

# Operation statistics of Gunma University Heavy Ion Medical Center

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Gunma University Heavy Ion Medical Center has operated a heavy ion treatment system consists of an ion source, linear accelerators, a synchrotron and irradiation systems for 9 years. Machine availability is around 99% for treatment operation after 2015, and around 98% for overall operation including experiments. Until August 2019, fatal trouble which stops the treatment for a more than 2 days did not occur.

After 2016, most troubles are related to aging deterioration and need more preventive maintenance. In order to realize sustainable operation, improvement for not only the hardware, but also the framework of operation and maintenance will be required. Replacement of computers of the control system of the accelerator, the irradiation system, and the infrastructure is being carried out. In this poster, the machine availability varying with years and maintenance strategy including replacement is discussed.

## Summary

Gunma University Heavy Ion Medical Center has operated a heavy ion treatment system for 9 years. Machine availability is around 99% for treatment operation after 2015, and around 98% for overall operation including experiments. Until August 2019, fatal trouble which stops the treatment for a more than 2 days did not occur. In this poster, the machine availability varying with years and maintenance strategy including replacement is discussed.

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