1 Experimental Proposals

1-1 Scientific Proposals

The Photon Factory accepts experimental proposals submitted by researchers mainly at universities and research institutes inside and outside Japan. The proposals are reviewed by the PF Program Advisory Committee (PF-PAC). The favorably recommended proposals are accepted and formally approved by the Advisory Committee for Institute of Materials Structure Science. The number of accepted proposals over the period 1998-2009 is shown in Table 1, where S1/S2, U, G, and P denote Special, Urgent, General and Preliminary

Table 1 Number of proposals accepted for the period 1998-2009.

FY	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
S1	1	0	0	0	0	1	1	0	1	0	0	0
S2	3	3	2	2	3	2	0	3	6	1	4	6
U	4	2	0	5	3	2	4	0	1	7	3	2
G	333	323	308	339	321	318	382	310	388	403	402	397
P	14	22	17	18	16	9	13	10	22	14	14	14

Table 2 List of S-type proposals effective in FY2009.

Proposal No.	Spokesperson	Title
2006S1-001	M. Fujinami Chiba Univ.	Development of positron microscope
2007S2-001	E. Ohtani Tohoku Univ	In situ X-ray imaging of melts at high pressure, and its applications to the earth and planetary interior
2008S2-001	T. Tsukihara Osaka Univ.	Target protein research program
2008S2-002	M. Ando Tokyo Univ. of Sci.	Basic study of high performance refraction-based X-ray imaging toward clinical and pathological application
2008S2-003	M. Oshima Univ. of Tokyo	Electronic structure analysis of new functional materilas by high-resolution nano-spectroscopy
2008S2-004	Y. Wakabayashi KEK-PF	Structural materials science under magnetic fields -- mainly on magnetic field induced phase transition --
2009S2-001	S. Adachi KEK-PF	Real-time structural dynamics studies for materials and biological sciences
2009S2-003	R. Kumai AIST	Strucural study for the origin of phase transition in correlated electron system
2009S2-005	A. Fujimori Univ. of Tokyo	High-resolution ARPES of novel superconductors and related material
2009S2-006	T. Takeda Univ. of Tsukuba	Biomedical and material imaging using X-ray interferometer
2009S2-007	J. Yoshinobu Univ. of Tokhyo	Electronic states and charge transfer dynamics of organic molecules on surfaces
2009S2-008	H. Nakao KEK-PF	Codensed matter studied by resonant soft/hard X-ray scattering

proposals, respectively. The number of current G-type proposals each year has been over 600 for the past few years and was 799 in FY2009. A full list of the proposals effective in FY2009 and their scientific output can be found in PART-B of this volume.

S-type proposals are divided into two categories, S1 and S2. S1 proposals are self-contained projects of excellent scientific quality, and include projects such as the construction and improvement of beamlines and experimental stations which will be available for general users after the completion of the project. S2 proposals are superior-grade projects that require the full use of synchrotron radiation or a large amount of beam time. After passing strict refereeing procedures, S-type proposals are supported financially by the PF. Table 2 shows a list of the S-type projects effective in FY2009. The current status and results to date of S1 and S2 proposals must be reported at the PF Symposium held at the end of every Japanese fiscal year. The scientific output of S1 and S2 proposals is presented in the Highlights of PART-A and in the Users' Reports of PART-B of this volume.

Proposals are categorized into five scientific disciplines, and reviewed by the five subcommittees of PF-PAC: 1) electronic structure, 2) structural science, 3) chemistry and new materials, 4) life science I (protein crystallography), and 5) life science II. Figure 1 shows a distribution chart by research field of the proposals accepted by the subcommittees in FY2009.

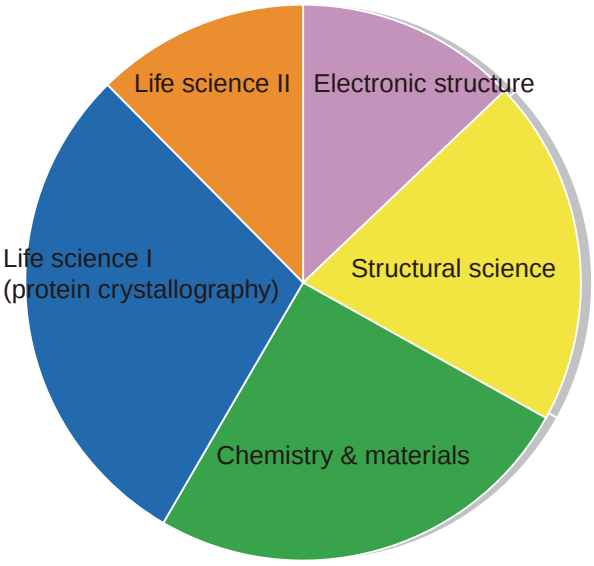

Figure 1
Distribution by scientific field of experimental proposals accepted in FY2009.

1-2 Industrial Proposals

The S, U, G, and P-type proposals are opened for nonproprietary industrial research of limited companies that can submit the Grant-in-Aid for scientific Research. Besides these, 28 industrial projects (Y-type) and 12 collaborative studies with private companies (C-type) were conducted. They are listed in Table 3.

A MEXT project, the Open Advanced Facilities Initiative for Innovation, has replaced by the Open Advanced Research Facilities Initiative; 9 industrial programs were initiated in FY2009. Protein crystallography was added to the accepting research methods in FY2009.

1-3 Statistics of the Proposals

The number of users, for all types of proposals, has reached 3,358. Although the number of experimental stations has decreased, the approved academic proposals and number of users have increased annually, as shown in Fig. 2. This indicates a high and increasing demand for synchrotron radiation and can be attributed to continuous improvements in the storage rings, beamlines, and end stations. The synchrotron has become one of the most important research tools to carry out advanced science experiments and developments. About 30% of the proposals are conducted by new spokespersons, which indicates that the Photon Factory is open to public academic scientists. Figure 3 shows the demographics indicating the distribution of users in terms of institution and position. More than three-fourths of the users belong to universities, with approximately 60% of the users associated with national universities. Sixty percent of the university users are graduate and undergraduate students; this indicates that the Photon Factory plays an important role in both research and education in universities. The geographical distribution of the Photon Factory users is shown in Fig. 4. Approximately 60% of the users come from the eastern part of Japan. However, users are from all over Japan, which also indicates the immense contribution of the Photon

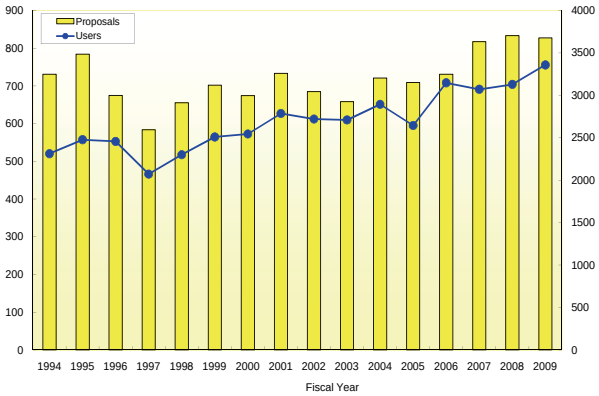

Figure 2
Number of registered PF users and scientific porposals over the period 1994-2009.

Table 3 List of C-type and Y-type proposals accepted in FY2009.

Proposal Number	Company
2009C001	Fuji Photo Film Co., Ltd.
2009C002	Nippon Steel Corp.
2009C003	Mitsui Chemical Analysis & Consulting Service Inc.
2009C004	Center Res. Inst.Electric Power Industry
2009C005	Japan Tobacco Inc.
2009C006	Canon Inc.
2009C007	Hitachi, Ltd.
2009C008	Nikon Corp.
2009C009	JFE Steel Corp.
2009C010	TOYOTA Motor Corp.
2009C011	Taiheiyo Consultant Co.,Ltd.
2009C012	NEOMAX ENGINEERING Co.,Ltd.
2009C013	NEOMAX ENGINEERING Co.,Ltd.

Proposal Number	Company	BL
2009Y001	Astellas Pharma Inc.	5A, 17A, NW12A
2009Y002	Pharma.Consortium Protein	5A, 17A, NW12A
2009Y003	Kyowa Hakko Kirin Co., Ltd.	5A, 17A, NW12A
2009Y004	Eisai Co., Ltd.	5A, 17A, NW12A
2009Y005	Chugai Phamaceutical Co., Ltd.	5A, 17A, NW12A
2009Y006	Daiichi-Sankyo Co., Ltd.	5A, 17A, NW12A
2009Y007	Ajinomoto Co., Inc..	5A, 17A, NW12A
2009Y008	Mitsubishi Chemical Co.	5A, 17A, NW12A
2009Y009	Sumitomo Chemical Co., Ltd.	9A, 12C, NW10A
2009Y010	Toray Research Center, Inc.	9A, 12C, NW10A
2009Y011	Health Analysis Laboratory, Ltd.	4A
2009Y012	Sony Co.	11A, 11B
2009Y013	Sony Co.	11A, 11B
2009Y014	Furukawa Electric Co., Ltd.	15C
2009Y015	Mitsubishi Chemical CO.	5A, 17A, NW12A
2009Y016	Univ. of Queensland, Australia	20B
2009Y017	Hitachi, Ltd.	14C1
2009Y018	DAIICHI SANKYO Co., Ltd.	5A, 17A, NW12A
2009Y019	Toyota Central R&D Labs., Inc.	7A
2009Y020	Sony Co.	11A, 11B
2009Y021	Sony Co.	11A, 11B
2009Y022	Health Analysis Laboratory, Ltd.	4A
2009Y023	AIST	15C
2009Y024	Hitachi, Ltd.	11B
2009Y025	Sony Co.	11A, 11B
2009Y026	Univ. of Queensland, Australia	20B
2009Y027	Mitsubishi Chemical CO.	5A, 17A, NW12A
2009Y028	Hitachi, Ltd.	14C1

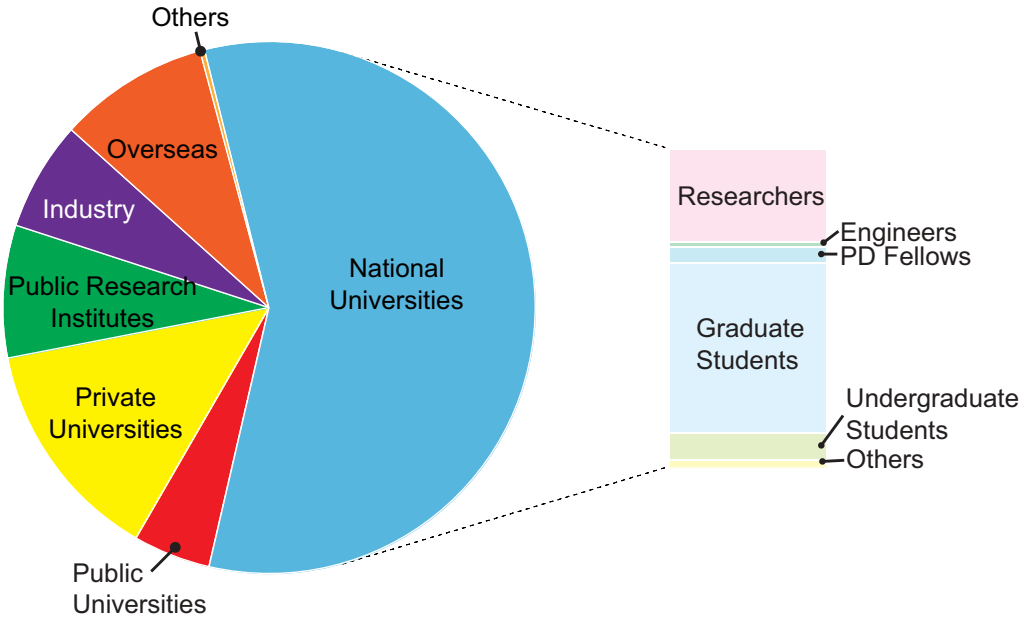

Figure 3
Indicating the distribution of users in terms of institution and field.

Factory to Japanese research and education. The registered number of papers published in 2009 based on experiments at the PF was 549 at the time of this writing and is expected to increase to more than 600. Besides these, 48 doctoral and 112 master theses have been presented thus far, which indicates the significant role of the Photon Factory in graduate-level university education.

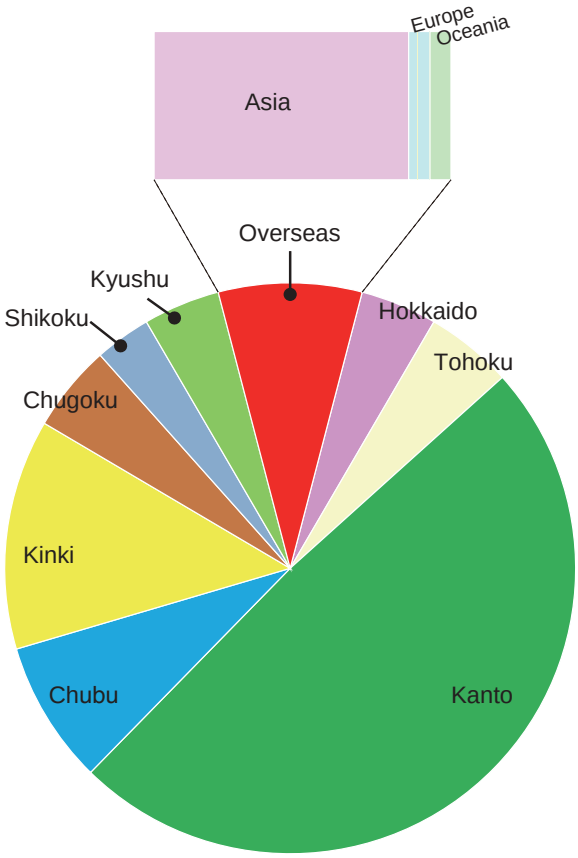

Figure 4
Regional distribution of the spokespersons of proposals accepted in FY2009.