

# BEAMLINES

The beamlines at the SPring-8 Facility are categorized into four groups as listed below:

- (1) Public Beamlines,
- (2) Contract Beamlines,
- (3) JAERI / RIKEN Beamlines,
- (4) Accelerator Beam Diagnosis Beamlines.

The public beamlines are constructed with the support of the national budget, and are open for public use. This category of public beamlines includes the R&D beamlines, which were constructed for the purpose of developing new devices and beamline equipment such as optical elements,

detection systems, and so forth. Used mainly by SPring-8 staff, the R&D beamlines are also open to public. Now 25 public beamlines are operational and available for public use.

The contract beamlines are, on the other hand, facilities that are installed, owned, operated and maintained by universities, companies and other organizations. Beamline contractors can use their beamline almost exclusively. Hyogo Prefecture took the lead in the contract beamline construction. The Industrial Consortium, Institute for Protein Research (Osaka Univ.), the Research Center for Nuclear Physics (RCNP, Osaka Univ.) and National Institute for Materials Science followed in that

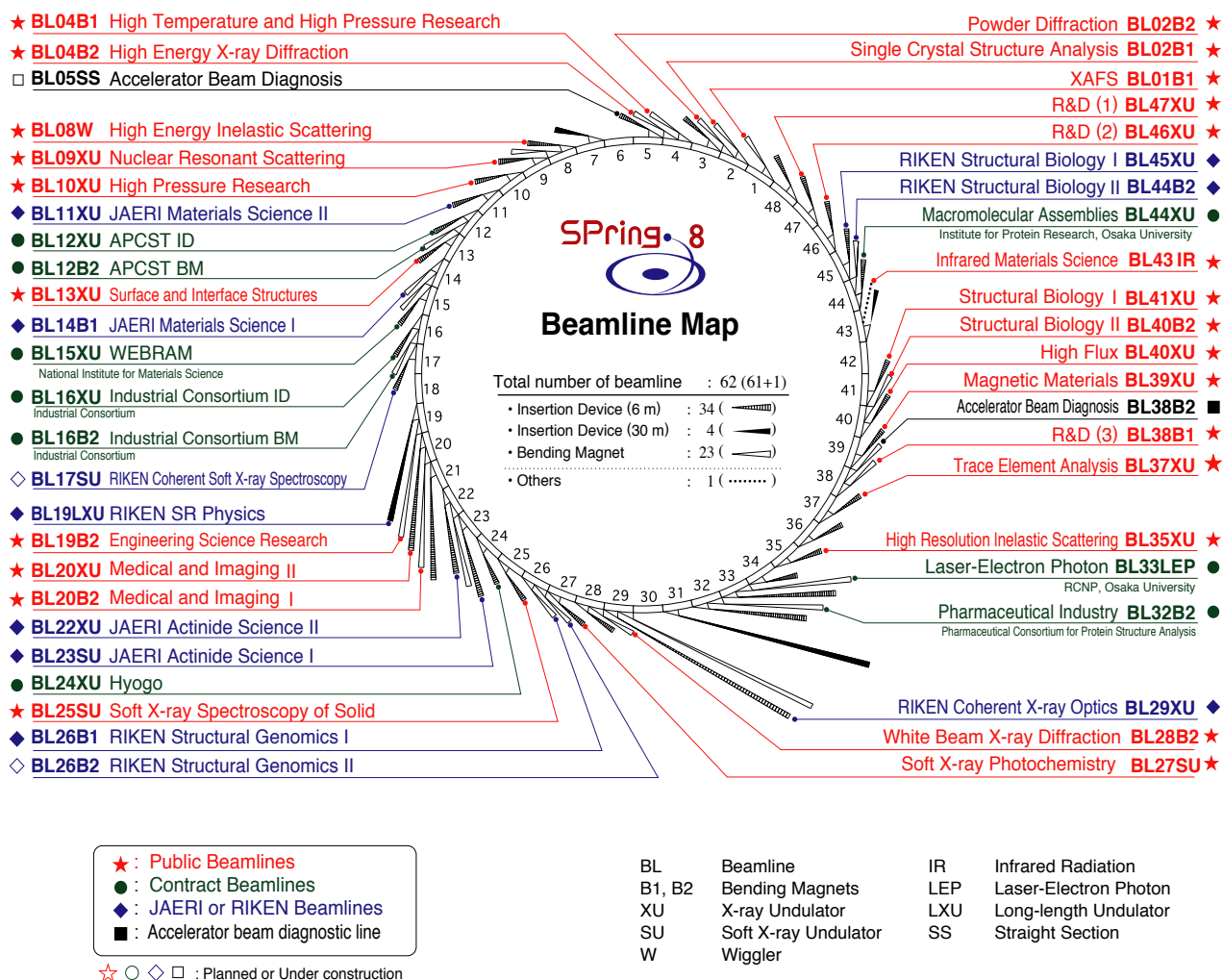


Fig. 2. Beamline Map.

order, after which the first foreign contract beamlines (BL12B2 and BL12XU) were constructed by the Asia and Pacific Council for Science and Technology of Taiwan (APCST). BL32B2, constructed by the industrial consortium that is made up of 22 pharmaceutical companies, recently joined SPRing-8 contract beamlines and became operational in May 2002. Currently those nine contract beamlines are all in operation.

The JAERI/RIKEN beamlines are those constructed by JAERI and RIKEN to promote their own research activities. Nine JAERI/RIKEN beamlines have already been constructed and other two are in commissioning or under construction by RIKEN for the exclusive use of RIKEN scientists, although 20% of beam time is reserved for public use. Experimental stations of BL22XU and BL23SU are located at RI Laboratory and dedicated to research utilizing radioactive isotopes and actinide materials. BL26B1 and BL26B2 are beamlines that will be used for high throughput protein crystallography following the human genome project. BL29XU has two experimental stations, one located at the experimental hall, and the other at the end of the 1 km. Dedicated to studying the characteristics of the electron beam accumulated in the storage ring, the accelerator beam diagnosis beamlines are currently under the exclusive use of the JASRI accelerator group. As of May 7, 2003, one beamline is currently in the phase

of commissioning (BL26B2) and two beamlines (BL17SU, BL05SS) are under construction.

All beamlines are shown in the Beamline Map (Fig. 2). Including the two accelerator beam diagnosis beamlines, we have beamlines, *i.e.*, about 75% of 62 beamlines that SPRing-8 can accommodate.

Public Beamlines (25)			
BL #	Source	Beamline Name	Status
BL01B1	BM	XAFS	in operation
BL02B1	BM	Single Crystal Structure Analysis	in operation
BL02B2	BM	Powder Diffraction	in operation
BL04B1	BM	High Temperature and High Pressure Research	in operation
BL04B2	BM	High Energy X-ray Diffraction	in operation
BL08W	W	High Energy Inelastic Scattering	in operation
BL09XU	U	Nuclear Resonant Scattering	in operation
BL10XU	U	High Pressure Research	in operation
BL13XU	U	Surface and Interface Structures	in operation
BL19B2	BM	Engineering Science Research	in operation
BL20XU	U	Medical and Imaging II	in operation
BL20B2	BM	Medical and Imaging I	in operation
BL25SU	U	Soft X-ray Spectroscopy of Solid	in operation
BL27SU	U	Soft X-ray Photochemistry	in operation
BL28B2	BM	White Beam X-ray Diffraction	in operation
BL35XU	U	High Resolution Inelastic Scattering	in operation
BL37XU	U	Trace Element Analysis	in operation
BL38B1	BM	R&D (3)	in operation
BL39XU	U	Magnetic Materials	in operation
BL40XU	U	High Flux	in operation
BL40B2	BM	Structural Biology II	in operation
BL41XU	U	Structural Biology I	in operation
BL43IR	BM	Infrared Materials Science	in operation
BL46XU	U	R&D (2)	in operation
BL47XU	U	R&D (1)	in operation
Contract Beamlines (9)			
BL #	Source	Beamline Name	Status
BL12XU	U	APCST ID (APCST)	in operation
BL12B2	BM	APCST BM (APCST)	in operation
BL15XU	U	WEBRAM (National Institute for Materials Science)	in operation
BL16XU	U	Industrial Consortium ID (Industrial Consortium)	in operation
BL16B2	BM	Industrial Consortium BM (Industrial Consortium)	in operation
BL24XU	U	Hyogo (Hyogo Prefecture)	in operation
BL32B2	BM	Pharmaceutical Industry (Pharmaceutical Consortium)	in operation
BL33LEP	BM	Laser-Electron Photon (Osaka University)	in operation
BL44XU	U	Macromolecular Assemblies (Osaka University)	in operation
JAERI/RIKEN Beamlines (11)			
BL #	Source	Beamline Name	Status
BL11XU	U	JAERI Materials Science II (JAERI)	in operation
BL14B1	BM	JAERI Materials Science I (JAERI)	in operation
BL22XU	U	JAERI Actinide Science II (JAERI)	in operation
BL23SU	U	JAERI Actinide Science I (JAERI)	in operation
BL17SU	U	RIKEN Coherent Soft X-ray Spectroscopy (RIKEN)	under construction
BL19LXU	U	RIKEN SR Physics (RIKEN)	in operation
BL26B1	BM	RIKEN Structural Genomics I (RIKEN)	in operation
BL26B2	BM	RIKEN Structural Genomics II (RIKEN)	in commissioning
BL29XU	U	RIKEN Coherent X-ray Optics (RIKEN)	in operation
BL44B2	BM	RIKEN Structural Biology II (RIKEN)	in operation
BL45XU	U	RIKEN Structural Biology I (RIKEN)	in operation
Accelerator Beam Diagnosis Beamline (2)			
BL #	Source	Beamline Name	Status
BL05SS		Accelerator Beam Diagnosis	under construction
BL38B2	BM	Accelerator Beam Diagnosis	in operation

Table II. SPRing-8 beamlines.