6. Industrial Use

1. SPring-8

1-1. Overview

In FY2018, 148 companies conducted experiments at the public and contract beamlines in SPring-8, and 116 companies used the public beamlines. Of the approved proposals at public beamlines, 16.4% had project leaders by companies (proposals by industrial users), while 23% were teams, which included industrial users (Fig. 1). About 70% of the approved proposals by industrial users were Proprietary Proposals. These statistics suggest that the experiments conducted at SPring-8 are useful and effective for industrial research and development among company users. Over half of the proposals by industrial users were performed at the three Engineering Science beamlines: BL14B2, BL19B2, and BL46XU (Fig. 2). Proprietary Proposals were mainly performed at these Engineering Science beamlines (about 66%).

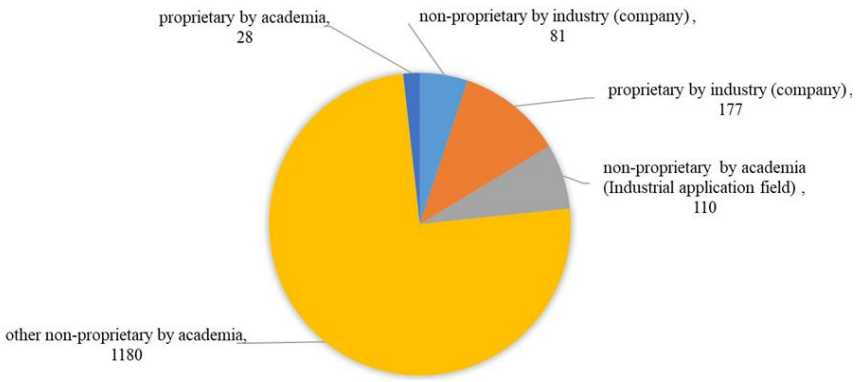

Fig. 1. Number of approved proposals in FY2018 categorized by the organization of the project leader.

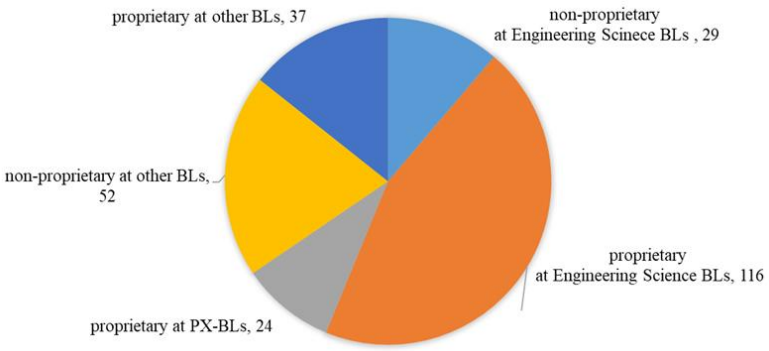

Fig. 2. Performed proposals by industrial users at public beamlines (FY2018).

1-2. General proposals for industrial applications

General proposals for industrial applications are non-proprietary. One requirement for general proposals for industrial applications is that at least one person on the project team must be employed by a private company. After 2018A, the proposal review frequency submitted to the three Engineering Science Beamlines increased from four to six times per year. Of the 221 submitted proposals in FY2018, 144 were approved.

1-3. Priority research program for industrial applications

At the three Engineering Science beamlines, cross-SR facility use proposals for industrial application were conducted as a priority research program. The aim of this program is to proceed outputs of SR experiments in industrial application field by using SPring-8 and other SR facilities considering their characteristics of SR beams. Five of the eight submitted proposals were approved and performed in FY2018.

In the fall of 2018, the evaluation committee of the priority research program "New industrial area proposals (from 2014A to 2017B)" concluded that the new industrial area proposals effectively promoted the use of SPring-8 in new industrial fields.

1-4. Measurement services

In FY2018, 47% of the proposals at the three Engineering Science beamlines were from industrial users. Most (80%) were proprietary proposals (Fig. 3). Less than half of the nonproprietary proposals were conducted by academia users (project leaders belonging to academic organizations such as universities and public institutes). Almost all nonproprietary proposals at the Engineering Science beamlines (58% of all proposals at industrial beamlines) were general proposals for industrial applications.

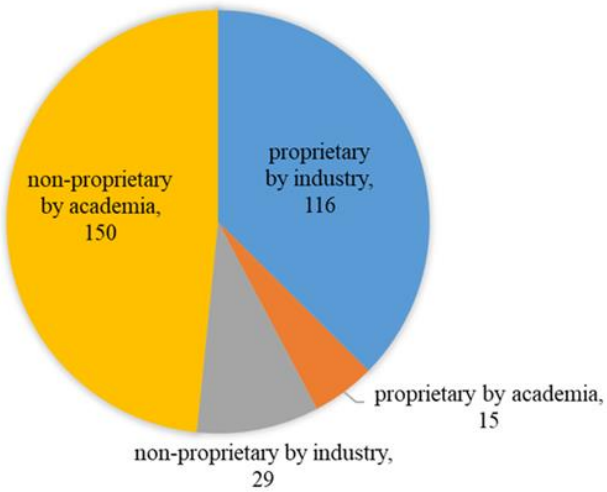

Fig. 3. Types of proposals at the three Engineering Science beamlines in FY2018.

1-5. Lectures, workshops, and training for users in industrial application fields

The industrial application division held lectures, workshops, and training for beginners and potential users in industrial application fields. Lectures on XAFS analysis and workshops were held two and three times in FY2018, respectively. In addition, there were three workshops on electron devices, metals, and catalysis. There were 240 participants at the workshop titled, "The 15th Joint Conference on Industrial Applications of SPring-8", which was held on September 5th and 6th. Trainings on XAFS and X-ray imaging were held seven times and once at BL14B2, respectively. Trainings on powder diffraction and SAXS at BL19B2 were held twice and once, respectively. A training on GIXD and HAXPES was held once at BL46XU.

1-6. Publications of industrial application fields

An XAFS spectral database of standard samples was published on the SPring-8 website (http://support.spring8.or.jp/xafs/standardDB/standardDB.html). By the end of FY2018, there were 913 published XAFS spectra. Additionally, there were 48, 34, and 41 peer-reviewed papers published in 2018 for research at BL14B2, BL19B2, and BL46XU, respectively.

2. SACLA

Please refer to *SACLA Beamlines*.

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