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 1999-2010 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 1999-2010.

FY	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
S1	0	0	0	0	1	1	0	1	0	0	0	0
S2	3	2	2	3	2	0	3	6	1	4	6	3
U	2	0	5	3	2	4	0	1	7	3	2	2
G	323	308	339	321	318	382	310	388	403	402	397	407
P	22	17	18	16	9	13	10	22	14	14	14	16

Table 2 List of S-type proposals effective in FY2010.

Proposal No.	Spokesperson	Title
2006S1-001	M. Fujinami Chiba Univ.	Development of positron microscope
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
2010S2-001	K. Amemiya KEK-PF	Exploration of spintronics materials by soft X-ray polarization switiching
2010S2-003	Y. Nagashima Tokyo Univ. of Sci.	Laser spectroscopy of positronium negative ions and its applications
2010S2-004	A. Nakao KEK-PF	Structural studies of molecular crystals under extreme conditions

proposals, respectively. The number of current G-type proposals each year has been nearly 800 for the past few years. A full list of the proposals effective in FY2010 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. Table 2 shows a list of the S-type projects effective in FY2010. 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 FY2010.

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, 31 industrial projects (Y-type) and 17 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.

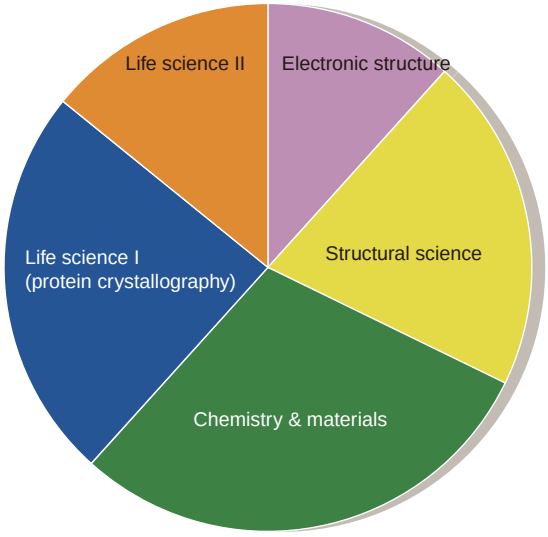

Figure 1
Distribution by scientific field of experimental proposals accepted in FY2010.

1-3 Statistics of the Proposals

The number of users, for all types of proposals, has reached 3,458. 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. Around 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 and Fig. 5. 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 Factory to Japanese research and education. The registered number of papers published in 2010 based on experiments at the PF was 571 at the time of this writing and is expected to increase to more than 650. Besides these, 40 doctoral and 77 master theses have been presented thus far, which indicates the significant role of the Photon Factory in graduate-level university education.

Table 3 List of C-type and Y-type proposals accepted in FY2010.

Proposal Number	Company
2010C001	Fujifilm Corp.
2010C002	Nippon Steel Corp.
2010C003	TORAY Industries. Inc.
2010C004	Japan Tobacco Inc.
2010C005	TOYOTA Motor Corp.
2010C006	Central Res. Inst. of Electric Power Industry
2010C007	Nikon Corp.
2010C008	Hitachi Ltd.
2010C009	Mitsui Chemical Analysis & Consulting Service Inc.
2010C010	JFE Steel Corp.
2010C011	Canon Inc.
2010C012	NEOMAX ENGINEERING Co.,Ltd.
2010C013	LIXIL Corp.
2010C014	Taiheiyo Consultanat Co. Ltd.
2010C015	NEC Corp.
2010C016	JX Nippon Oil & Energy
2010C017	Beam Seiko Instruments Inc.

Proposal Number	Company	BL
2010Y001	Astellas Pharma Inc.	5A, 17A, NW12A, NE3A
2010Y002	Pharma.Consortium Protein	5A, 17A, NW12A, NE3A
2010Y003	Kyowa Hakko Kirin Co., Ltd.	5A, 17A, NW12A, NE3A
2010Y004	Eisai Co., Ltd.	5A, 17A, NW12A, NE3A
2010Y005	Mitsubishi Chemical Co.	5A, 17A, NW12A, NE3A
2010Y006	Daiichi-Sankyo Co., Ltd.	5A, 17A, NW12A, NE3A
2010Y007	Chugai Pharmaceutical Co., Ltd.	5A, 17A, NW12A, NE3A
2010Y008	Mochida Pharmaceutical Co.	5A, 17A, NW12A, NE3A
2010Y009	Sumitomo Chemical Co., Ltd.	9A, 12C, NW10A
2010Y010	AJINOMOTO Co., Inc.	5A, 17A, NW12A, NE3A
2010Y011	Toray Research Center	9A, 9C, 12C, NW10A, 2A
2010Y012	Sony Co.	11A, 11B
2010Y013	Hitachi, Ltd..	11B
2010Y014	Toyota Central R&D Labs., Inc.	11B
2010Y015	Mitsubishi Chemical Group Sci. and Tech. Res. Cent. Inc.	9A
2010Y016	Sumitomo Electric Industries, Ltd.	9A
2010Y017	Fujifilm Corp.	1A, 5A, 17A, NW12A, NE3A
2010Y018	Univ. of Queensland, Australia	20B
2010Y019	Sony Co.	11A, 11B
2010Y020	Mitsubishi Chemical Group Sci. and Tech. Res. Cent. Inc.	14B
2010Y021	Sony Co.	11A
2010Y022	Hitachi, Ltd.	11B, 14C
2010Y023	Health Analysis Laboratory, Ltd.	4A
2010Y024	R&D Partnaership for Future Powe Electronics Technology	15C
2010Y025	Mitsubishi Chemical Group Sci. and Tech. Res. Cent. Inc.	9A, 12C
2010Y026	Sumitomo Electric Industries, Ltd.	9A
2010Y027	AIST	14C
2010Y028	Hitachi Ltd.	11B, 13A
2010Y029	JEE Steel Corporation	11A
2010Y030	Showa Denko K.K.	11A, 11B
2010Y031	Sony Co.	11A, 11B

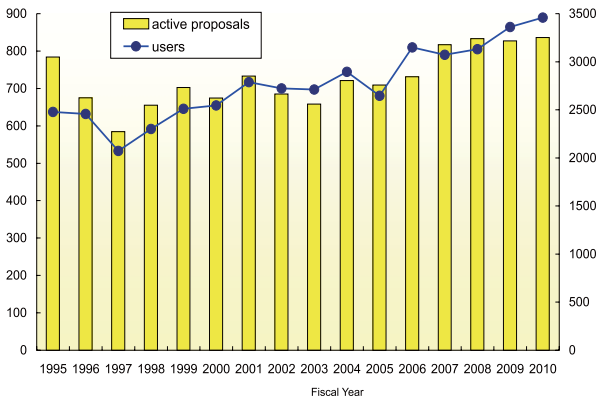

Figure 2
Number of registered PF users and scientific porposals over the period 1995-2010.

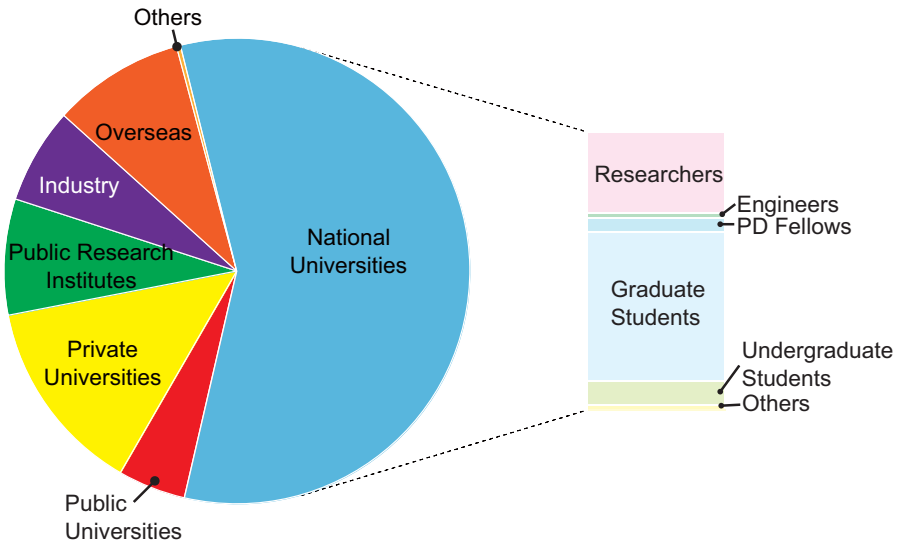

Figure 3
Indicating the distribution of users in terms of institution and positon.

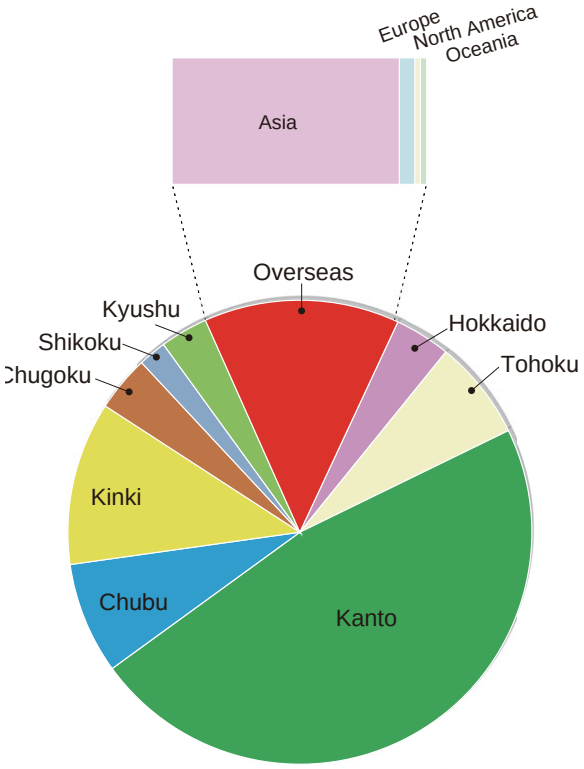

Figure 4
Regional distribution of the spokespersons of proposals accepted in FY2009.

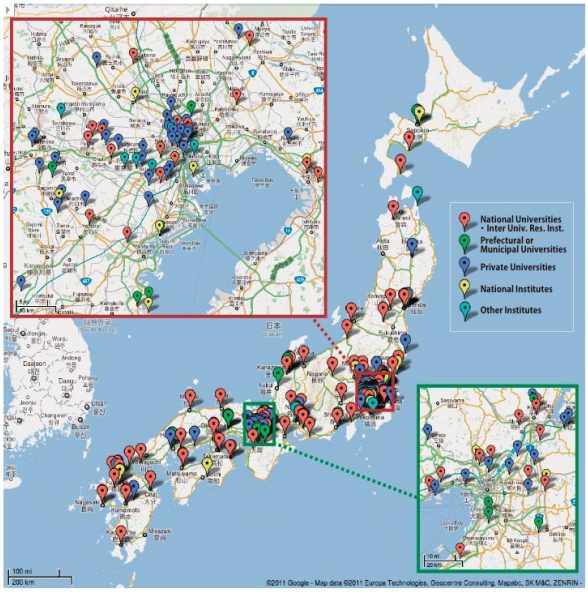

Figure 5
Affiliation of Photon Factory users in FY 2010 (domestic users only).