Abstract Submitted
for the DPP99 Meeting of
The American Physical Society

Sorting Category: 5.1.1.2 (Experimental)

Stability of the Resistive Wall Mode in Advanced Tokamak Plasmas[1] A.M. GAROFALO, G.A. NAVRATIL, Columbia University, E.D. FREDRICKSON, M. OKABAYASHI, L.C. JOHNSON, Princeton Plasma Physics Laboratory, E.A. LAZARUS, Oak Ridge National Laboratory, M. GRYAZNEVICH, UKAEA Fusion, R.J. LA HAYE, J.T. SCOVILLE, E.J. STRAIT, A.D. TURNBULL, General Atomics — Double null, ELMing H–mode plasmas with normalized performance parameters of $\beta_N * H \sim 9$ have been sustained for up to 2 s in DIII–D, but performance is often limited by the $n = 1$ resistive wall mode (RWM). Destabilization of the RWM and its damping of plasma toroidal rotation correlate with the saturation of plasma normalized β at a value just about the limit calculated in absence of a conducting wall. One approach to stabilization of the RWM is sustainment of a large plasma toroidal rotation. In DIII–D the plasma rotation can be increased by varying the number and the energy of the neutral beam sources used for heating. Preliminary results show that increased angular momentum injection may be responsible for an increase in the duration of the high performance phase by at least a factor of two.

[1]Supported by U.S. DOE Grant DE-FG02-89ER53297, Contracts DE-AC02-67CH03073, DE-AC05-96OR22464, and DE-AC03-99ER54463, and by the U.K. Dept. of Trade & Industry and EURATOM.

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[X] Prefer Oral Session
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Special instructions: DIII-D Contributed Oral Session, immediately following WM Stacey

Date printed: July 19, 1999 Electronic form version 1.4