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Studies of Electron Thermal Transport in the Presence of an Internal Ion Transport Barrier[1] C.M. GREENFIELD, C.L. RETTIG, G.M. STAEBLER, B.W. STALLARD, K.H. BURRELL, J.C. DEBOO, J.S. DEGRASSIE, E.J. DOYLE, P. GOHIL, G.R. MCKEE, R.I. PINSKER, T.L. RHODES, R.E. WALTZ, L. ZENG, DIII–D National Fusion Facility — Tokamaks often exhibit reduced ion thermal transport under conditions favorable for stabilization and suppression of the ion temperature gradient (ITG) mode [K.H. Burrell, Phys. Plasmas **4**, 1499 (1997)]. Electron thermal transport is usually not reduced. Recently, rf electron heating was used to probe the electron channel in such discharges in DIII–D. Reductions in core ion temperature and plasma rotation are consistent with ITG destabilization as $T_\mathrm{i}/T_\mathrm{e}$ approaches unity. The smaller than expected increase in electron temperature implies an order of magnitude increase in electron diffusivity that cannot be explained by ITG activity alone. Electron temperature gradient modes, predicted unstable by linear calculations, may account for the increase.

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C.M. Greenfield
Chuck.Greenfield@gat.com
General Atomics

[X] Prefer Oral Session
[ ] Prefer Poster Session

Special instructions: DIII–D Oral Session I, immediately following Burrell

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