

R&D II (BL46XU)

1. Introduction

BL46XU has been assigned to the second Research and Development (R&D) beamline for Insertion Device (ID) in SPring-8 while BL47XU is the first R&D beamline on the field of imaging and R&D for optical elements etc. As a rough outline of the construction aspects from the upstream, ID46 was installed during the summer shutdown of 1998. The front-end was installed for the winter shutdown, work on which was started at the end of 1998 and was finished by January 1999. Setting up of the beamline transport channel (TC) components was started to set in the optical hutch in the winter of 1997, including the double-crystal monochromator system.

A description of ID46, the so-called in-vacuum hybrid low beta ID is given first. The aspect of the beamline components is briefly described.

Work on connecting the front-end to the beamline transport channel was carried out in January 1999. We plan the commissioning to carry out in March of 1999.

2. Beamline Design and Present Status

The insertion device (ID) adopted for BL46XU (ID46) is an in-vacuum type as well as a standard ID at SPring-8. The magnet structure is the so-called hybrid type consisting of not only permanent magnets but also pole pieces made of iron-cobalt alloy called permendur. As well as the magnets of the standard IDs, it is coated with TiN to suppress degassing. The pieces in both sides are permanent magnets and the pole piece is located in the center. The periodic length is 24 mm and one period is formed by two sets of the magnet unit. Before installation in the storage ring, the magnetic field was measured and the necessary corrections were made.

3. Further Downstream Installation

Some parts of the standard TC were installed in 1997, and after TC installation was accomplished, their vacuum system was started. Below Fig. 1, you

can see a illustration of the TC of BL46XU in the optical hutch in Fig. 1. This figure shows the standard TC and monochromator system here in SPring-8. In the optical hutch, we plan to set a useful system for optical experiment next year after commissioning. We have constructed the experimental hutch by September 1999. We plan to install the multi axes diffractometer in March 2000.

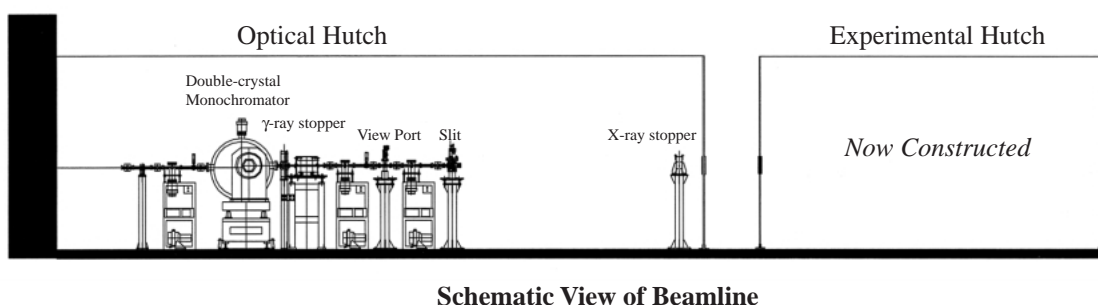


Fig. 1 The Schematic View of Beamline