Abstract Submitted for the DPP96 Meeting of The American Physical Society

Sorting Category: 5.1.1.2 (Experimental)

A Scaling for the H–mode Edge Pedestal in DIII–D,¹ P. YUSHMANOV, University of California, San Diego, R.J. GROEB-NER, L.L. LAO, T.N. CARLSTROM, General Atomics — A database characterizing the edge pedestal of H-mode plasmas in a wide variety of DIII–D operational conditions is being collected and analyzed by regression methods. The edge density and pressure pedestals are described by the amplitude and the width of the high gradient region. The set of regression parameters includes global discharge characteristics such as toroidal magnetic field, plasma current, stored energy, average density, energy flux through the separatrix as well as local values of electron and ion temperatures and plasma density at the inner side of the edge pedestal. The parameters of the magnetic configuration are described by the critical pressure gradient and the width of the second stability region in the vicinity of the separatrix. These parameters are obtained from magnetic and kinetic measurements with the use of the EFIT equilibrium code and the CAMINO stability code. The goal of this work is to develop a scaling for the H-mode edge pedestal in terms of local plasma parameters which may be used for comparison with the data from other tokamaks and for developing ITER confinement models.

¹Work supported by U.S. DOE Grant DE-FG03-95ER54309 and Contract DE-AC03-89ER51114.

X

Prefer Oral Session Prefer Poster Session Richard J. Groebner groebner@gav.gat.com General Atomics

Special instructions: P-1-30

Date submitted: August 1, 1996

Electronic form version 1.1