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P3.024 Anode power supply for the electron cyclotron resonance heating system on J-TEXT tokamak

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Based on the Gycom gyrotron of a diode type with a single-stage depressed collector, a 105GHz/500kW/1s electron cyclotron resonance heating system is being developed on J-TEXT tokamak. To modulate output power of the gyrotron, we designed a 33kV/1A anode power supply based on the pulse step modulation technology. The power supply consists of 40 modules with output voltage of 800 V and 10 modules with output voltage of 100 V. In this way, the output voltage of the anode power supply can be adjusted accurately without pulse width modulation. We tested the anode power supply with a dummy load. The test results indicated that the designed power supply can meet requirements of the ECRH system on J-TEXT.

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