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**Scaling of Density and Temperature Gradients in the DIII-D Divertor,**<sup>1</sup> J.G. WATKINS, D.A. BUCHENAUER, Sandia National Laboratories, D.N. HILL, G.D. PORTER, Lawrence Livermore National Laboratories, T.N. CARLSTROM, General Atomics, J.W. CUTHBERTSON, R.A. MOYER, University of California, San Diego — Using new divertor and SOL diagnostics, such as the vertically scanning divertor reciprocating Langmuir probe<sup>2</sup> and divertor Thomson scattering,<sup>3</sup> scaling of density and temperature in the divertor with total input power and core density can now be measured at different points along the field lines leading into the divertor plates on DIII-D. Detailed divertor plate profiles of  $n_e$  and  $T_e$  can be obtained by spatially normalizing fixed single probe data to the location of a moving strike point. The change in radial profiles with distance from the target plate along the outer divertor leg can be compared with predictions of SOL models. A midplane reciprocating probe and Thomson scattering system provides data further upstream. To compare with established divertor models, the present survey will focus on plasmas without deliberate enhancement of divertor radiation levels.

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<sup>2</sup>J.G. Watkins, Rev. Sci. Instrum. (1996).

<sup>3</sup>T.N. Carlstrom, Rev. Sci. Instrum. (1996).

Prefer Oral Session  
 Prefer Poster Session

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