

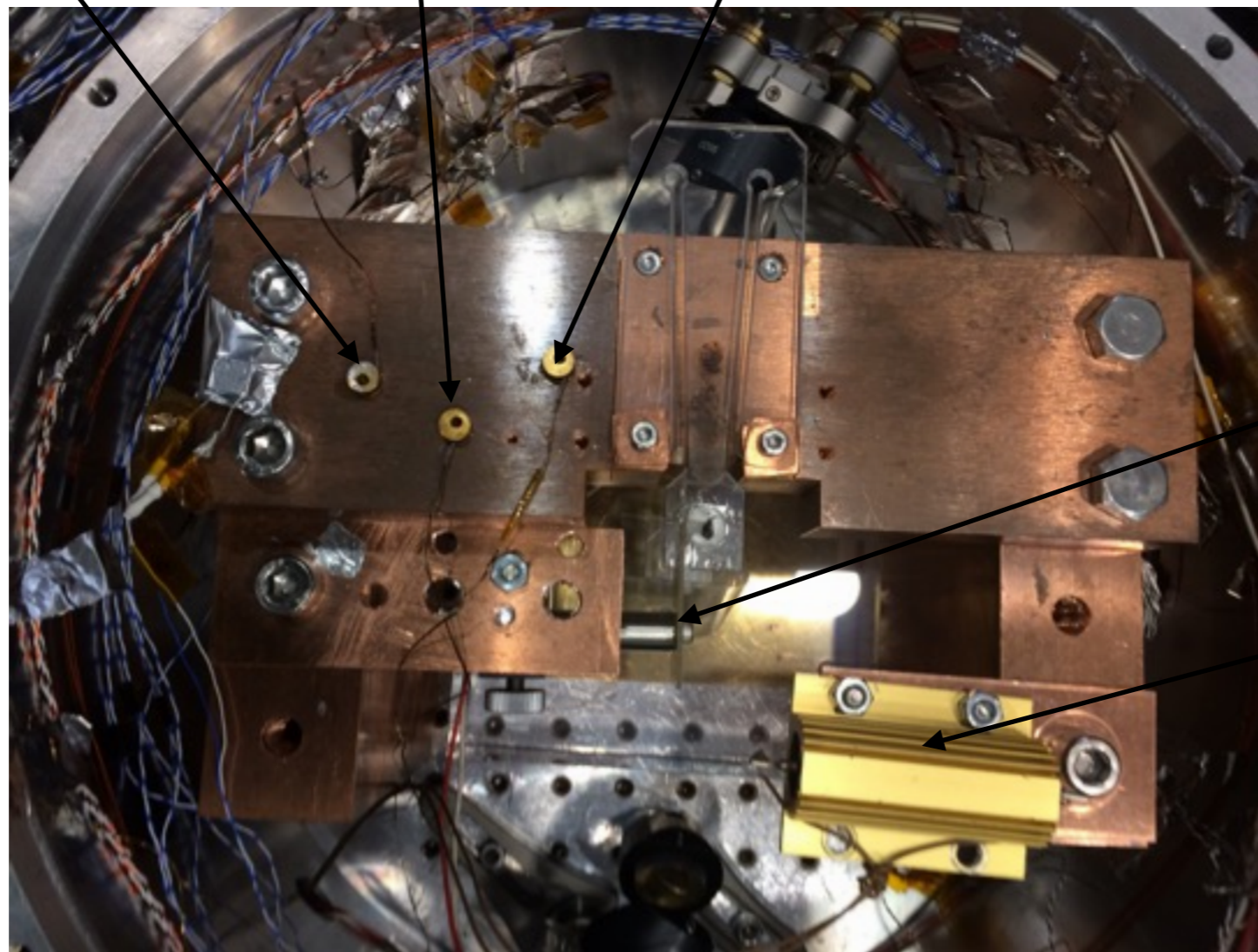
My work in 2015

12-4

Hiroki Tanaka

Q measurement

A(blade) D(mass) E(hanger)



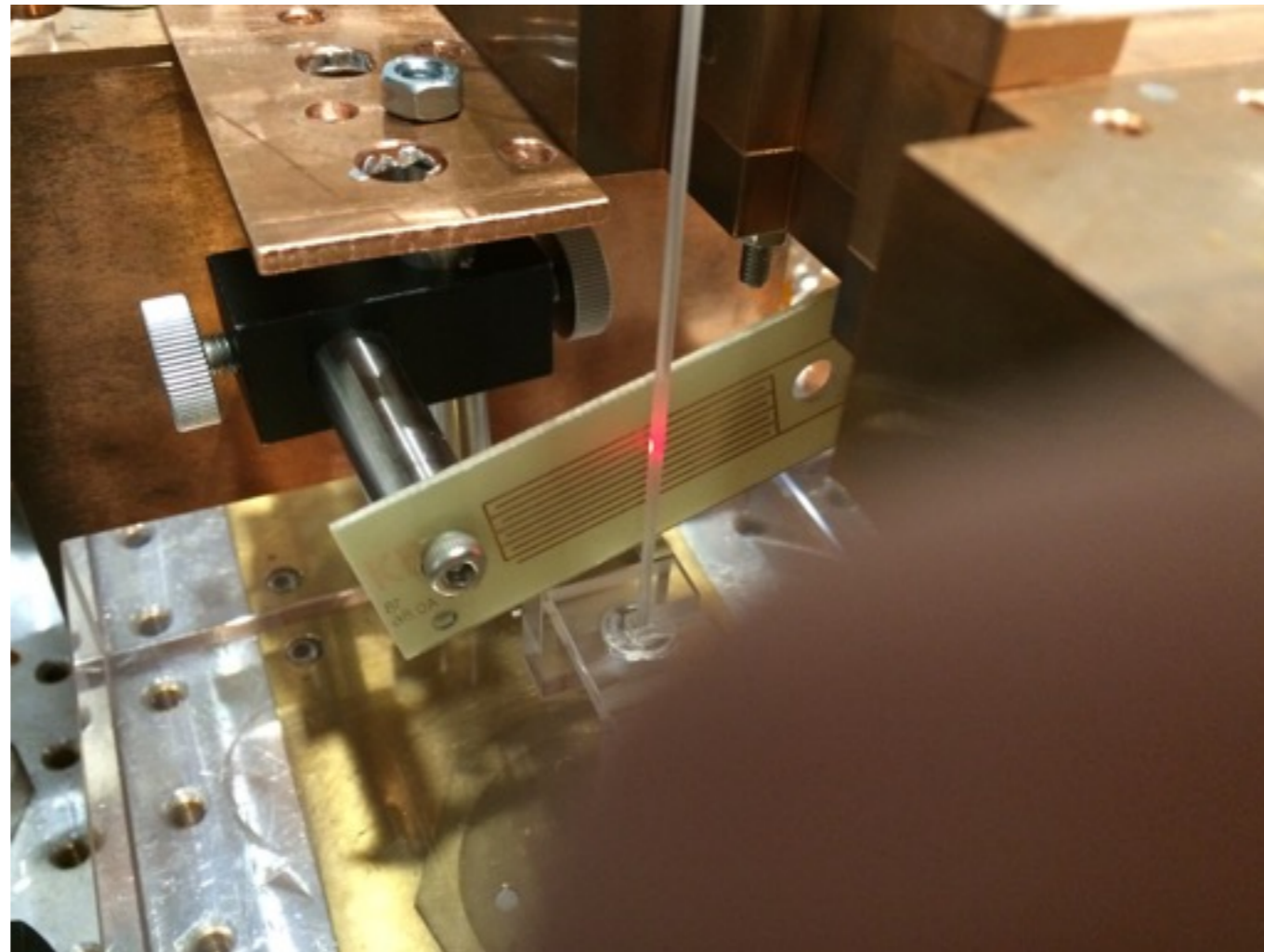
Actuator

heater

Q measurement

- There was no peak.
- The actuator was not connected to the cable well.
- We changed the actuator.

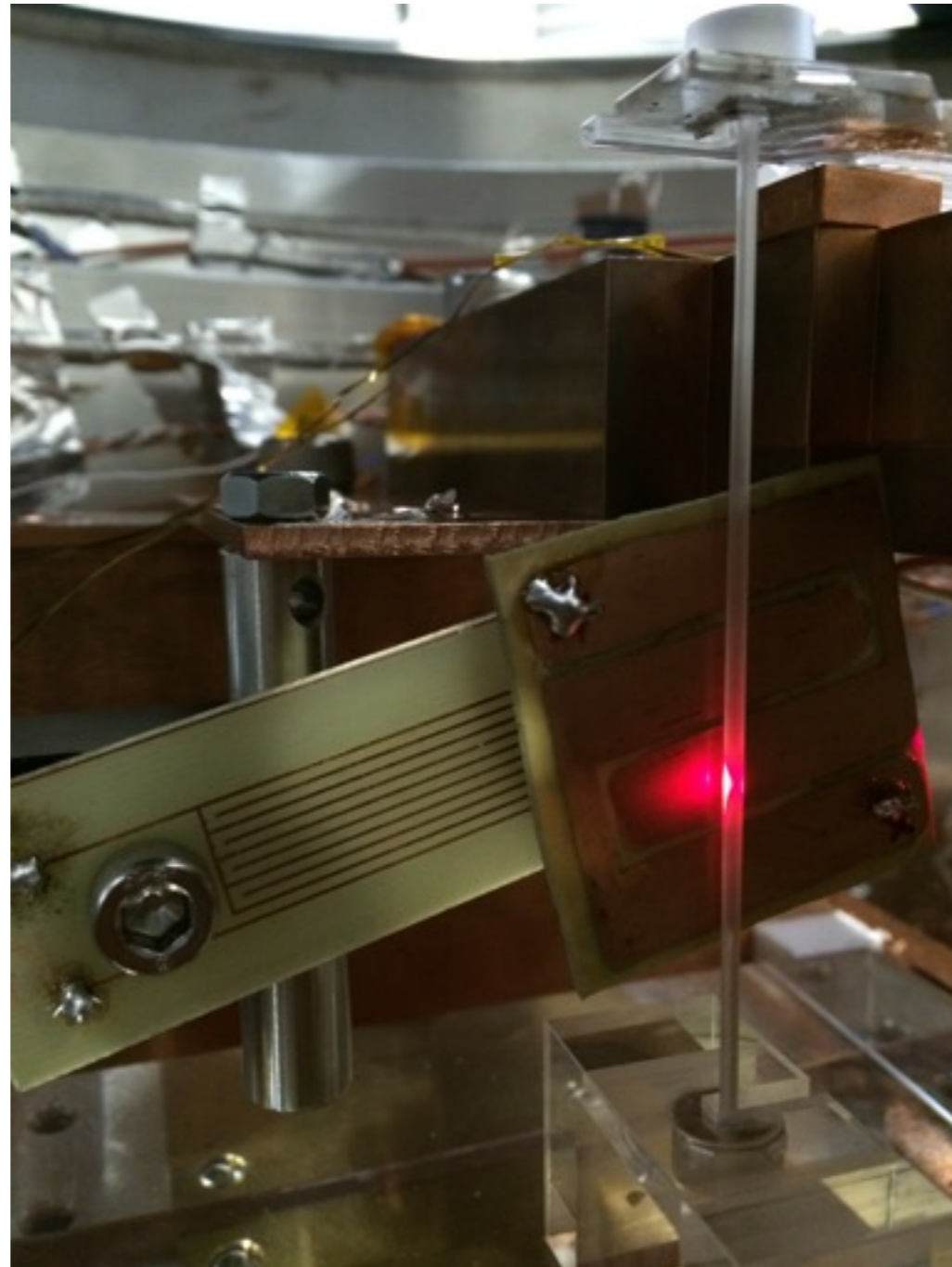
Q measurement



Q measurement

- There was no peak again.
- We changed the actuator again.

Q measurement



Q measurement

- 1300Hz~2200Hz、 no peak
- There was no peak for pendulum mode either.

Result(heat load test)

This is the result after temperature calibration.

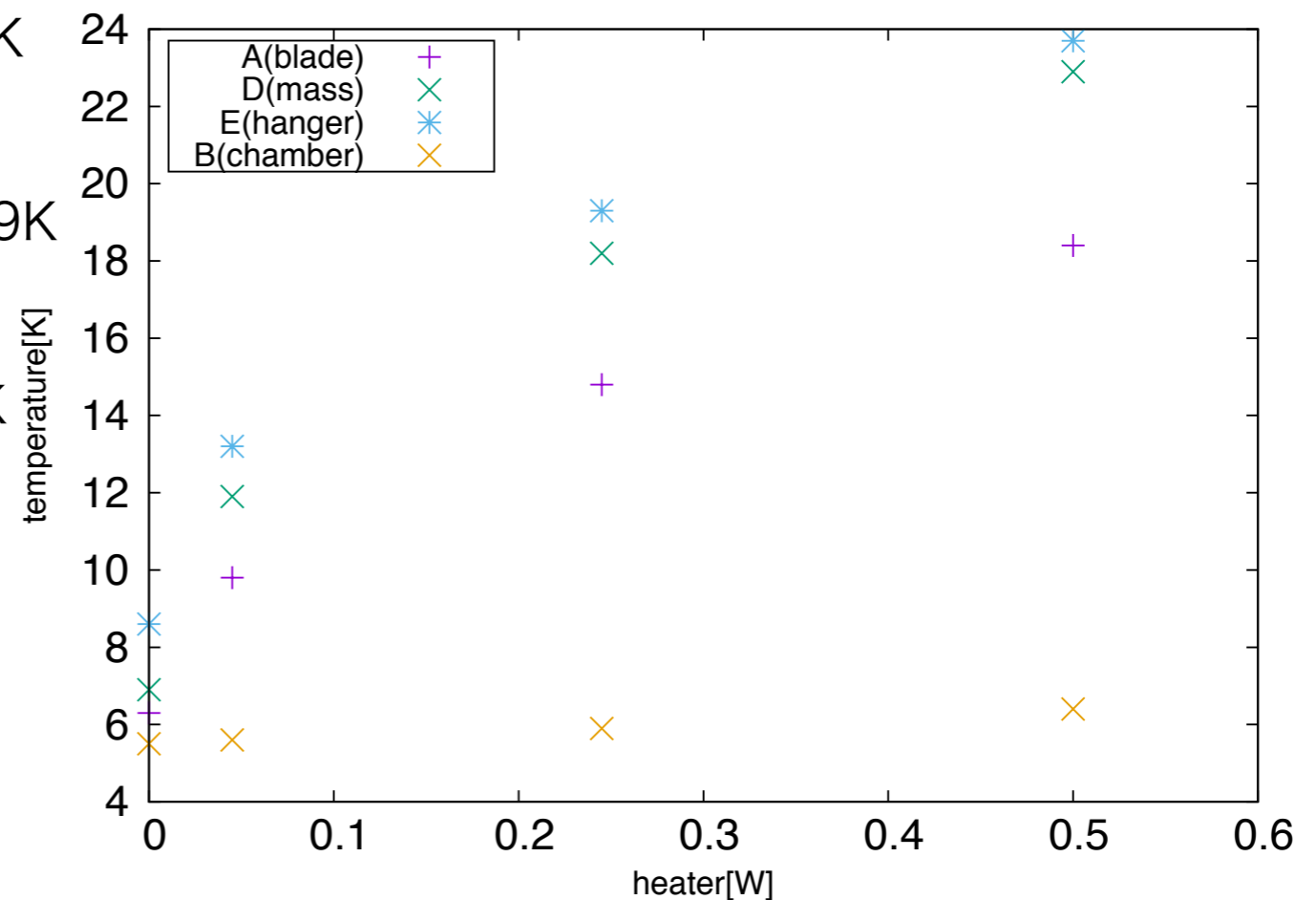
0W ... A6.3K D6.9K E8.6K B5.5K

0.045W ... A9.8K D11.9K E13.2K B5.6K

0.245W ... A14.8K D18.2K E19.3K B5.9K

0.50W ... A18.4K D22.9K E23.7K B6.4K

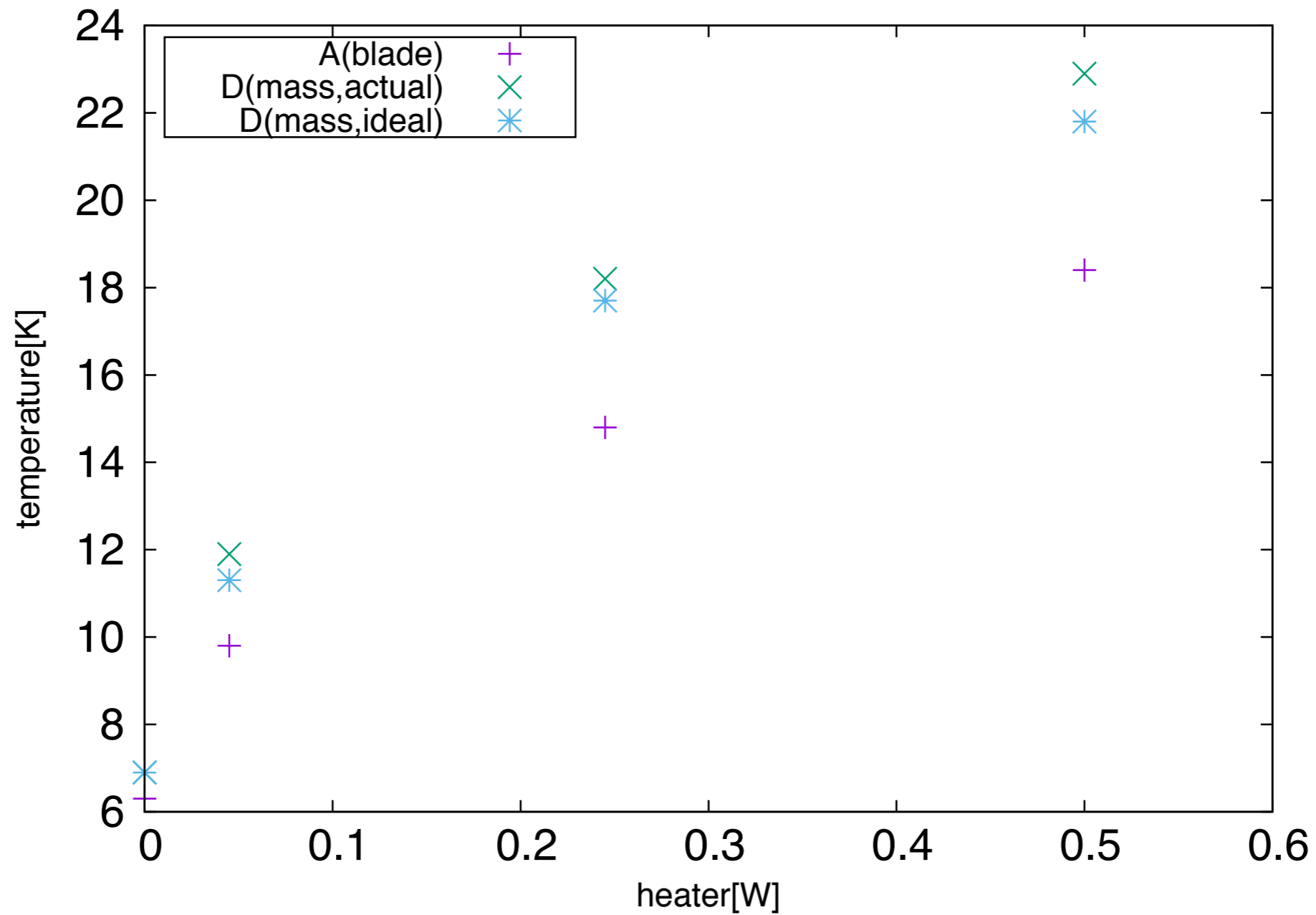
We wondered why the temperature of the hanger is higher than that of the mass.



heat load test

- We assumed that there is only the sapphire fiber between the blade and the mass.
- We calculated the ideal temperature of the mass.

heat load test



thermal resistance between
the blade and the copper

- $0.50\text{W} \cdots 24(\text{K/W})$
- $0.245\text{W} \cdots 36(\text{K/W})$
- $0.045\text{W} \cdots 93(\text{K/W})$

Future work

- We will move the beam spot to the center of the fiber.
- We will find the peak seeing the signal without the LabView program.