

SACLA

I. Machine Operation & Beamlines

Our twelfth 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 3%, a reasonably low rate for linac-based light sources.

Table 1. Operation Statistics for FY2024

		Time (h)
Total operation time		5694
User time	BL1	1428
	BL2	1920
	BL3	2848
Facility tuning time		696
Downtime		145.8

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. Moreover, SACLA Feasibility Study Program has started since 2021A to provide an opportunity to experience the use on a trial basis for the purpose of dissemination and enlightenment.

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 corporate enterprises or academic research institutions, which are located and registered in Japan.

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

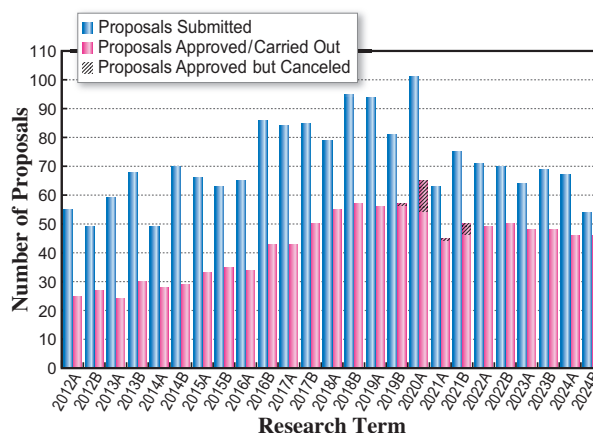


Fig. 1

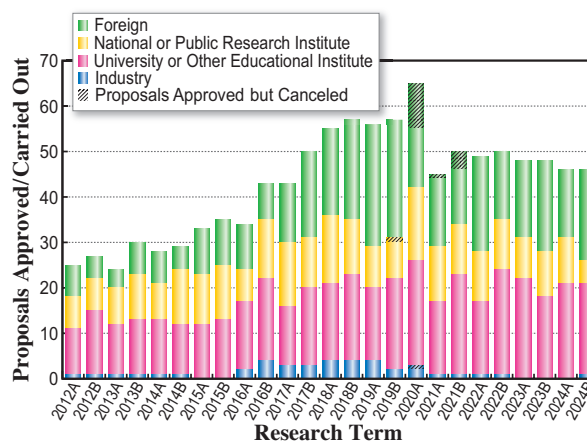


Fig. 2

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
2021A	63	45	—	(44)	(0)	465	248
2021B	75	50	—	(46)	(0)	468	254
2022A	71	49	—	(49)	(0)	570	249
2022B	70	50	—	(50)	(0)	588	259
2023A	64	48	—	(48)	(0)	519	248
2023B	69	48	—	(48)	(0)	560	269
2024A	67	46	—	(45)	(0)	457	246
2024B	54	46	—	(45)	(1)	498	266

One shift = 12 hours at SACLA beamlines