

Abstract Submitted
for the DPP99 Meeting of
The American Physical Society

Sorting Category: 5.1.1.2 (Experimental)

Internal Structure of Resistive Wall Modes in DIII-D¹

L.C. JOHNSON, E.D. FREDRICKSON, M. OKABAYASHI, Princeton Plasma Physics Laboratory, R.J. LA HAYE, J.T. SCOVILLE, E.J. STRAIT, General Atomics, A.M. GAROFALO, G.A. NAVRATIL, Columbia University, E.A. LAZARUS, Oak Ridge National Laboratory, M. GRYZANEVICH, UKAEA — Resistive wall modes limit the performance of DIII-D discharges when beta exceeds the ideal stability limit calculated in the absence of a wall. Theory predicts that the modes should be characterized by slow rotation, on the resistive time scale of the wall, and a kink-like internal structure. The very slow mode rotation prevents use of the usual techniques of Fourier analysis at a single toroidal location to study internal mode structure, but comparison of soft x-ray and ECE measurements at multiple locations can provide information on the mode structure. Preliminary analysis indicates an ideal mode structure, consistent with expectations. Behavior in the presence of active feedback stabilization will be discussed.

¹Supported by U.S. DOE Contracts DE-AC02-76CH03073, DE-AC03-99ER54463, and DE-AC05-96OR22464, and Grant DE-FG02-89ER53297.

- Prefer Oral Session
 Prefer Poster Session

L.C. Johnson
johnsonl@fusion.gat.com
Princeton Plasma Physics Laboratory

Special instructions: DIII-D Poster Session 1, immediately following EJ Strait

Date printed: July 16, 1999

Electronic form version 1.4