

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

Theory Experiment

Divertor Target Plate Measurements With the New DIII-D Langmuir Probe Array,* J.G. Watkins, *SNL*, D. Taussig, R.L. Boivin, T.E. Evans, T.W. Petrie, M.A. Mahdavi, *GA*, A. Nelson, *U. St. Thomas*, I. Joseph, R.A. Moyer, *UCSD*, C.J. Lasnier, M.E. Fenstermacher, M. Groth, *LLNL* – A new Langmuir probe array with higher power handling capability was installed in the DIII-D lower divertor. The new pyrolytic graphite probes have 100X larger mass than the previous design that increases the total energy capacity for longer plasma pulses, a fixed 12.5 degree surface angle for more uniform heat flux, and a symmetric “rooftop” design to allow operation with reversed toroidal field. The 4 mm wide probes are located 1.5 cm apart near the pumping baffle entrance for improved spatial resolution and 3 cm apart on the shelf above the pump. Target plate profiles, of n_e , T_e , and I_{sat} at high spatial resolution during radiative divertor and ELM suppression experiments, which use strong divertor pumping, will be shown.

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