

Abstract Submitted
for the DPP97 Meeting of
The American Physical Society

Sorting Category: 5.1.1.2 (experimental)

Initial Experiments on DIII-D Using Electron Cyclotron Heating at 110 GHz¹ R. PRATER, R.W. CALLIS, J.S. DEGRASSIE, Y.R. LIN-LIU, J.M. LOHR, T.C. LUCE, C.C. PETTY, R.I. PINSKER, General Atomics, M.E. AUSTIN, University of Texas, S. BERNABEL, Princeton Plasma Physics Laboratory, G. GIRUZZI, CEA, Cadarache, R.W. HARVEY, CompX, M. MURAKAMI, Oak Ridge National Laboratory, M. ZERBINI, ENEA CRE, Frascati — Experiments on heating and current drive are being performed on the DIII-D tokamak using the new 110 GHz ECH system. This system employs two gyrotrons, a 0.75 MW Gycom gyrotron with pulse lengths up to 2 s and a 1 MW CPI (formerly Varian) gyrotron, both of which have internal mode converters to couple conveniently to evacuated corrugated waveguide. A steerable launcher is used to apply well localized power at any preselected minor radius. Modulation of the power in the frequency range 50 to 1000 Hz and detection of the temperature perturbation by ECE diagnostics is used to validate the location of the heating. Central temperatures as high as 10 keV have been obtained at low density, with global confinement consistent with the confinement scaling using neutral beam heating.

¹Work supported by U.S. DOE Contracts DE-AC03-89ER51114, DE-AC02-76CH03073, DE-AC05-96OR22462, Grant DE-FG03-97ER54415.

Prefer Oral Session
 Prefer Poster Session

R. Prater
prater@gav.gat.com
General Atomics

Date submitted: July 1, 1997

Electronic form version 1.2