

SACLA

I. Machine Operation & Beamlines

Our ninth 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 FY2020

		Time (h)
Total operation time		5798
User time	BL1	840
	BL2	1044
	BL3	1368
Facility tuning time		948
Downtime		109.1

In 2012, two beamlines, BL3 for XFEL and BL1 for broadband spontaneous light, were opened for users, while all experiments were conducted at 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. Parallel user operation of BL2 and BL3 started in 2018.

II. User Program and Statistics

SACLA normally calls for public user proposals twice per year. However, due to the COVID-19 situation, the 2020A term was extended to March 2021. Most of the user experiments were rescheduled for the second half of FY2020. Some new proposals were additionally approved for the extension period.

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.

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

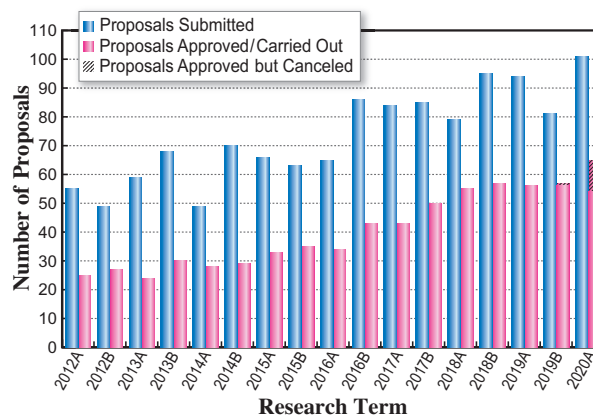


Fig. 1

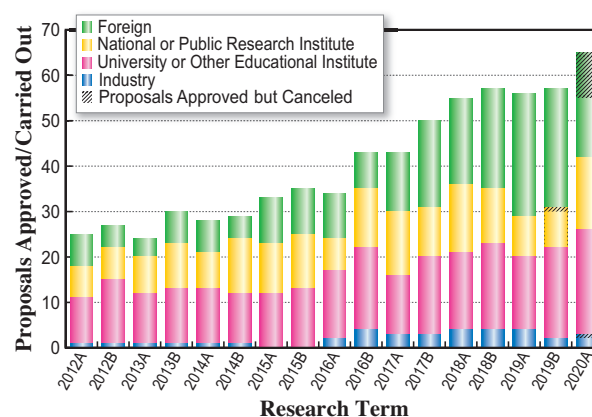


Fig. 2

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 General Proposals	Proprietary General Proposals	Proprietary 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)	650	197
2017A	84	43	–	(43)	(0)	577	210
2017B	85	50	–	(50)	(0)	642	244
2018A	79	55	–	(55)	(0)	643	257
2018B	95	57	–	(56)	(0)	653	264
2019A	94	56	–	(55)	(0)	564	259
2019B	81	57	–	(56)	(0)	650	266
2020A	101	65	–	(54)	(0)	461	276

One shift = 12 hours at SACLA beamlines