

My work in 2015

10-2

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# Indium welding

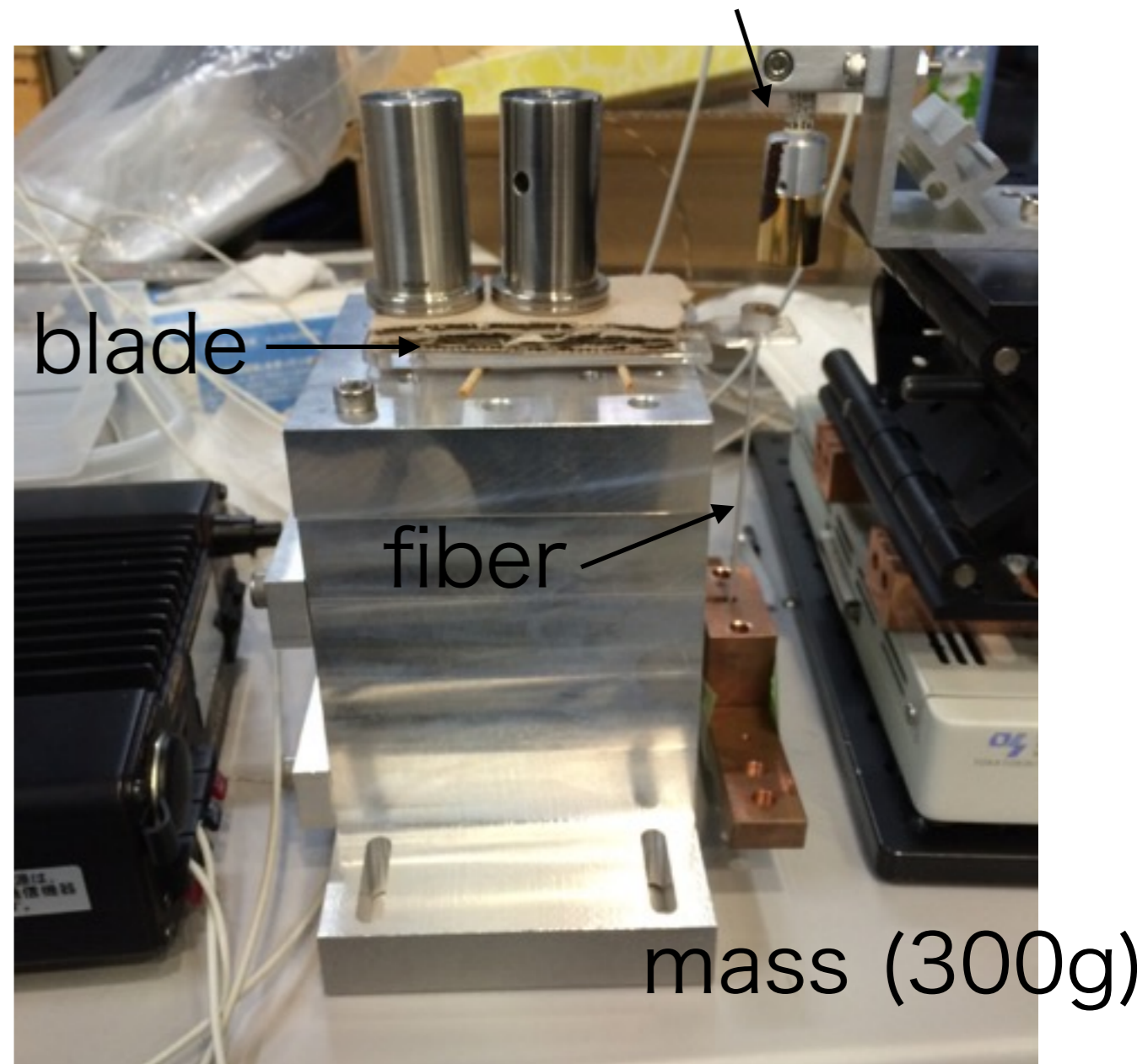
- We tried the Indium welding between the blade and the sapphire block.
- They were attached!



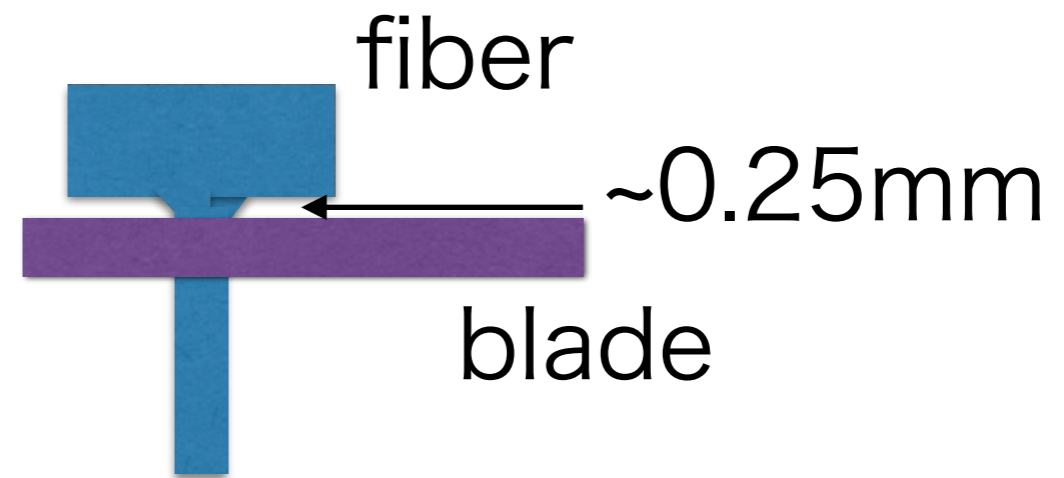
# Indium welding

halogen lamp

- We tried Indium welding like the setup in the right picture.
- It didn't succeed.



# Indium welding with Rahul-san



- Rahul-san noticed that the distance between the fiber head and the blade is about 0.25mm (thickness of Indium...0.1mm).

# Indium welding with Rahul-san

- We inserted three layers of Indium (total thickness... $0.1 \times 3 = 0.3\text{mm}$ ) and tried Indium welding.
- First try...Attached (right picture), but weak.
- Second try...Not attached

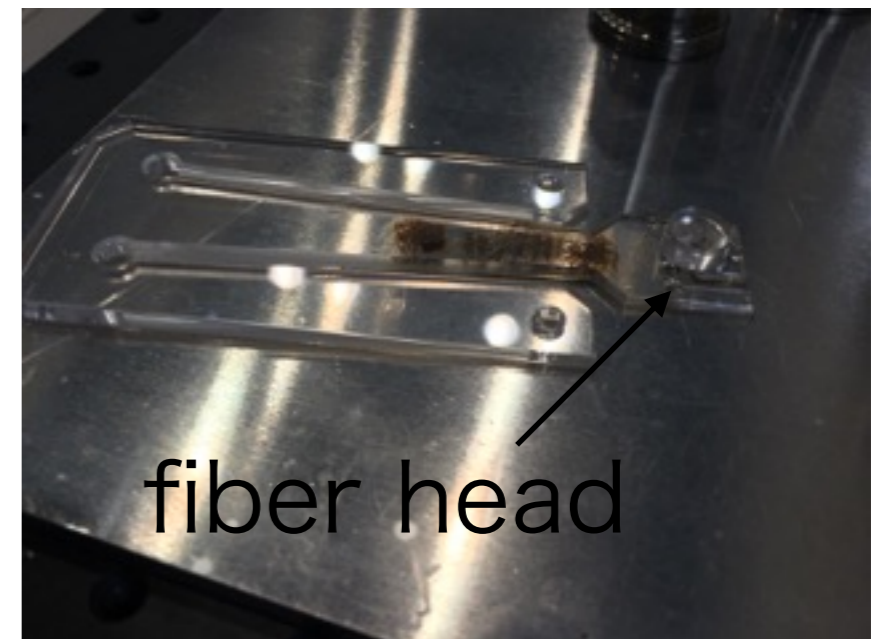
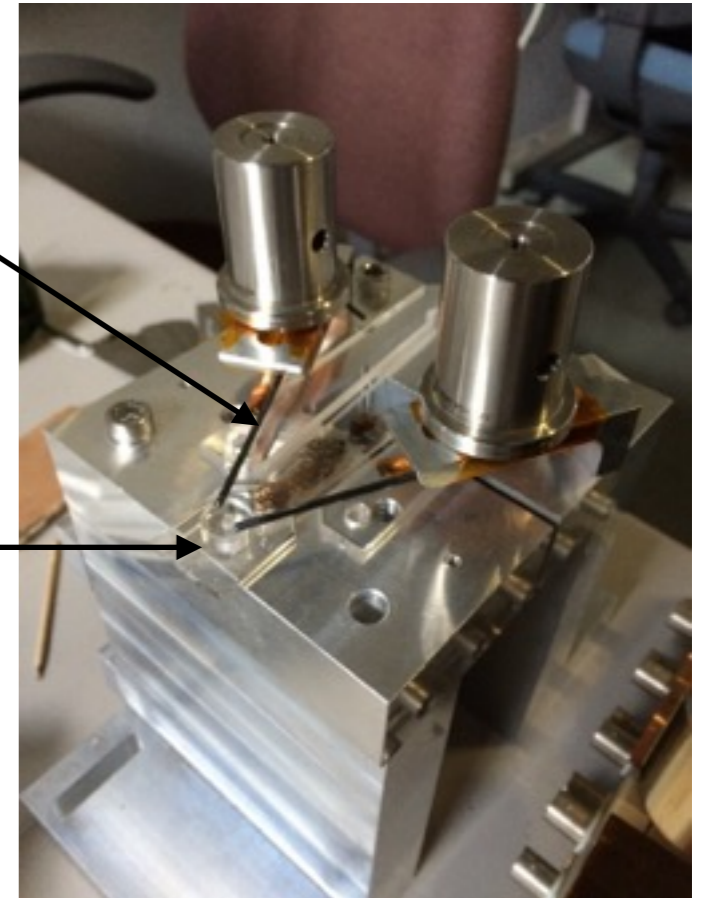


# Indium welding

- When the area of Indium welding is small, the toothpicks will be melted by halogen lamp.
- We used the wrenches instead of toothpicks (upper picture).
- We tried Indium welding between the fiber head (broken last year) and the blade.
- It succeeded!

wrench

fiber head



# Schedule

- Indium welding (~11/2)
- Cool down of the cryostat (~11/9)
- measuring the thermal conductivity (~11/12)
- Warm up the cryostat (~11/14)
- Set up for Q-value measurement (~11/19)
- Q-value measurement at room temperature (~11/23)
- Cool down of the cryostat (~11/30)
- Q-value measurement at low temperature (~12/2)

# Future work

- We will try the Indium welding between the fiber head and the blade using the wrenches.
- We will calculate the Q-value of one-fiber prototype using Ansys.