dasgupta, Sophie Blondel, Jon Drobny and Ane Lasa

Abstract Submitted
for the DPP17 Meeting of
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GITR Simulation of Helium Exposed Tungsten Erosion and Redistribution in PISCES-A[1] T.R. YOUNKIN, University of Tennessee, D.L. GREEN, Oak Ridge National Lab, R.P. DOERNER, D. NISHIJIMA, University of California, San Diego, J. DROBNY, University of Illinois, J.M. CANIK, Oak Ridge National Lab, B.D. WIRTH, University of Tennessee — The extreme heat, charged particle, and neutron flux / fluence to plasma facing materials in magnetically confined fusion devices has motivated research to understand, predict, and mitigate the associated detrimental effects. Of relevance to the ITER divertor is the helium interaction with the tungsten divertor, the resulting erosion and migration of impurities. The linear plasma device PISCES A [1] has performed dedicated experiments for high (4x10ˆ22 m-2s-1) and low (4x10ˆ21 m-2s-1) flux, 250 eV He exposed tungsten targets to assess the net and gross erosion of tungsten and volumetric transport. The temperature of the target was held between 400 and 600 degrees C. We present results of the erosion / migration / re-deposition of W during the experiment from the GITR (Global Impurity Transport) code coupled to materials response models. In particular, the modeled and experimental W I emission spectroscopy data for the 429.4 nm wavelength and net erosion through target and collector mass difference measurements are compared. Overall, the predictions are in good agreement with experiments. [1] R.P. Doerner Nucl. Fusion **52** (2012)

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