

Density peaking and turbulent pinch in DIII-D discharges

C. Estrada-Mila

*Department of Mechanical and Aerospace Engineering,
University of California San Diego, La Jolla, CA 92093*

J. Candy and R.E. Waltz

General Atomics, San Diego, CA 92121

(Dated: August 1, 2006)

Abstract

A study of density peaking and particle flow in low confinement (L-mode) DIII-D discharges [G.R. McKee, C.C. Petty, R.E. Waltz *et al.*, Nucl. Fusion **41**, 1235 (2001)], using global gyrokinetic simulations, is presented. It is found that under experimental conditions, in particular when realistic collisionality is included, a turbulent pinch driven by electron temperature and density gradients can occur.

PACS numbers: 52.25.Fi, 52.30.-q, 52.30.Gz, 52.65.Tt