Cryogenic accelerometer

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Cryopayload meeting 9th Jan. 2013

Out line

<1>Cryogenic accelerometer

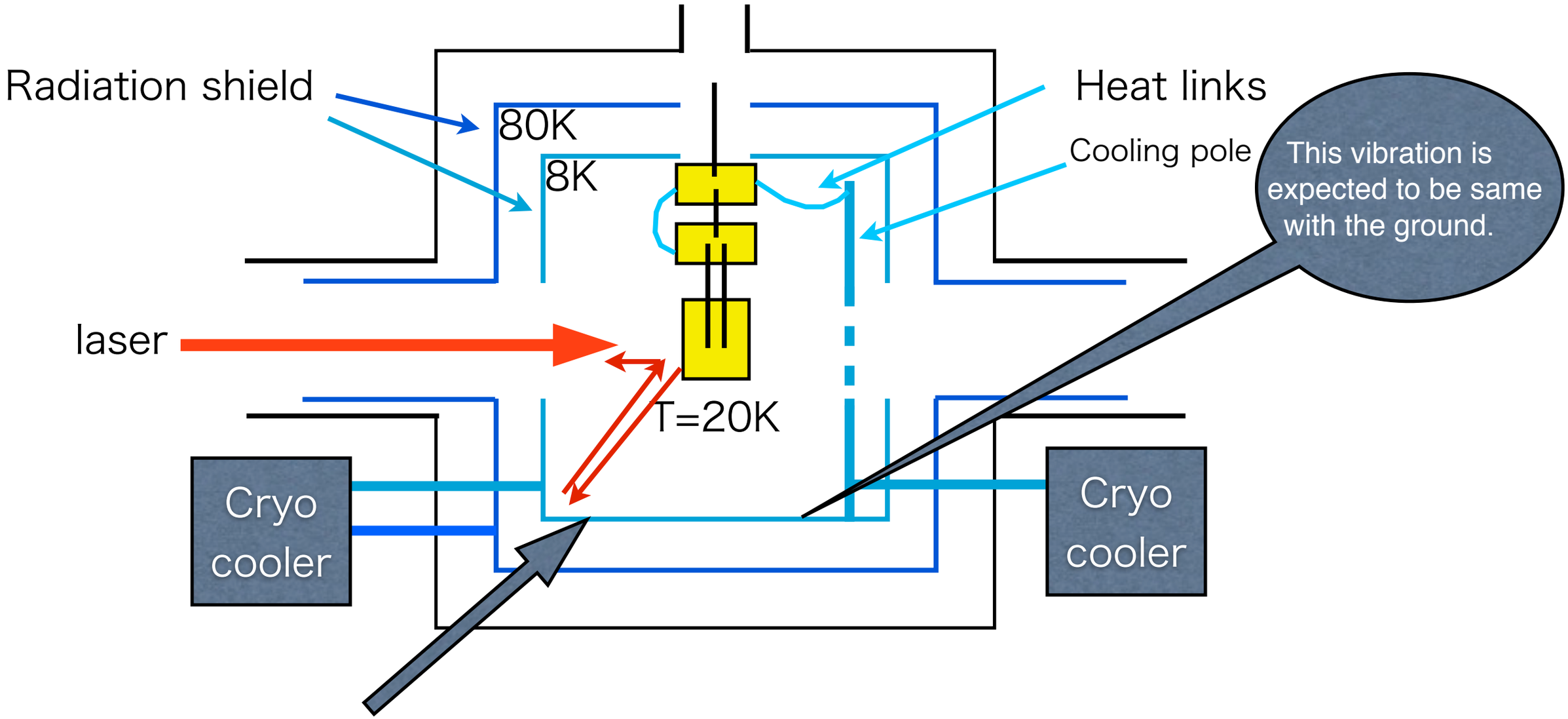
(1)Adaptor for new cryogenic cooler

(2)Glue

(3)Contrast of the MI

Purpose

Measurement of the vibration on the radiation shield.



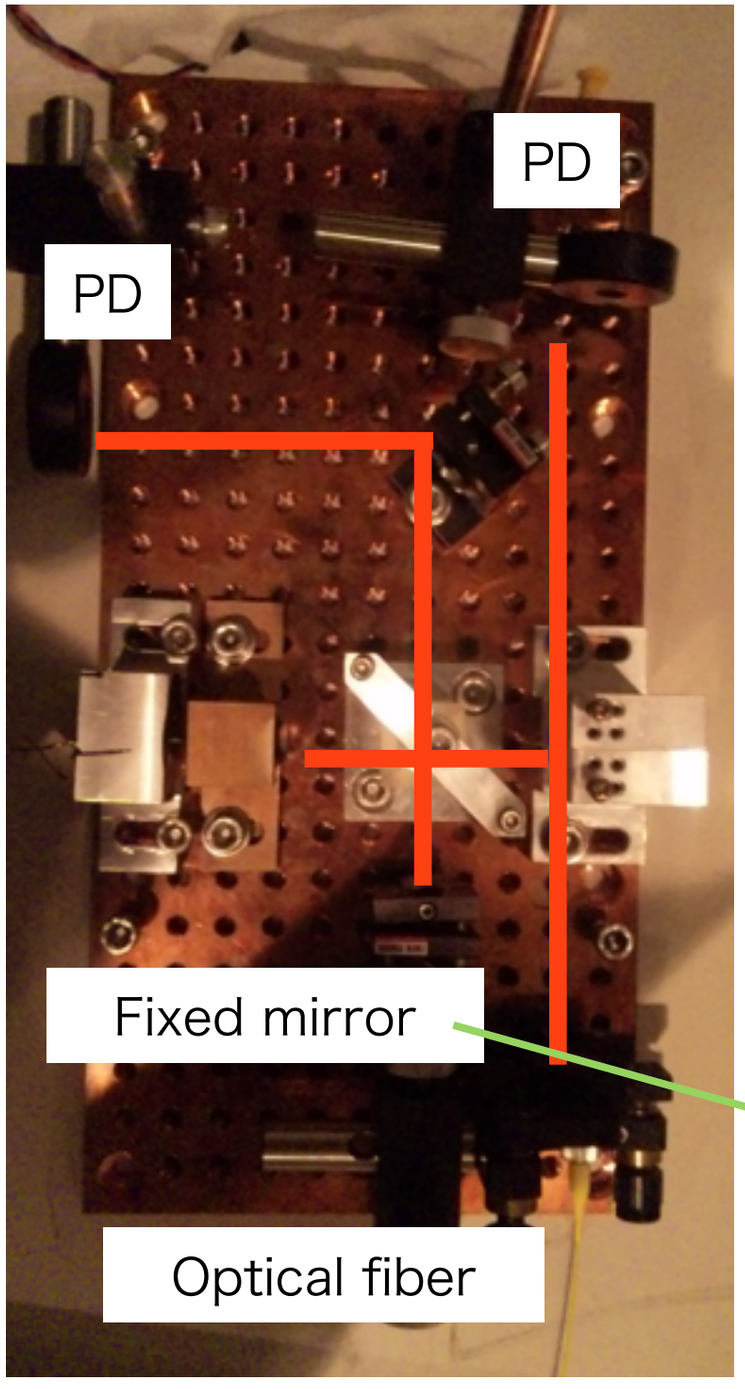
The vibration of the radiation shield may swing the test mass through the heat links.
The scattering laser may be reflected by the shield and recombine into main laser.

We will measure the vibration on this radiation shield with cryocooler ON.
The real measurement will be run in Toshiba(Yokohama-city) in February.

Accelerometer

We will have a cooling test of this accelerometer.

Mirror with coil actuator



Chamber

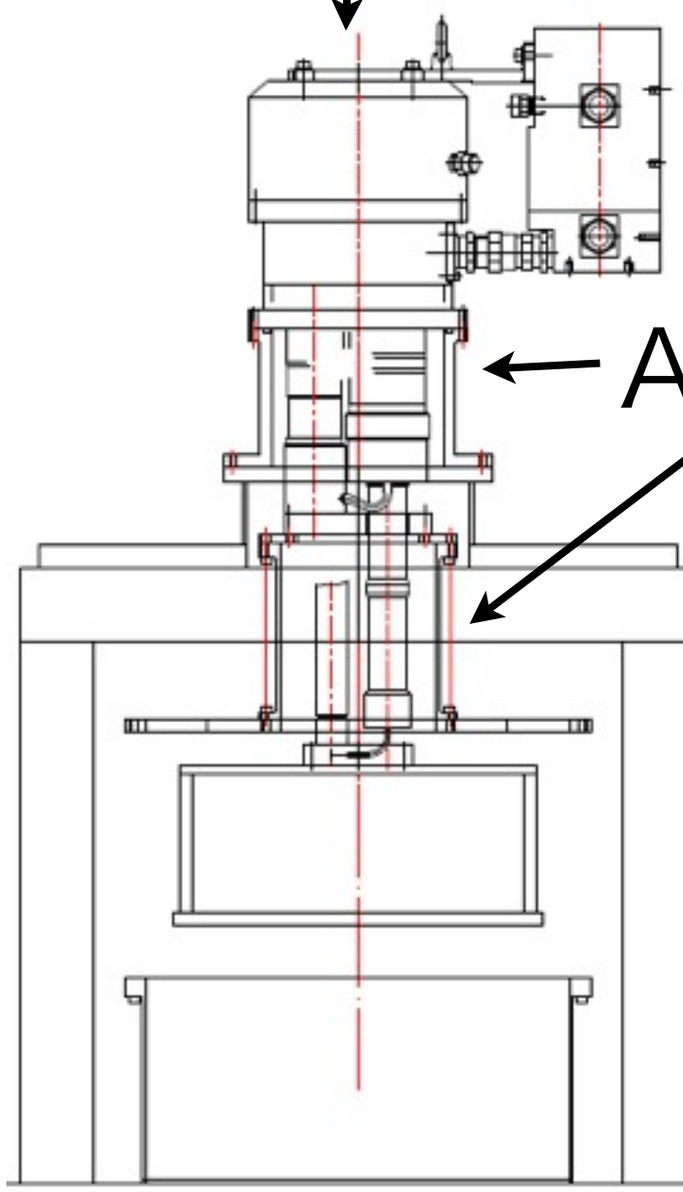
Cooler

Cooler

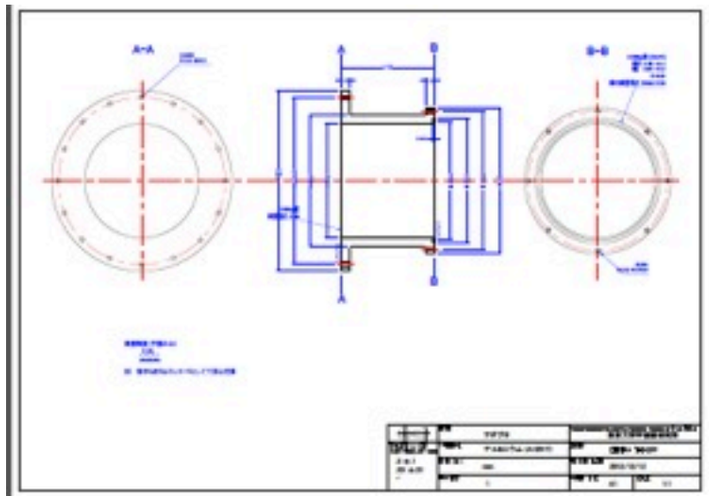
We borrowed a cryocooler from KEK.

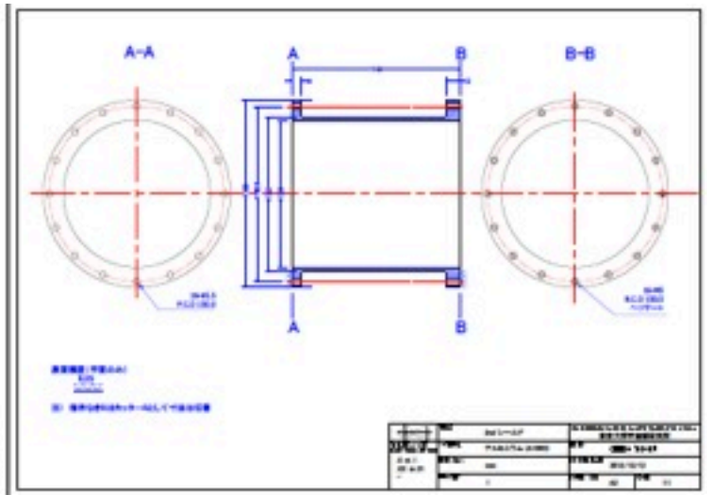
Adaptor for new cooler

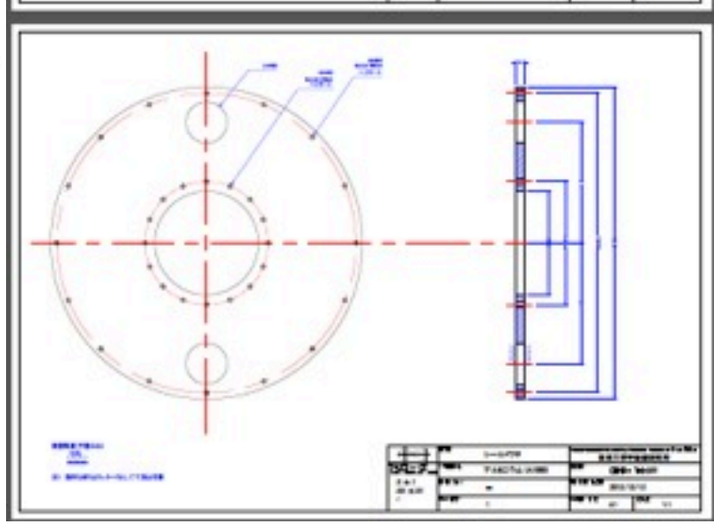
New cooler

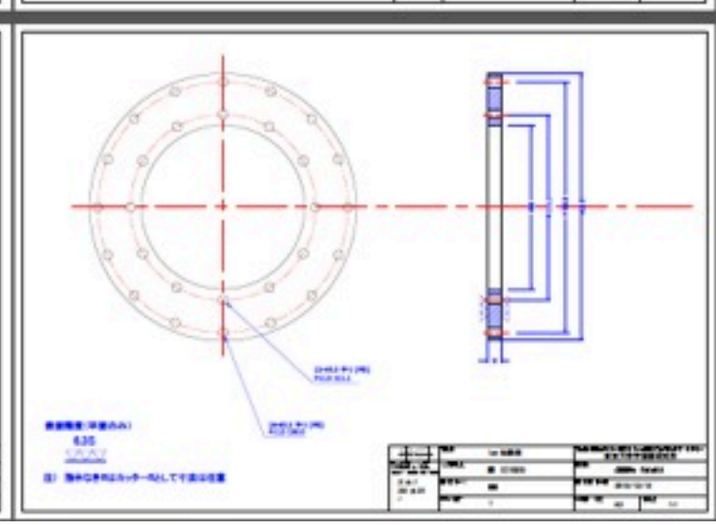


Tokoku-san









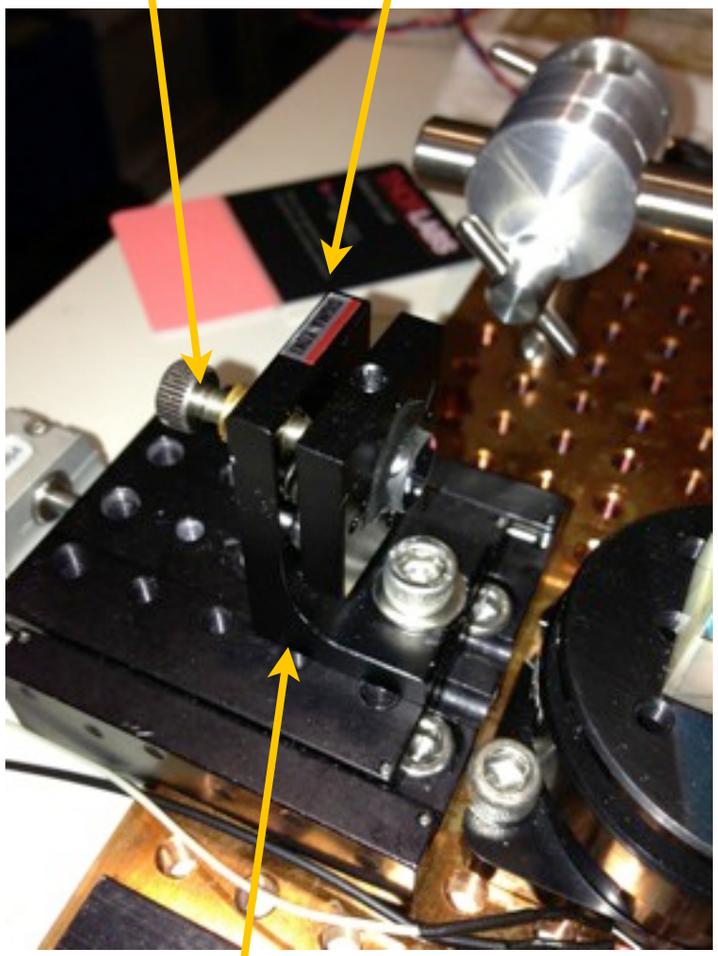
The design is almost done.
We are making final adjustments.

Michelson Interferometer

-glue-

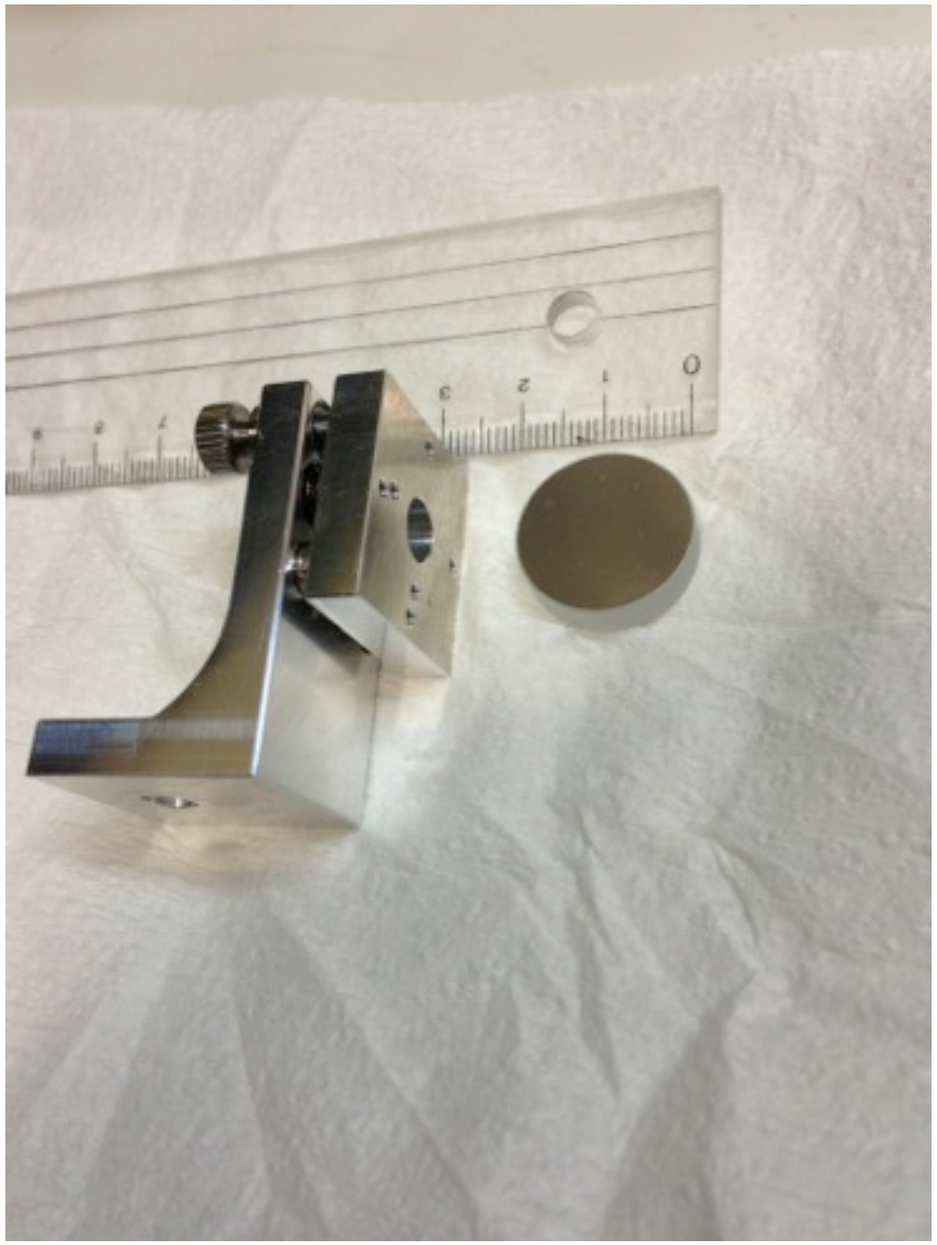
tape

grease



black coating

For vacuum



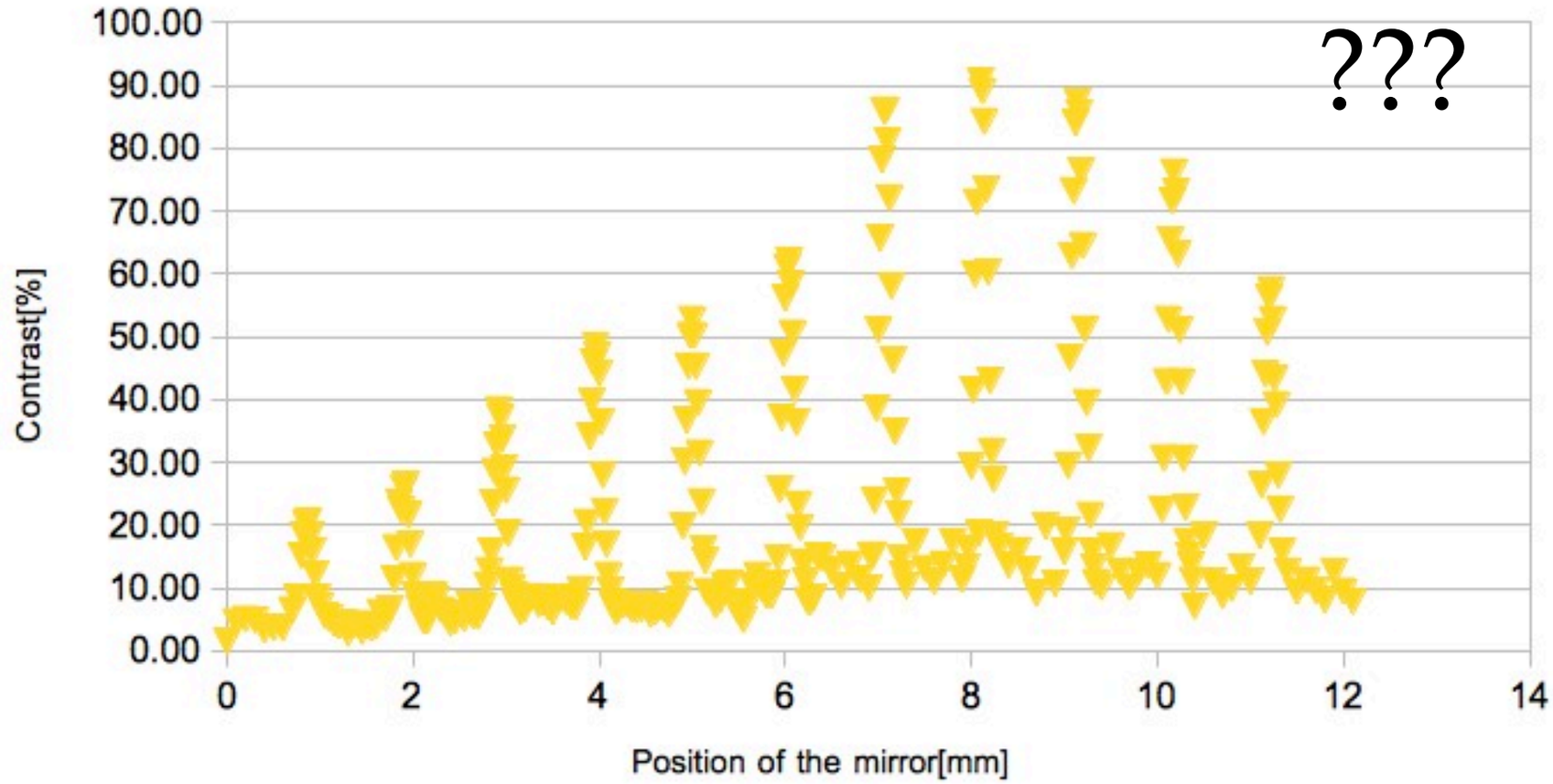
Michelson Interferometer

-glue-

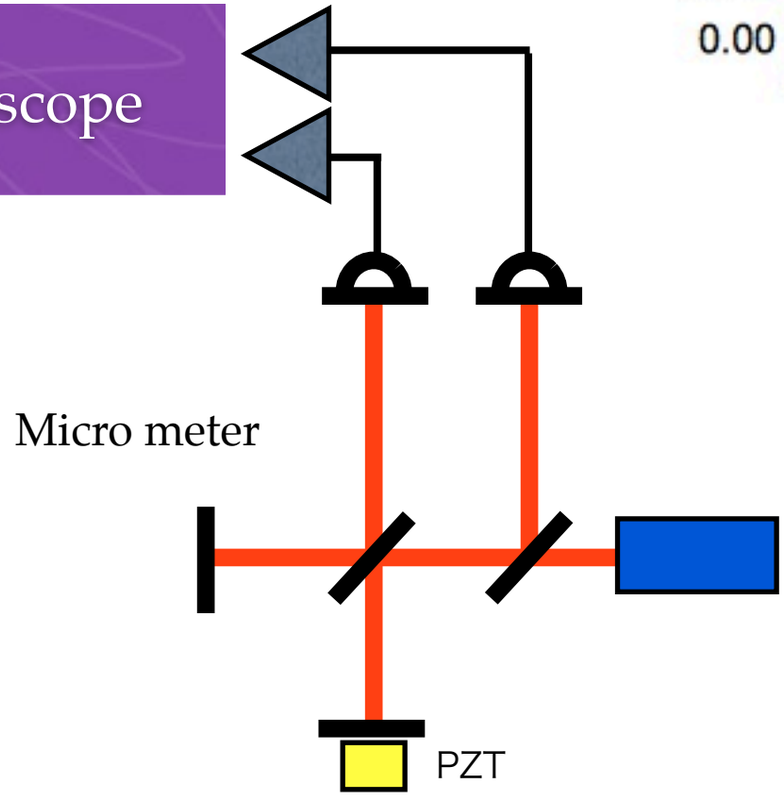
UHV Glue
330-GLUE1
(allectra)

Test of the glue

Michelson Interferometer



Oscilloscope



I'm trying to clear up this graph.

Although I changed the laser source, the shape of the graph is almost same.

Summary

- We have to make the adaptors quickly for cooling test.
- The glue is OK to fix mirror.
- The contrast of the MI has strange structure. But this is not so serious problem. <- We could lock the MI.

end