

Abstract Submitted
for the DPP01 Meeting of
The American Physical Society

Sorting Category: 5.6.2 (Experimental/Observational)

Edge Similarity Experiments on C-Mod and DIII-D¹

R.A. MOYER, D.L. RUDAKOV, University of California, San Diego, D. MOSSESIAN, M. GREENWALD, A. HUBBARD, J.C. ROST, S. WOLFE, MIT, R.J. GROEBNER, T.H. OSBORNE, N.H. BROOKS, L.L. LAO, P.B. SNYDER, GA, G. WANG, L. ZENG, UCLA, J.G. WATKINS, SNL, X.Q. XU, LLNL — An experiment to match the dimensionless pedestal parameters in C-Mod H-modes was carried out in DIII-D to determine whether plasma physics alone determines the width of the H-mode pedestal or atomic physics plays a significant role. The C-Mod shape was scaled up in DIII-D by a factor of about 2.5. Dimensionally scaled C-Mod pedestal heights of electron temperature and density were matched to within 10% at a dimensionally scaled level of power through the pedestal region ($a^{3/4}P \sim \text{constant}$). The phenomenology obtained in DIII-D was similar to C-Mod H-modes, including ELM-free periods (stable to Type I and III ELMs) with steady-state pedestal heights and a quasi-coherent edge mode when the heating power was just above the H-mode threshold. This ELM-free phase evolved into a grassy ELMing H-mode comparable to a high density H-modes in C-Mod.

¹Work supported by the US DOE under Contracts DE-FG03-95ER54294, DE-FG02-94ER54235 APTE, DE-AC03-99ER54463, DE-FG03-01ER54615, DE-AC04-94AL85000, and W-7405-ENG-48.

- Prefer Oral Session
 Prefer Poster Session

R.A. Moyer
moyer@fusion.gat.com
University of California, San Diego

Special instructions: Poster 0b, to appear between Stambaugh and Gohil

Date submitted: July 20, 2001

Electronic form version 1.4