RIKEN Beamlines

1. Introduction

The RIKEN SPring-8 Center (RSC) is a core center for the research and development of advanced synchrotron radiation science, from light sources to synchrotron radiation beamlines, from measurement to data analysis, using SPring-8 and SACLA as the advanced research infrastructure. The Advanced Photon Science Division conducts research and development to effectively and efficiently utilize the high-brilliance synchrotron radiation of SPring-8 in various scientific fields ranging from life science to materials science, mainly using the RIKEN beamlines.

2. Recent activities

We are responsible for the operation of the RIKEN beamlines and support of user applications, as well as for the research and development of various synchrotron radiation application technologies in cooperation with groups inside and outside the RSC.

In FY2024, the SPring-8-II Project was launched, and various development and production activities for SPring-8-II began. The reorganization and upgrading of current beamlines, which have been underway to make effective use of the fourth-generation synchrotron radiation, are now in full swing, and some Contract Beamlines are being transferred to the RIKEN beamlines to ensure smooth and advanced operation after the SPring-8-II upgrade.

There were four Structural Biology beamlines, six Physical and Chemical Research beamlines, and two R&D beamlines available until FY2023, for a total of 12 beamlines. In FY2024, one Structural Biology beamline, BL26B2, was suspended for conversion to another science. On the other hand, two Contract Beamlines were converted to RIKEN beamlines, and beamlines BL16XU and BL16B2 were added for a new category in analytical chemistry, bringing the total number of RIKEN beamlines available in FY2024 to 13 beamlines.

RIKEN beamlines also promote cutting-edge research by participating in national projects such as the AMED/BINDS project, a drug discovery research platform at the Structural Biology Beamline; the NEDO and Kyoto University RISING3 project for innovative storage battery development; and the NEDO PEFC project for fuel cell development at BL36XU.

In the next section, we report on the present status of the RIKEN beamlines.

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