Installation of a compact injector at HIMAC

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1. COMPACT INJECTOR

The compact injector system is a product of the R&D activity at NIRS to reduce the size and cost of the machine. Successful results led Gunma University to adapt the system model for GMHC, Gunma University Heavy Ion Medical Center. The R&D machine can provide a carbon beam to the existing HIMAC synchrotron.

2. INSTALLATION OF COMPACT INJECTOR AT HIMAC

2.1 Installation of the injector

The compact injector was installed, and the beam initial effort began in March 2011. We have succeeded in adjusting the incident beam and have extracted the beam from the synchrotron. The intensity of the extracted beam was sufficient to ensure the standard quality treatment.

2.2 Update of the control system

- Operability Improvement

The same specifications as the existing.

2.3 Beam commissioning

The spectrum of ECRIS

Phase space distribution of extracted beam

3. PRESENT STATUS AND OUTLOOK

The compact injector was installed, and the beam initial effort began in March 2011. We have succeeded in adjusting the incident beam and have extracted the beam from the synchrotron. The intensity of the extracted beam was sufficient to ensure the standard quality treatment.

We are continuing to adjust in order to obtain the stability of the beam needed to treatment. The installed compact injector gives us two linacs for CIRT, Carbon Ion Radiation therapy.