Abstract Submitted
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The role of turbulent suppression in the triggering ITBs on C-Mod[1] K. ZHUROVICH, MIT-PSFC, C.L. FIORE, D.R. ERNST, P.T. BONOLI, M.J. GREENWALD, A.E. HUBBARD, J.W. HUGHES, E.S. MARMAR, D.R. MIKKELSEN, PPPL, P. PHILLIPS, FRC, J.E. RICE — Internal transport barriers can be routinely produced in C-Mod steady EDA H-mode plasmas by applying ICRF at $|r/a| \geq 0.5$. Access to the off-axis ICRF heated ITBs may be understood within the paradigm of marginal stability. Analysis of the T_e profiles shows a decrease of R/L_{Te} in the ITB region as the RF resonance is moved off axis. Ti profiles broaden as the ICRF power deposition changes from on-axis to off-axis. TRANSP calculations of the T_i profiles support this trend. Linear GS2 calculations do not reveal any difference in ETG growth rate profiles for ITB vs. non-ITB discharges. However, they do show that the region of stability to ITG modes widens as the ICRF resonance is moved outward. Non-linear simulations show that the outward turbulent particle flux exceeds the Ware pinch by factor of 2 in the outer plasma region. Reducing the temperature gradient significantly decreases the diffusive flux and allows the Ware pinch to peak the density profile. Details of these experiments and simulations will be presented.

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