

Abstract Submitted  
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Sorting Category: 6.6.2 (Experimental)

**Commissioning of the 110 GHz ECH System on DIII-D  
for Physics Applications<sup>1</sup>**

J.M. LOHR, R.W. CALLIS, W.P. CARY,  
S.W. DELAWARE, I. GORELOV, T.E. HARRIS, R.A. LEGG, A.  
NEREM, D. PONCE, R. PRATER, S.G. PRONKO, General Atomics,  
F.W. BAITY, JR., G.C. BARBER, Oak Ridge National Laboratory —  
A major upgrade to the gyrotron system for ECH/ECCD on the DIII-D  
tokamak is in progress. Four gyrotrons in the MW class at 110 GHz,  
the second harmonic electron cyclotron resonance, are operational. The  
upgrade project has included construction of a major addition to the  
DIII-D building, installation of two Gycom gyrotrons and associated  
modulator/regulators, construction of two new high voltage power sup-  
ply systems, and acquisition of three CPI gyrotrons capable of generat-  
ing 1.0 MW for 10 s long pulses. Two of the gyrotrons are connected  
to an articulating launcher system from PPPL featuring poloidal and  
toroidal scan capability. Launchers for four additional gyrotrons, two  
with oblique injection for current drive and two injecting perpendicu-  
larly for heating only, but with poloidal scan capability, are also installed.  
The waveguide lines are evacuated, windowless and up to 80 m in length.  
Full control of the polarization of the rf beam is provided.

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- Prefer Oral Session  
 Prefer Poster Session

John Lohr  
lohr@fusion.gat.com  
General Atomics

Special instructions: Oral presentation immediately following AM Garofalo

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