

Abstract Submitted
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Installation and initial operation of a 117.5 GHz gyrotron on DIII-D.¹ JOHN LOHR, RIGO BRAMBILA, MIRELA CENGHER, YURI GORELOV, BILL GROSNICKLE, DAN PONCE, General Atomics, STEPHEN STORMENT, University of Arkansas, ANTONIO TORREZAN, General Atomics — A new gyrotron operating at 117.5 GHz and generating in excess of 1.5 MW for short pulses has been installed at DIII-D and is being prepared for operations. The tube was designed and manufactured by CPI in Palo Alto, CA. At the limit of the CPI test set, the gyrotron generated pulses up to 10 sec in length at about 550 kW output power. The GA installation permits full output power at pulse lengths up to 5 sec, the administrative limit, to be used in testing. This will be the first gyrotron in the DIII-D complex to be operated for conditioning from the outset using FPGA based pulse control. This allows the tube to be restarted after a fault in many cases relevant to the conditioning activity. The progress of the conditioning program with the new pulse control hardware will be compared with previous *ab initio* testing and the current status will be presented.

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