

Abstract Submitted  
for the DPP00 Meeting of  
The American Physical Society

Sorting Category: 6.6.2 (Experimental)

**Resistive Wall Mode Onset and Active Control in DIII-D**<sup>1</sup> G.A. NAVRATIL, J. BIALEK, A.M. GAROFALO, Columbia University, M. GRYAZNEVICH, UKAEA, E.D. FREDRICKSON, L.C. JOHNSON, M. OKABAYASHI, PPPL, T.K. JENSEN, R.J. LA HAYE, E.J. STRAIT, J.T. SCOVILLE, GA, DIII-D TEAM — The  $n=1$  RWM has been clearly observed in DIII-D when the beta exceeds the predicted no-wall beta limit. The RWM onset is strongly affected by plasma rotation and static error fields. At values of beta above the no-wall beta limit, the static error field is observed to be amplified by plasma response leading to a more rapid decay of toroidal rotation and eventual RWM onset. The RWM has been controlled by an active feedback stabilization using six driven saddle coils on the midplane, and powered as three independent  $n=1$  pairs. The RWM amplitude is monitored by a saddle coil sensors measuring the radial magnetic flux through the vacuum vessel under each driver coil. Stabilization of the RWM above the no-wall beta limit has been achieved for more than 30 wall times using “mode control” feedback logic and 10 wall times using “smart shell” feedback logic. These results are in agreement with predictions of the VALEN finite element 3-D feedback code.

<sup>1</sup>Supported by US DOE Grant DE-FG02-89ER53297 and Contracts DE-AG03-99ER54463 and DE-AC02-76CH03073.

Prefer Oral Session  
 Prefer Poster Session

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Special instructions: 3rd poster in MHD Session (before Chu, after Johnson)

Date submitted: July 12, 2000

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