

**Abstract Submitted for the Forty-Ninth Annual Meeting  
Division of Plasma Physics  
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Category Number and Subject: 5.6.2. DIII-D Tokamak

Theory      Experiment

**Target Plate Profiles During ELM Suppression Experiments on DIII-D,\*** J.G. Watkins, *SNL*, T.E. Evans, C. Murphy, *GA*, M.J. Martin, *Cornell U.*, A. Nelson, *U. of St Thomas*, M. Jakubowski, *KFZ-Juelich*; I. Joseph, R.A. Moyer, *UCSD*, C.J. Lasnier, M.E. Fenstermacher, *LLNL* – Radial profiles of target plate plasma conditions during ELM suppressed conditions have been measured with the new DIII-D lower divertor Langmuir probe array. ELM suppression was accomplished using  $n=3$  resonant magnetic perturbations [1]. Evidence of the  $n=3$  mode structure of the perturbation can be seen most clearly in the  $V_f$  profile on the target plate. The spacing of the multiple peaks in the  $V_f$  profile is similar to predictions of the TRIP3D field line integration code.  $T_e$  values  $>100$  eV and  $V_f$  values down to  $-150$  V were measured. We observe resonant behavior of the target plate parameters near the  $q_{05}$  value for maximum magnetic perturbation. Heat flux from the Langmuir probe measurements will be compared with infrared cameras and thermocouples. The resulting sheath power transmission factor profile will be shown.

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

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