

Abstract Submitted  
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**Response of DIII-D Discharges in ITER Baseline Scenario Regime to Incremental Heating Power<sup>1</sup>** R.I. PINSKER, G.L. JACKSON, D.C. PACE, GA, B.A. GRIERSON, J.C. HOSEA, A. NAGY, R. PERKINS, W.M. SOLOMON, G. TAYLOR, PPPL, M. PORKOLAB, MIT, M.E. AUSTIN, UT-Austin, S. DIEM, P.M. RYAN, ORNL, F. TURCO, Columbia U. — Experiments on DIII-D have been performed in which discharges in the ITER Baseline Scenario regime have been perturbed with 1-2 MW of additional heating power. With a base of  $\sim 3$  MW of neutral beam (NB) power, incremental electron cyclotron heating (ECH), fast waves (FWs) at 90 MHz and 60 MHz, or additional NB power has been introduced into a quasi-stationary phase of the flattop. The responses of the thermal profiles, D-D neutron rate, total stored energy, etc. to the different forms of heating power show that both incremental EC and FW power engender increases in heat, particle, and momentum diffusivity in response to the changes in power deposition profiles and  $T_e/T_i$ . This is manifested as a flattening of the central density profile and a slowing of the toroidal rotation velocity. TRANSP shows that the neutron rate is as expected for incremental NB and EC, while some FW power damps on NB ions and enhances the neutron rate significantly.

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