

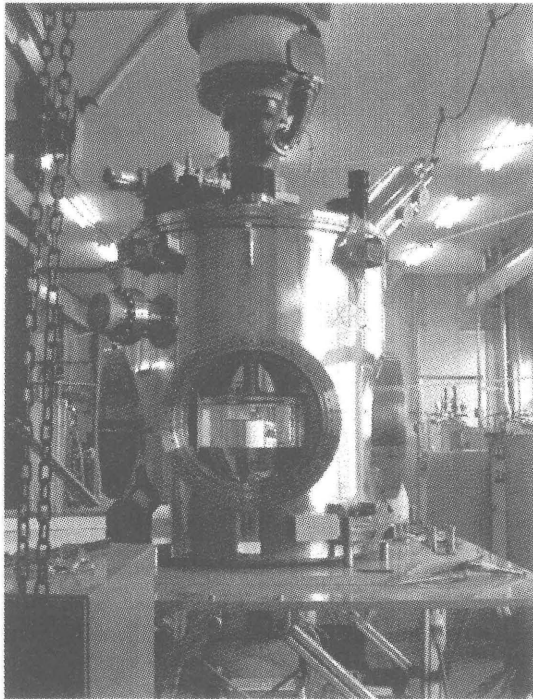
## §30. Quasi-Optical Gyrotron Testing

Idehara, T. (Fukui University), Sato, M.

A quasi-optical gyrotron has been rebuilt and tested under the cooperation with Fukui-University and NIFS. It was made as a R&D program of LHD ECRH system in 1990-1991.

The high voltage power supply in Fukui University was modified to operate the gyrotron in 1999. The gyrotron was ship and installed at Fukui-university in 2000 as shown in the Figure 1.

The magnet was excited to 0.5 T to adjust the magnetic axis to the tube axis. The transverse magnetic field component must be smaller than 0.1 % to the axial magnetic field. The magnet was excited to 4 T. The components, such as Quasi-optical resonator, collector and electron gun were installed in the cryo-housing after magnet testing. The vacuum reached to  $2 \times 10^{-7}$  torr. A new electron gun was made under the cooperation with NIFS, Fukui-U and Institute of Applied physics of Russia. Preliminary testing showed that it worked well to satisfy the design parameters at 1 ms pulse with 0.1 % duty. Microwave dummy load will be installed to examine the microwave power from the tube.



• Figure 1. Installation of the gyrotron at Fukui University.