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## **Magnet system for a 1.497 GHz injection-locked magnetron**

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An injection-locked amplitude modulated magnetron is being developed as a reliable, efficient RF source that could replace klystrons used in particle accelerators that have superconducting cavities. This paper will describe the magnet system which is designed to provide a reasonably uniform field over the magnetron interaction region (IR). Most of the field in the IR is provided by a large solenoid. A smaller trim coil inside the larger coil provides the ability to vary the field within a certain range. In anticipation of a large number of magnetrons needed for an accelerator the large solenoid would be replaced by permanent magnets to provide the IR field. This paper will describe the magnet system both with solenoid coils and with the permanent magnet option.

### **Funding Agency**

### **Footnotes**

### **I have read and accept the Privacy Policy Statement**

Yes

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