Abstract Submitted for the DPP05 Meeting of The American Physical Society

Investigation of the triggering mechanism for internal transport barriers in Alcator C-Mod.¹ K. ZHUROVICH, C.L. FIORE, D.R. ERNST, A.E. HUBBARD, M.J. GREENWALD, E.S. MARMAR, J.E. RICE, Plasma Science and Fusion Center, MIT, Cambridge, MA 02139 — Internal transport barriers (ITBs) can be routinely produced in C-Mod steady enhanced D_{α} (EDA) H-mode plasmas by applying ICRF at $|r/a| \geq 0.5$ (off-axis heating). The triggering mechanism of these ITBs is under consideration. The importance of the magnetic shear and the critical scale length a/L_T are being explored. Preliminary results from TRANSP analysis suggest that the ITB triggering could depend on the magnetic shear. At the same time a/L_T , which has been seen to decrease as the ICRF resonance position is moved outward by raising the magnetic field, is likely to play a role in suppressing ITG turbulence. These effects are studied using a kinetically constrained EFIT model as well as the gyrokinetic code GS2. Recent experimental results as well as the results from the analysis will be presented.

¹Work supported by DoE

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Date submitted: 24 Aug 2005

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