# SACLA

## I. Machine Operation & Beamlines

Our sixth year of operations proceeded without any significant issues. Operation statistics are summarized in Table 1. The ratio of downtime to user time was kept below 4%, a reasonably low rate for linac-based light sources.

**Table 1.** Operation Statistics for FY2017

| | Time (h) |
|---|---|
| Total operation time | 6281 |
| User time | 5466 |
| Facility tuning time | 701 |
| Study time | 4574 |
| Downtime | 234 |

In 2012, two beamlines, BL3 for XFEL and BL1 for broadband spontaneous light, were open for users, while all experiments were conducted with BL3. As the newest beamline, construction of BL2 was completed during the summer shutdown of 2014, and first laser amplification was achieved on October 21. An upgraded beamline for soft X-ray FEL, BL1, which combines the prototype accelerator of SACLA (SCSS), started operation in 2016. For more details, please refer to SACLA Beam Performance in this volume.

## II. User Program and Statistics

SACLA calls for public user proposals twice per year.

In FY2016, JASRI introduced the proprietary research of General Proposals and the Proprietary Time-Designated Proposals. The project leaders of these proprietary proposals are not required to publish their research results, but required to pay each beamtime fee. In addition, to apply for the proprietary research the project leaders should be affiliated with a corporate enterprise located and registered in Japan.

Table 2, Figs. 1 and 2 provide statistics on proposals, users, and beamtime.

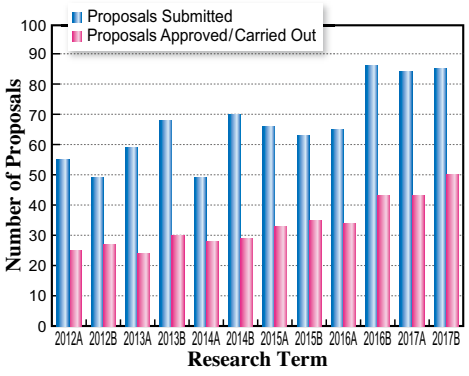


Fig. 1

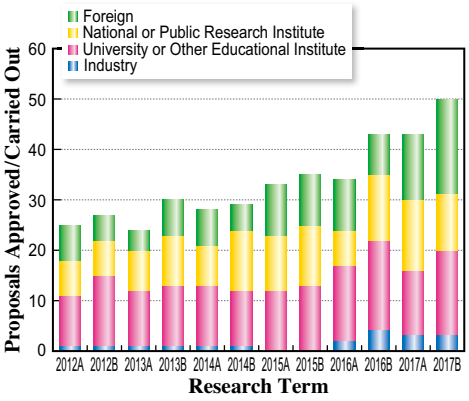


Fig. 2

**Table 2.** Number of proposals submitted, proposals approved/carried out, cumulative users, and beamtime available by research term

| Half-year Research Term | Proposals Submitted | Proposals Approved / Carried Out | | | | | Cumulative Users | Beamtime Carried Out (Shifts) |
|---|---|---|---|---|---|---|---|---|
| | | | Priority Strategy Proposals | Non-proprietary | Proprietary | | | |
| | | | | General Proposals | General Proposals | Time-Designated Proposals | | |
| 2012A | 55 | 25 | (12) | (13) | – | – | 297 | 126 |
| 2012B | 49 | 27 | (19) | (8) | – | – | 461 | 154 |
| 2013A | 59 | 24 | (15) | (9) | – | – | 268 | 117 |
| 2013B | 68 | 30 | (19) | (11) | – | – | 410 | 139 |
| 2014A | 49 | 28 | (20) | (8) | – | – | 400 | 147 |
| 2014B | 70 | 29 | (17) | (12) | – | – | 430 | 140 |
| 2015A | 66 | 33 | (23) | (10) | – | – | 527 | 144 |
| 2015B | 63 | 35 | (23) | (12) | – | – | 552 | 152 |
| 2016A | 65 | 34 | (21) | (12) | (1) | – | 538 | 158 |
| 2016B | 86 | 43 | (21) | (20) | (1) | (1) | 650 | 197 |
| 2017A | 84 | 43 | – | (43) | (0) | (0) | 577 | 210 |
| 2017B | 85 | 50 | – | (50) | (0) | (0) | 642 | 244 |

One shift = 12 hours at SACLA beamlines