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**Enhanced Performance Discharges in DIII-D with an ITB Combined with Impurity Injection**<sup>1</sup> J.C. DEBOO, C.M. GREENFIELD, M. MURAKAMI, K.H. BURRELL, E.J. DOYLE, G.L. JACKSON, J.E. KINSEY, G.R. MCKEE, C.L. RETTIG, T.H. RHODES, G.M. STAEBLER, E.J. SYNAKOWSKI, DIII-D National Fusion Facility — Enhanced performance associated with an internal transport barrier (ITB) is typically characterized by strongly peaked temperature and density profiles which can lead to pressure gradient driven instabilities. In an attempt to spatially expand the transport barrier, recent experiments were performed with neon injection following the establishment of an ITB. Total energy content and neutron rate were further improved with the addition of neon as were  $T_e(0)$ ,  $T_i(0)$ , and  $n_e(0)$ . Also, transport was reduced further out in the discharge by neon injection as evidenced by broader temperature and density profiles with the most pronounced broadening appearing in the  $T_i$  profile. Results of detailed analysis of the contributions to broadening the region with reduced transport as a result of a reduction in turbulence growth rates and an increase in sheared  $E \times B$  flow will be presented

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Prefer Oral Session  
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J.C. DeBoo  
deboo@fusion.gat.com  
General Atomics

Special instructions: First abstract, immediately before CM Greenfield

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