

Abstract Submitted  
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**Evaluating localized surface erosion from rf-sheath interactions in JET with an ITER-like wall** C.C. KLEPPER, A. LASA, ORNL, D. BORODIN, A. KIRSCHNER, FZ-Juelich, M. GROTH, Aalto Univ., P. JACQUET, CCFE Culham, V. BOBKOV, IPP-Garching, L. COLAS, CEA, IRFM, JET CONTRIBUTORS TEAM — The presence of ion cyclotron resonance frequency (ICRF) heating antennas in JET, presently with an ITER-like Wall (ILW) allows for experimental validation of models for ITER-relevant, ICRH-specific plasma-wall interactions (RF-PWI). Spectroscopic access to neutral and singly ionized beryllium light emission at outboard poloidal limiters in JET-ILW, combined with sequential antenna toggling, led recently to observation of RF-PWI, in the form of enhanced spectral line emission, at limiter spots with  $\sim 3\text{m}$  magnetic field-line connection to an active antenna [1]. More recently, the measured, locally enhanced Be sources were simulated with an added sheath potential term in the ERO erosion code to account for the RF-PWI [2, 3], leading to good agreement with experiment in terms of relative increase ( $\sim 2\text{x}$ - $3\text{x}$ ) in light emission. Furthermore, the added potentials are well in the range of estimated DC RF sheath potentials arising for rectification of near-fields in the SOL. The main uncertainty in absolute Be surface erosion comes from the uncertainty in the local plasma parameters, which are extrapolated to the far-SOL with the aid of edge plasma modelling [3]. Plans for improved measurements in upcoming JET-ILW experimental campaign will be included in this presentation.

[1] C.C. Klepper et al., J. Nucl. Mater. 438 (2013) S594–S598; [2] A. Lasa, same conference; [3] C. C. Klepper et al., PFMC-15, Submitted.

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