

Abstract Submitted
for the DPP97 Meeting of
The American Physical Society

Sorting Category: 9 (Experimental)

Fast Alfvén Wave Interferometry and Reflectometry on the DIII-D Tokamak¹ N.K. HICKS, Washington State University, R.I. PINSKER, H. IKEZI, General Atomics — A system based on the measurement of the transmission and reflection of the fast Alfvén wave in the ion cyclotron range of frequencies can be used to non-perturbatively diagnose the mass density,² ion species mixture,³ and density fluctuations in a tokamak plasma. Previous proof-of-principle experiments have demonstrated some of these possibilities. In this work, a new system of receiving probes and a dedicated low power (~ 1 W) antenna have been installed in the DIII-D tokamak to make these measurements during routine tokamak operation. Details of the installation, calibration, and operation of this system will be presented.

¹Work supported by National Undergraduate Fellowship in Plasma Physics and Fusion Engineering and U.S. DOE Contract DE-AC03-89ER51114.

²H. Ikezi, *et al.*, Rev. Sci. Instrum. **68**, 478 (1997).

³G.L. Greene, Nucl. Fusion **35**, 583 (1995).

Prefer Oral Session
Prefer Poster Session

R.I. Pinsker
pinsker@gav.gat.com
General Atomics

Date submitted: July 8, 1997

Electronic form version 1.2