972MHz high power RF system in J-PARC Linac

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972MHz high power RF system to drive the ACS LINAC was installed in LIANC building and was operated from November 2013. The RF system is consisted in 25 klystron stations of 25 units and high voltage DC power supplies of 6 units. The 972MHz klystron was developed for J-PARC has a broadband bandwidth in order to perform beam loading compensation, and the rated output power is 3.0 MW. Specification of the electron gun is the same as the 324MHz klystron to the same configuration of the high voltage power supply. All mass-production klystrons were evaluated in the klystron station. The performance was confirmed that required specifications ware satisfied with the exception of the one klystron that caused the vacuum leak. In initial phase of the high-power operation, discharge occurred frequently in the some circulators. There were failures to the RF contact parts in mass production. The circulators of 10 units were repaired, and are operated in high power. In the presentation, we report on the current status and troubleshoot high-frequency source.

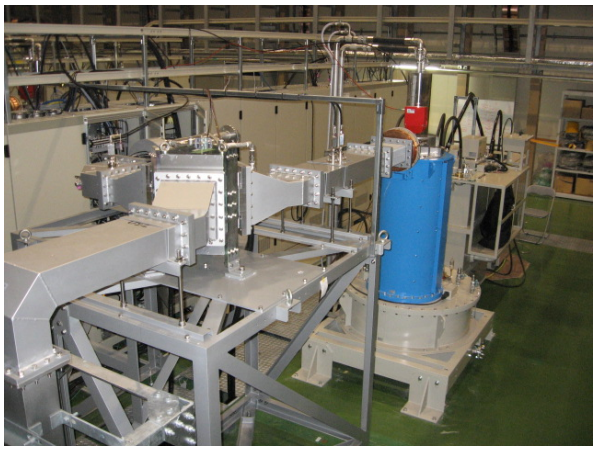

Fig. 1 Overview of 972MHz klystron station.