Commissioning of the 110 GHz ECH System on DIII-D for Physics Applications\textsuperscript{1} 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 supply systems, and acquisition of three CPI gyrotrons capable of generating 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 perpendicular 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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Special instructions: Oral presentation immediately following AM Garofalo

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