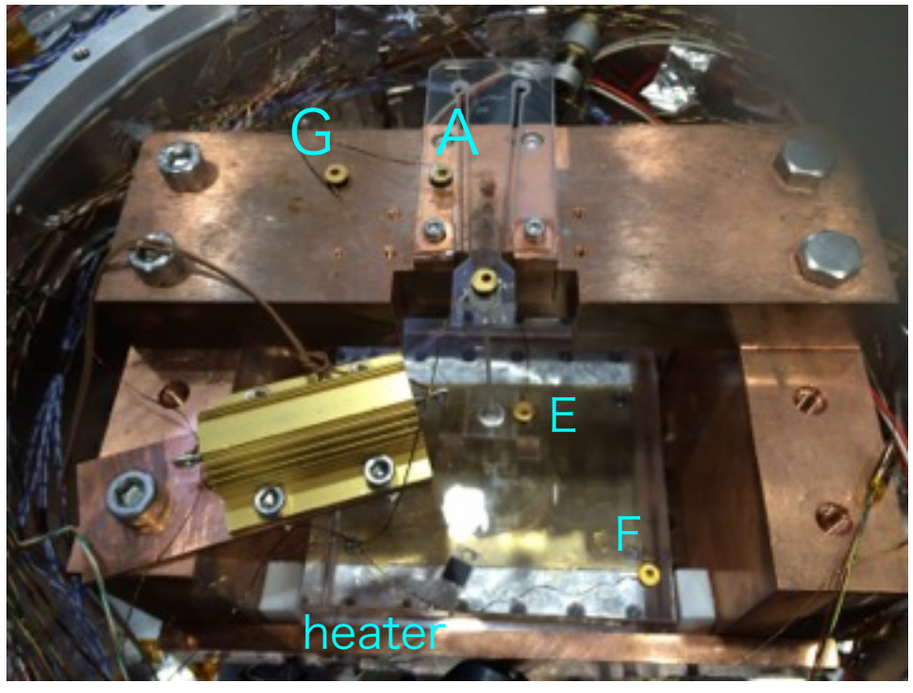
My work in 2016

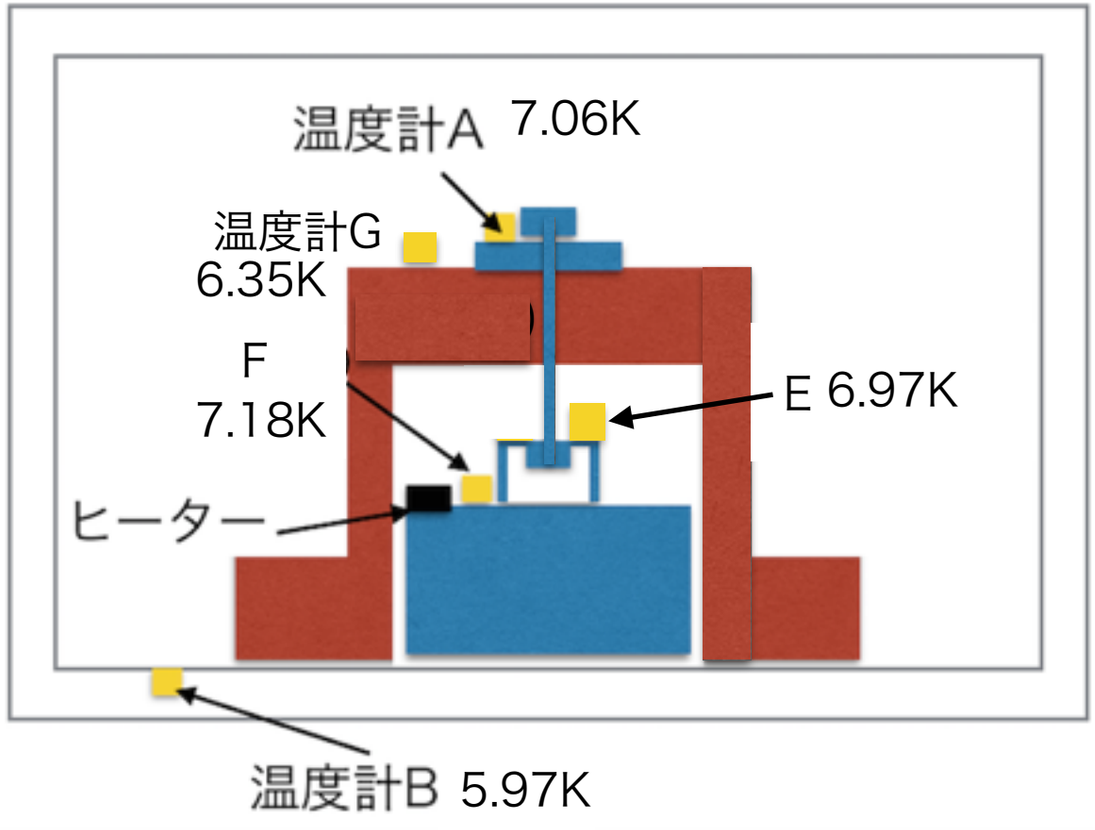
3-2

Hiroki Tanaka

heat load test(9th)

After cooling down





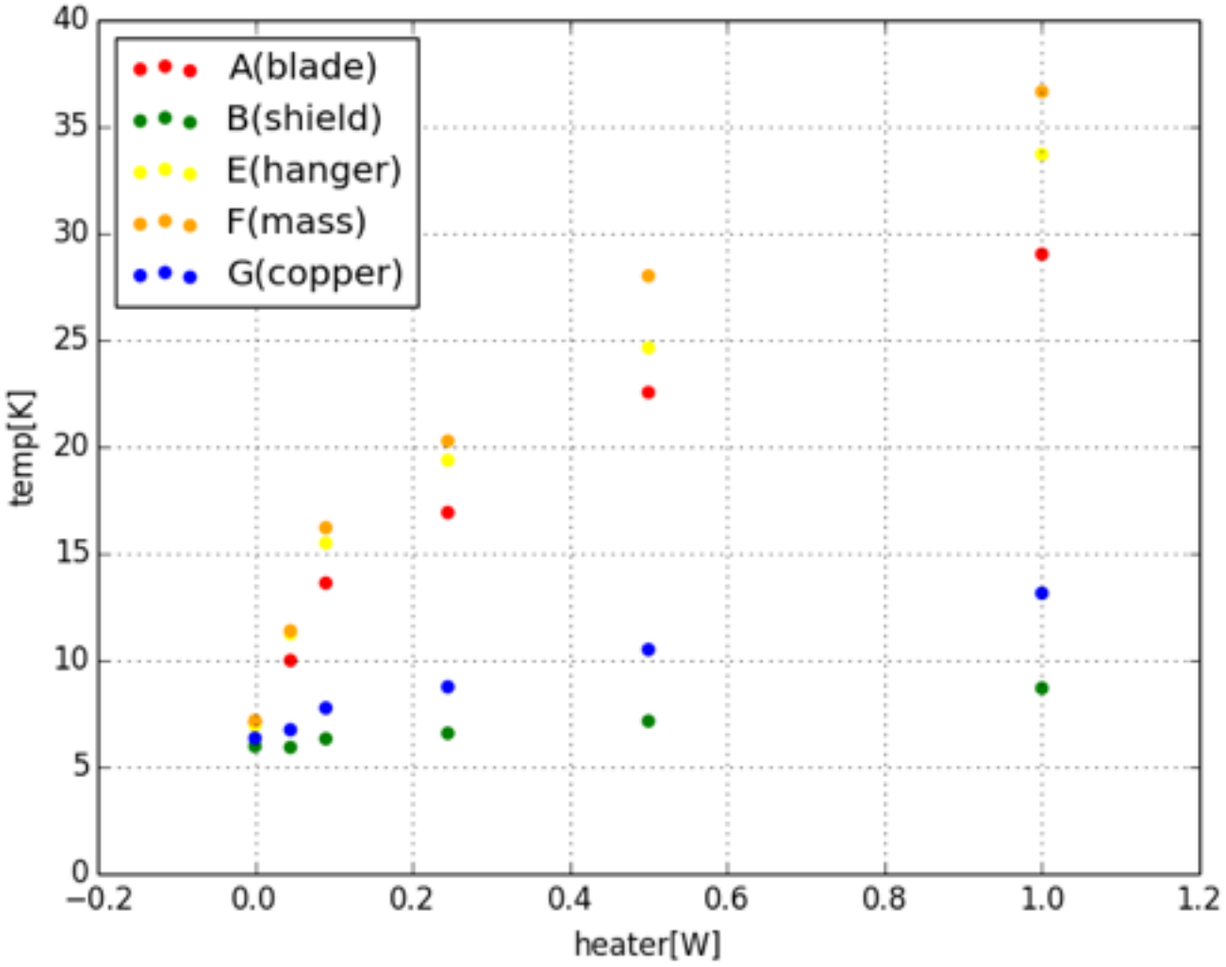
Result

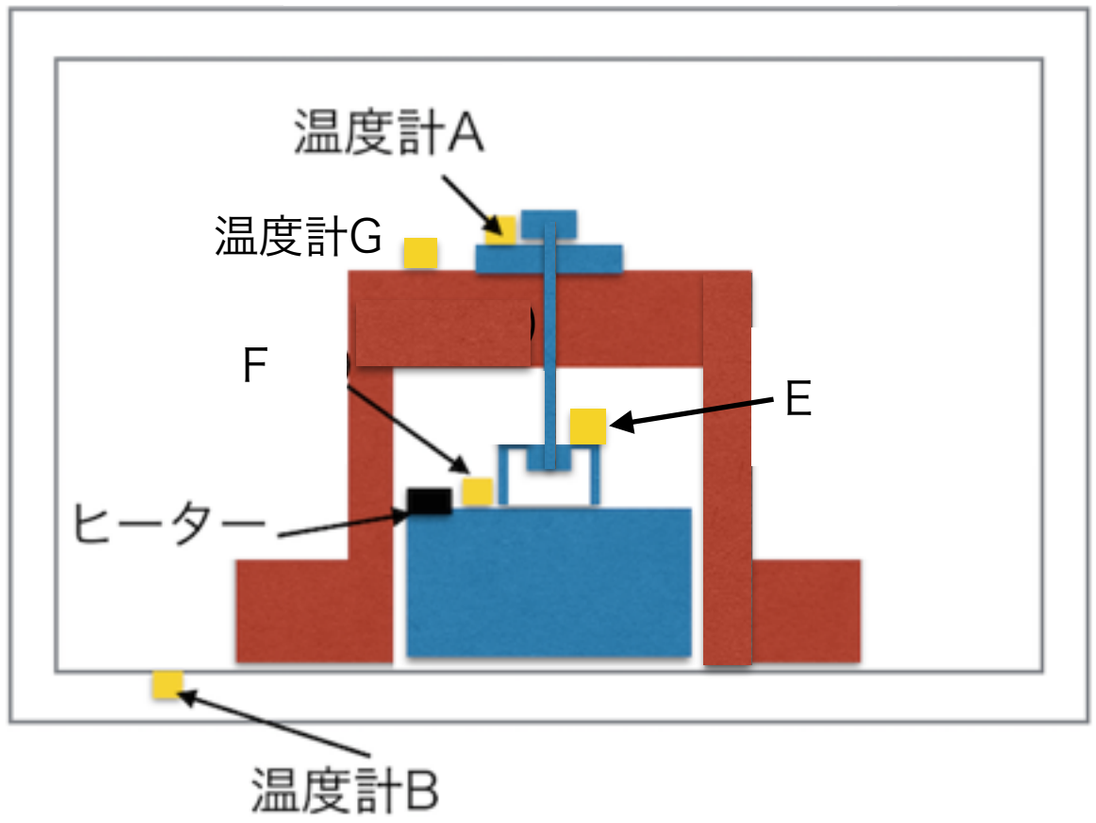
(The graph is shown on the next slide)

Heater[W]	Tmass[K]	Tblade	Tcopper	hanger	Inner shield	dTmass/dt[K/h]	dTblade/dt	dTcopper/dt	dThanger/dt	dTshield/dt
0	7.18	7.08	6.35	6.97	5.97	0.016	0.023	0.022	0.019	0.023
0.045	11.38	9.99	6.74	11.24	5.92	-0.002	-0.003	-0.003	-0.002	-0.003
0.09	16.21	13.62	7.76	15.49	6.32	0.001	0.001	0.009	-0.001	0.01
0.245	20.27	16.92	8.75	19.37	6.58	-0.004	0.002	0.008	0	0.01
0.5	28.01	22.55	10.5	24.64	7.15	-0.002	0.001	0.003	0.001	0.009
1	36.64	29.03	13.14	33.71	8.69	-0.016	0.008	0.004	0.01	-0.004

We confirmed the speed of all temperatures became constant.

heat load test(9th)





heat load test(9th)

- If we know the thermal conductivity of sapphire fiber exactly, we can calculate how much each temperature should be.

- We are asking Sascha the exact thermal conductivity.

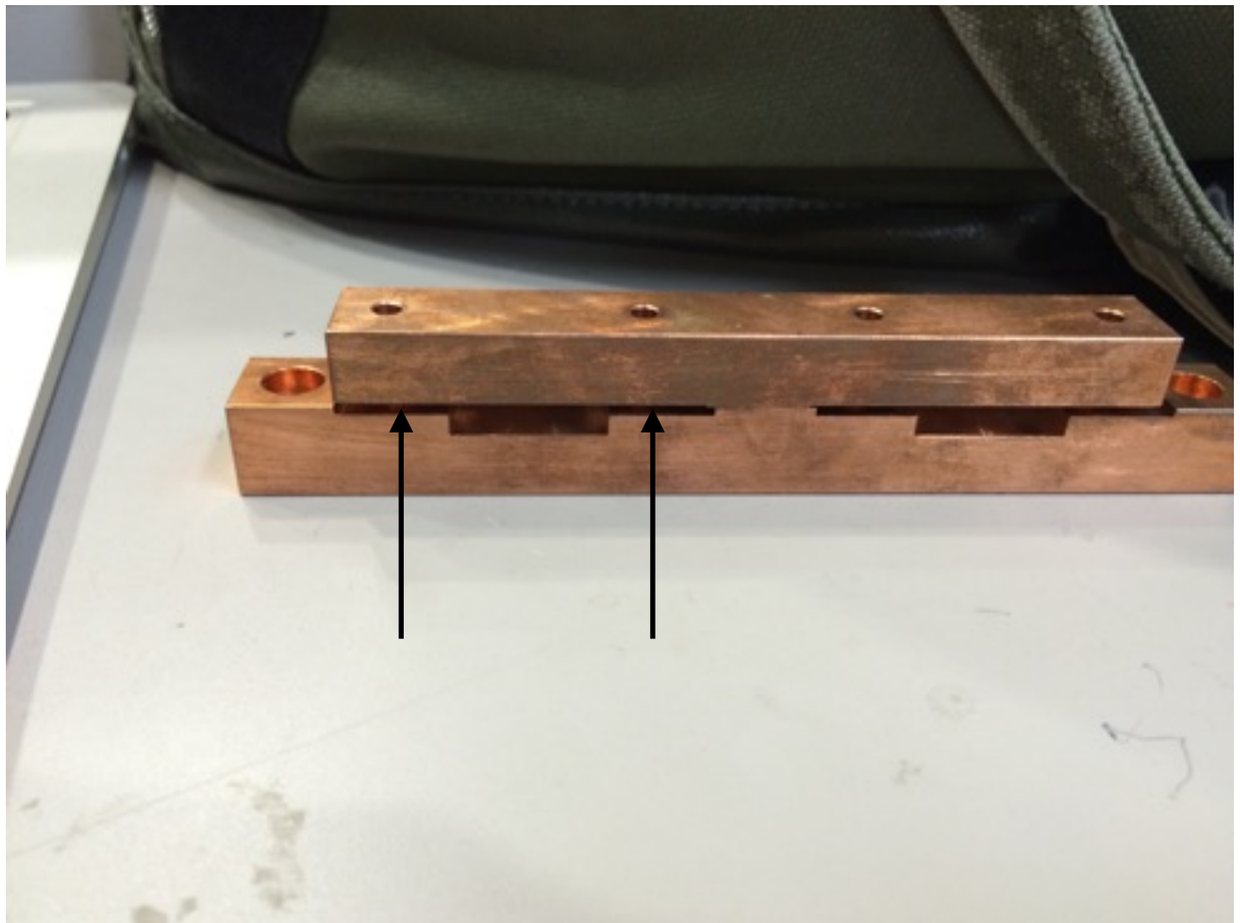
Future work1

- We will compare the measured temperatures and the calculated temperatures.

- We will check the calibration of the sensors using the liquid nitrogen.

Future work2

We will change the copper clamp to the one shown on this page to reduce the thermal resistance between the blade and the copper support.



Future work2

- Now the height of the copper clamp is too tall to install into the cryostat.

- I will go to ISSP and make it short.