

User Operation

In principle, SPring-8 invites proposal applications twice a year. Beam time is then allocated to selected applicants for the forthcoming SPring-8 research term. The first such term (1997B) ran from October 1997 (when the facility opened) until the end of Japan's financial year, March 1998. The second research term (1998A) ran from April 1998 until October 1998. After a somewhat longer third research term (1999A) from November 1998 until June 1999, SPring-8 roughly divided the year's user beam time into two terms with the summer shutdown in between. The proposal submission deadlines for the eighth and ninth research terms (2001B and 2002A) were May 26, 2001 and October 27, 2002, respectively. SPring-8 Proposal Review Committee approved 457 out of the 619 proposals submitted for 2001B and 520 out of 643 for 2002A. The numbers of selected proposals for proprietary research were 14 in 2001B, and 19 in 2002A, respectively. And the percentage of selected proposals from overseas was 2% for 2001B and 5% for 2002A. SPring-8 operational results for the period from 1997B to 2002A are shown in Table III. This table shows each user beam time allocated and the number of users and experiments conducted, which are

illustrated in Fig. 3. For reference, the relevant data of contract beamlines is also indicated. In 2002A, SPring-8 provided users with 2,093 hours of beam time in five operation cycles and 3,246 individuals used the facility's public beamlines in 543 separate experiments. Between October 1997, opening of SPring-8 for research, and the end of 2002A, a total of 24,494 public and contract beamline users conducted 3,723 experiments.

Figures 4 and 5 indicate the numbers of selected proposals by the affiliation of applicants and by the research fields from 1997B to 2002A. As can be seen from the charts, the trend for each year has been almost the same during the period. In other words, as for the classification by the affiliations, universities have accounted for approximately 70% and other organizations have made up the rest almost equally. The same trend applies to the classification by the research fields. The ratio of Life Science, Diffraction & Scattering and others has been 1:1:1 throughout the same period. The ratio of XAFS, Spectroscopy and Method & Instrumentation, all of which are categorized as "others," has also been 1:1:1. The ratio remained the same since the inauguration of SPring-8 except for the first research term.

Research Term	User Time (hours)	Public BL		Contract BL	
		Experiments	Users	Experiments	Users
1997B: 1997.10 - 1998.03	1,286	94	681		
1998A: 1998.04 - 1998.10	1,702	234	1,252	7	
1999A: 1998.11 - 1999.06	2,585	274	1,542	33	467
1999B: 1999.09 - 1999.12	1,371	242	1,631	65	427
2000A: 2000.01 - 2000.06	2,106	365	2,486	102	794
2000B: 2000.10 - 2001.01	1,558	382	2,370	88	620
2001A: 2001.02 - 2001.06	2,381	473	2,915	103	766
2001B: 2001.10 - 2002.01	1,893	486	3,277	118	977
2002A: 2002.02 - 2002.06	2,093	543	3,246	114	1,043
TOTAL	16,975	3,093	19,400	630	5,094

Table III. SPring-8 operational results.

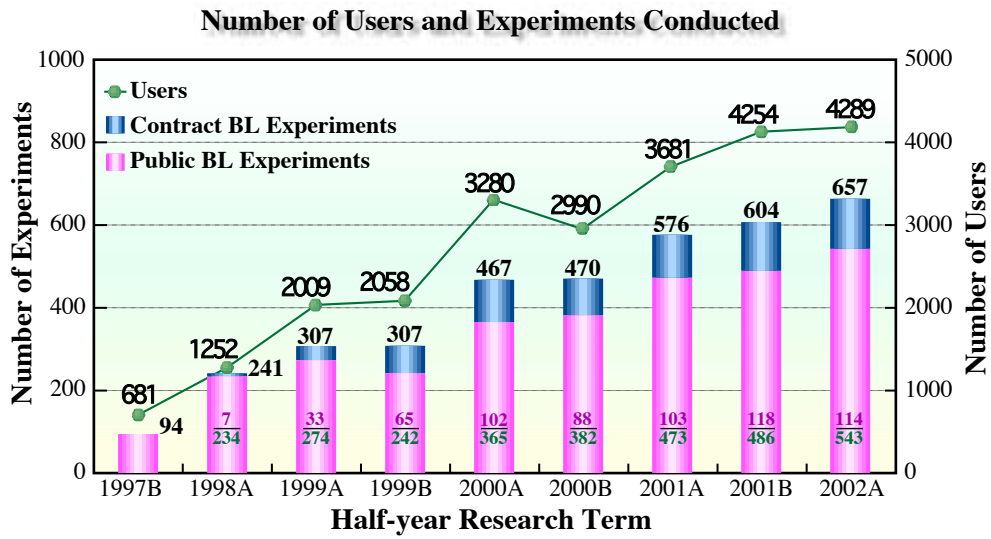


Figure 3

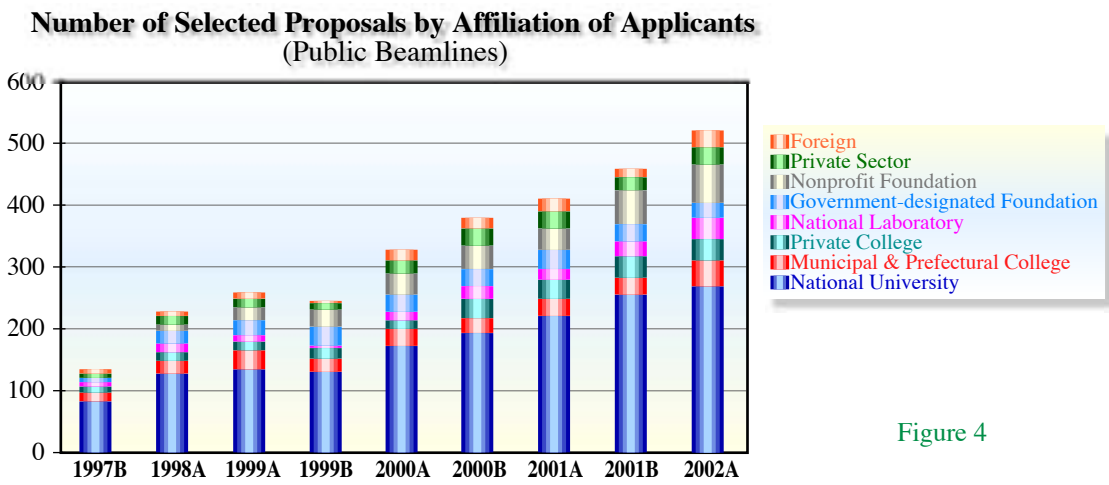


Figure 4

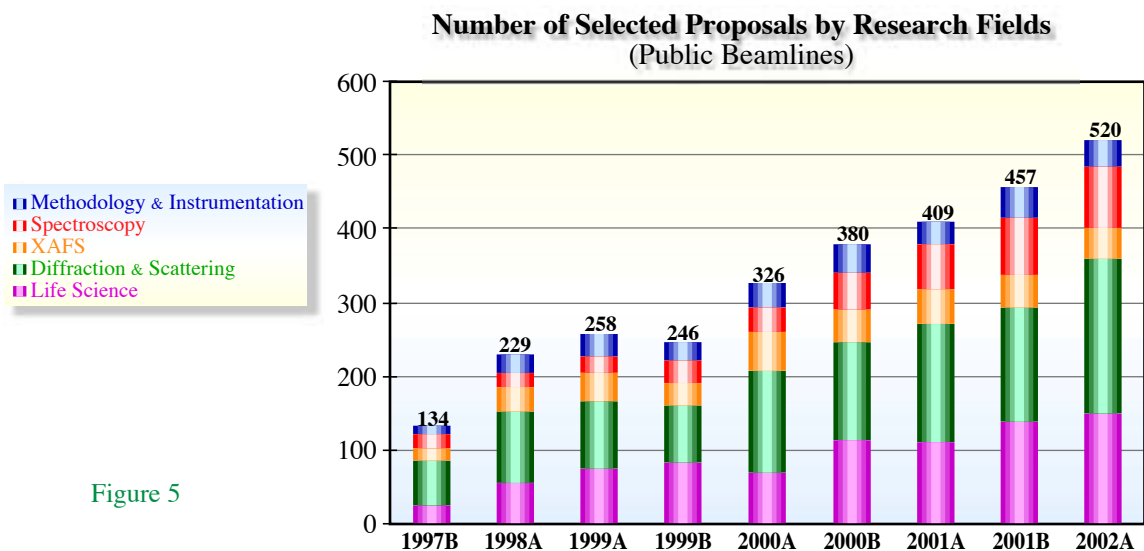


Figure 5

Proprietary Research

For proprietary research, users can keep their results by paying beam time fees. This system is useful when there is some confidential information for commercial purposes in experiments and samples and the users do not want to disclose the results. During the period from 1999B, when the system was introduced, to 2002A, 69 experiments have been carried out as proprietary research at both public and contract beamlines.

Long-term Use of Beamlines

Apart from the regular public use, SPring-8 has created a system for the long-term use of beamlines where users can secure beam time for a longer period of time. While the regular beam time is valid for six months, the beam time for long-term use is valid for up to three years. This system aims to further promote research that will produce outstanding results in the field of science and technology, that will pave the way for new research areas and research methodology and that will help improve the technology for industrial base significantly by getting the most of the characteristics of SPring-8.

Industrial Research

Together with the promotion of research activities in the field of basic science, the contribution to the reinforcement of the technological basis in industry has been one of the major aims of the SPring-8 project. Since its foundation in 1990, JASRI has sought possible ways of industrial applications of SR science.

The framework of the contract beamlines also facilitates the construction of beamlines by industries at SPring-8. Hyogo Prefecture constructed a contract

beamline (BL24XU), and has been conducting experiments on protein crystal analysis, surface/interface analysis of inorganic materials, X-ray microbeam analysis, and X-ray imaging since May 1998. There have been two beamlines (BL16XU and BL16B2) constructed by the industrial consortium that is composed of thirteen companies in the fields of electronics, steel, electric power and automobiles. Since October 1999, the consortium has been carrying out its experiments on X-ray diffraction, X-ray fluorescence analysis, and X-ray microbeam experiments at the BL16XU, and XAFS and X-ray topography at the BL16B2. Another contract beamline, BL32B2, constructed by the industrial consortium that is made up of 22 pharmaceutical companies became operational in May 2002 and is expected to contribute to research on protein structure analysis for drug design. In addition, a new beamline for the industrial applications of SR science has been added to the lineup of public beamlines, which is a bending magnet beamline (BL19B2) for XAFS experiments, multipurpose X-ray diffractometry, and X-ray fluorescence spectroscopy. The BL19B2 is also in operation.

Research Results

When using SPring-8 for non-proprietary research, users are exempted from beam time fees if they submit an Experiment Report within 60 days after their experiment. JASRI has been earnestly calling on users to disclose their research results obtained through non-proprietary research in scientific journals. In cases where the results are disclosed, users must report to JASRI and have them registered with JASRI.

The number of refereed publications produced at all beamlines is 1,043 (public BLs: 660, contract BLs: 73, JAERI & RIKEN: 163, others: 147) as of September 30, 2002.