

Abstract Submitted
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Preliminary design of a magnetron injection gun for a 670 GHz gyrotron AMIT S. KESAR, RUIFENG PU, GREGORY S. NUSINOVICH, VICTOR L. GRANATSTEIN, University of Maryland, CENTER FOR APPLIED ELECTROMAGNETICS TEAM — At present, our research team is working on the design of a 300 kW, 670 GHz gyrotron with a pulsed solenoid. The gyrotron will operate at the fundamental cyclotron resonance. The pulsed solenoid will provide magnetic fields in the range of 27-28 T. Design of a magnetron-type electron gun for such a gyrotron is done by using available numerical codes EGN2W and MICHELLE. Magnetic compression of a beam in the region between the gun and a resonator is about 100; the beam voltage and current are 70 kV and 15 A, respectively. Simulation results will be presented.

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