

Preface



Twenty-four years have passed since the start of the operation of SPring-8 in 1997. Nearly 300,000 people visited the facility during this period. Although the effects of COVID-19 remain, a "new normal" has gradually formed. The impact of COVID-19 on domestic users has almost disappeared during FY2021, but visits by overseas users has decreased sharply due to immigration restrictions. Even so, the number of visitors, which fell sharply in 2020, has recovered somewhat.

The deterioration of facilities is progressing steadily in various places. In particular, the injection linear accelerator and booster synchrotron are the earliest accelerators. These facilities cannot be used as launch facilities for the ultra-low emittance storage rings planned for the future. Also, the extra high voltage substation equipment for these accelerators needs to be replaced, which would be very costly.

Since full-energy injection from a linear accelerator is promising for efficient injection into ultra-low emittance rings, we have been preparing for it for several years. In 2020, we found that the old injection system could be replaced with the SACLA linac without any problems, so in 2021 we officially shut down the old injection system and started injection from the SACLA linac. This change caused difficulties in injecting NewSUBARU, but it was solved by introducing a new injector with a C-band linear accelerator.

Restrictions on human movement due to COVID-19 have reaffirmed the importance of remote access and automated measurement. The country's PRISM program and supplementary budget are promoting the DX conversion and automatic operation of beamlines, and it is becoming common for experiments to proceed with fewer visitors. A new style has begun in which overseas users also have domestic collaborators visit and conduct experiments while connecting with overseas users online.

In April 2021, Prime Minister Suga announced that in addition to achieving carbon neutrality by 2050, Japan would raise its greenhouse gas reduction targets by 2030. In June, the Cabinet Office issued the Green Growth Strategy for 2050 Carbon Neutrality. It is recognized that this declaration inspires the use of synchrotron radiation in the industry.

The reorganization and upgrading of beamlines, which started in FY2018, are progressing smoothly. We are planning to make a round of public beamlines by FY2024.

In promoting DX nationwide, the SPring-8 data center was approved in the supplementary budget, and the construction is progressing with the aim of completion within FY2022. Although the sophistication of detectors and measurement methods has expanded the data size, the data center enables users to access SPring-8 data from anywhere.

Consideration is underway for an upgrade to SPring-8-II. We also continue to support Tohoku NanoTerasu.

ISHIKAWA Tetsuya, Dr. Eng.
Director, RIKEN SPring-8 Center