

Abstract Submitted
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Stationary Density Profiles in Alcator C-mod¹ J. KESNER, D. ERNST, J.W. HUGHES, R. MUMGAARD, S. SHIRAIWA, D.G. WHYTE, MIT PSFC, AND ALCATOR C-MOD TEAM — In the absence of an internal particle source, plasma turbulence will impose an intrinsic relationship between an inwards pinch and an outwards diffusion resulting in a stationary density profile as determined by the turbulent equipartition (TEP) theory. The Alcator C-mod tokamak utilizes RF heating and current drive so that fueling only occurs in the vicinity of the separatrix. Density is determined from Thomson scattering. Discharges that transition from L-mode to I-mode are seen to maintain a stationary profile. For reversed shear discharges maintained by non-inductive current drive ($V_{loop} \approx 0$) a drop of density in the vicinity of the axis is consistent with an observed rise in q , although error in the measurement precludes making this observation definitive.

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