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Category Number and Subject:

Theory Experiment

Target Plate Particle and Power Flux During ELM Suppression Experiments on DIII-D,* J.G. Watkins, *Sandia National Laboratories*, T.E. Evans, C.J. Murphy, M.J. Schaffer, *General Atomics*, M. Jakubowski, O. Schmitz, *FZ-Julich*, C.J. Lasnier, *Lawrence Livermore National Laboratory* – Radial profiles of target plate plasma conditions measured with Langmuir probes during ELM suppression using n=3 resonant magnetic perturbations [1] have been compared with IRTV heat flux profiles and “fast” thermocouples embedded in the divertor tiles. During ELM suppression, J_{sat} and T_e increase and the J_{sat} profile broadens compared to profiles measured between ELMs. An observed three-peak structure appears during ELM suppression and agrees with the spacing and q_{95} dependence predicted by the TRIP3D code. The heat flux calculated from Langmuir probe data (using sheath factor =10 to agree with IRTV) is observed to increase 2x during ELM suppression compared to between ELMs before the RMP is turned on. Global power and particle accounting as well as sheath power transmission at the target plate will be examined.

[1] T.E. Evans, et al., *Phys. Rev. Lett.* **92** (2004) 235003.

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