

Abstract Submitted
for the DPP99 Meeting of
The American Physical Society

Sorting Category: 5.1.1.2 (Experimental)

Overview of Physics Results from the 1999 DIII-D Campaign¹ S.L. ALLEN, THE DIII-D TEAM, DIII-D National Tokamak Program —

We achieved significant progress in the understanding of Advanced Tokamak (AT) plasmas on DIII-D this year through a combination of specific research- and topical-science areas. AT plasmas with high $\beta_N H_{89}$ ($\simeq 10$) were achieved, and progress was made in understanding how to sustain these modes. Active feedback was used to control Resistive Wall Modes in the plasma. Several techniques were used to influence the edge pressure profile, including impurity injection. Density control in AT plasmas was improved. The effect of the plasma current profile on discharge parameters, particularly transport barriers, was studied with several techniques, including counter neutral beam injection. A campaign to study the effects of plasma shape on pedestal and other discharge parameters was completed. This included systematic scans of lower single-null, double-null, and upper single-null plasmas with and without pumping. Plasma operation at 30% above the Greenwald density with good confinement was also achieved. A summary of results from these and other experiments will be presented.

¹Supported by U.S. DOE Contracts DE-AC03-99ER54463, W-7405-ENG-48, DE-AC05-96OR22464, and DE-AC02-76CH03073, and Grants DE-FG03-86ER-63266 and DE-FG03-95ER-54294.

- Prefer Oral Session
 Prefer Poster Session

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Special instructions: DIII-D Contributed Oral Session, first presentation

Date printed: August 18, 1999

Electronic form version 1.4