

Abstract Submitted
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Status of Megawatt Gyrotrons at CPI for ECRH Applications K. FELCH, M. BLANK, P. BORCHARD, P. CAHALAN, S. CAUFFMAN, T.S. CHU, H. JORY, Communications and Power Industries — Long-pulse and CW gyrotrons that generate output power levels of around 1 MW have been developed at frequencies of 110 GHz and 140 GHz for use in electron cyclotron heating experiments. A total of six, 110 GHz, 1 MW, 10-s-pulse gyrotrons have been designed and fabricated for General Atomics. Four of the tubes have been delivered to General Atomics and the final two tubes are in the final stages of test. Operating experience with the 110 GHz gyrotrons will be reviewed. A 110 GHz, 1.3 MW gyrotron that employs a depressed collector has been designed and fabricated and will soon undergo final testing at General Atomics. In initial tests at CPI the tube was tested to a power level of 1.25 MW for pulse durations of a few ms and an output power of 500 kW was achieved for 10-s pulses. A 140 GHz gyrotron that also employs a depressed collector was tested to an output power of 900 kW for pulse durations of 30 minutes during final tests at the Max Planck Institute for Plasma Physics in Greifswald, Germany. Design features and updated test results on the two gyrotrons with depressed collectors will be presented.

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