

Current Status of Mode Cleaner
モードクリーナ現状報告

Naoko Ohishi, Takahiro Saito, et al.

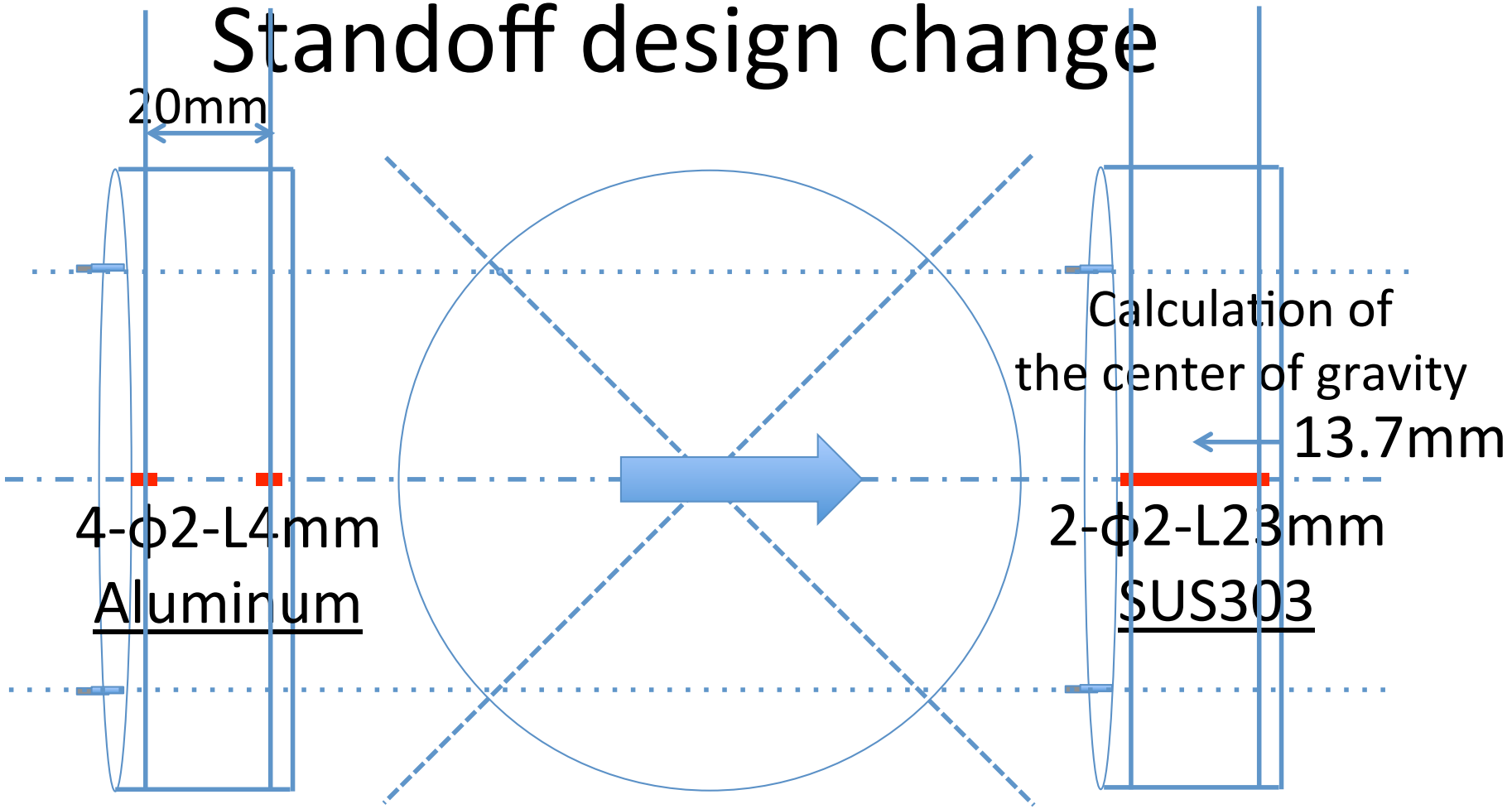
Contents

- Cleanness of MCE clean booth /
  MCE クリーンブース清浄度
- Standoff (Wire breaker) / スタンドオフ
- Standoff and magnets fixture jig / 接着治具
- Summary / まとめ

1. MCE booth cleanness

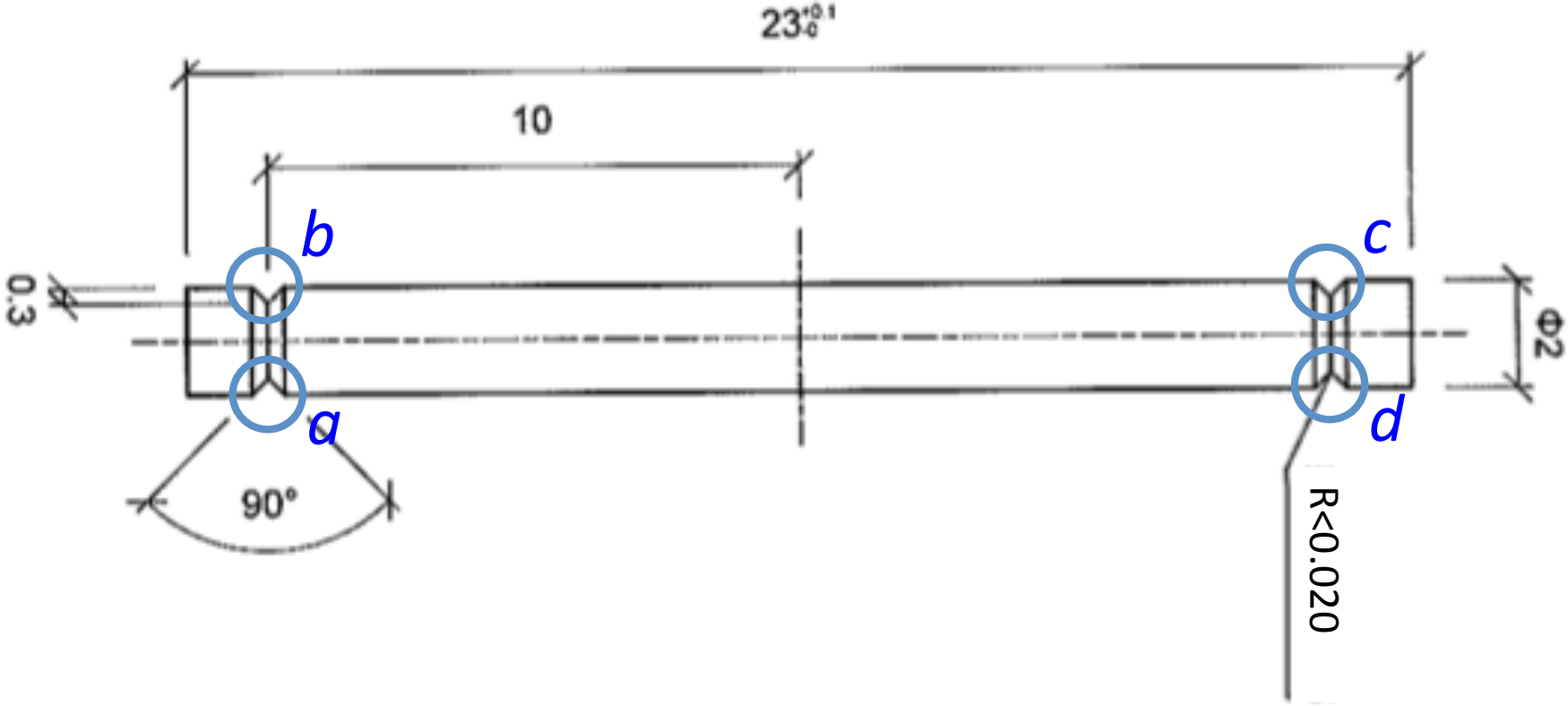
- Roof cover with blue sheet (21th Apr)
- Wash inside with high pressure water washers (water, pure water), wipe, brush floor (by VIS)
- class 4-5 (23th Apr)
- Floor cut (18-20th May)
- Wipe inside (22th May)
- Cleanness : ISO class 4 (25th May)
- Humidity: 76% (after 3hours injection of dry air)

Standoff design change



- Requirement
  for the bottom radius of V-groove
- r<20um to fix 50-um(diameter) tungsten wire

Measurement of V-groove

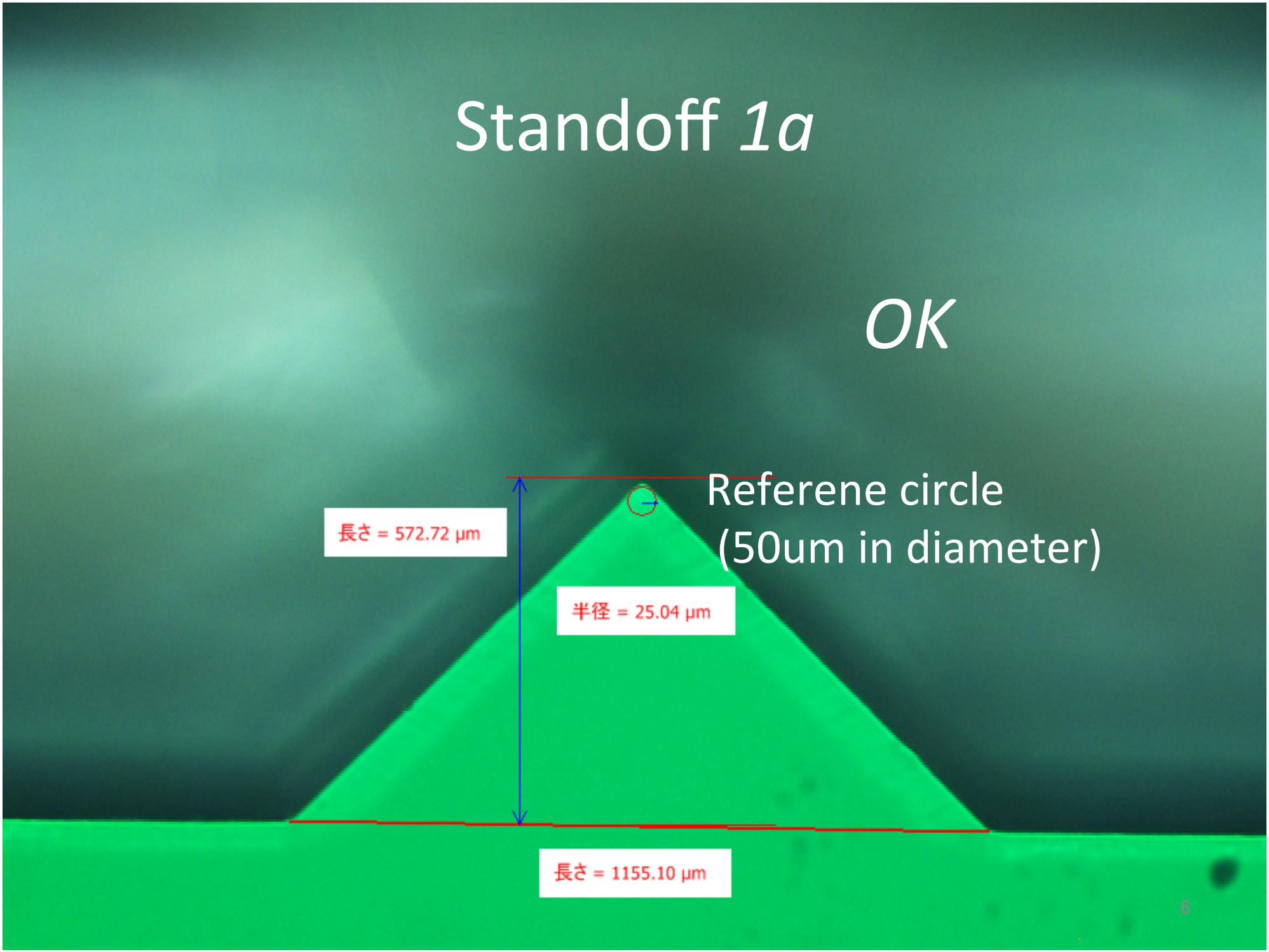


Measured 4 points (6 pieces) with MM-40 NIKON

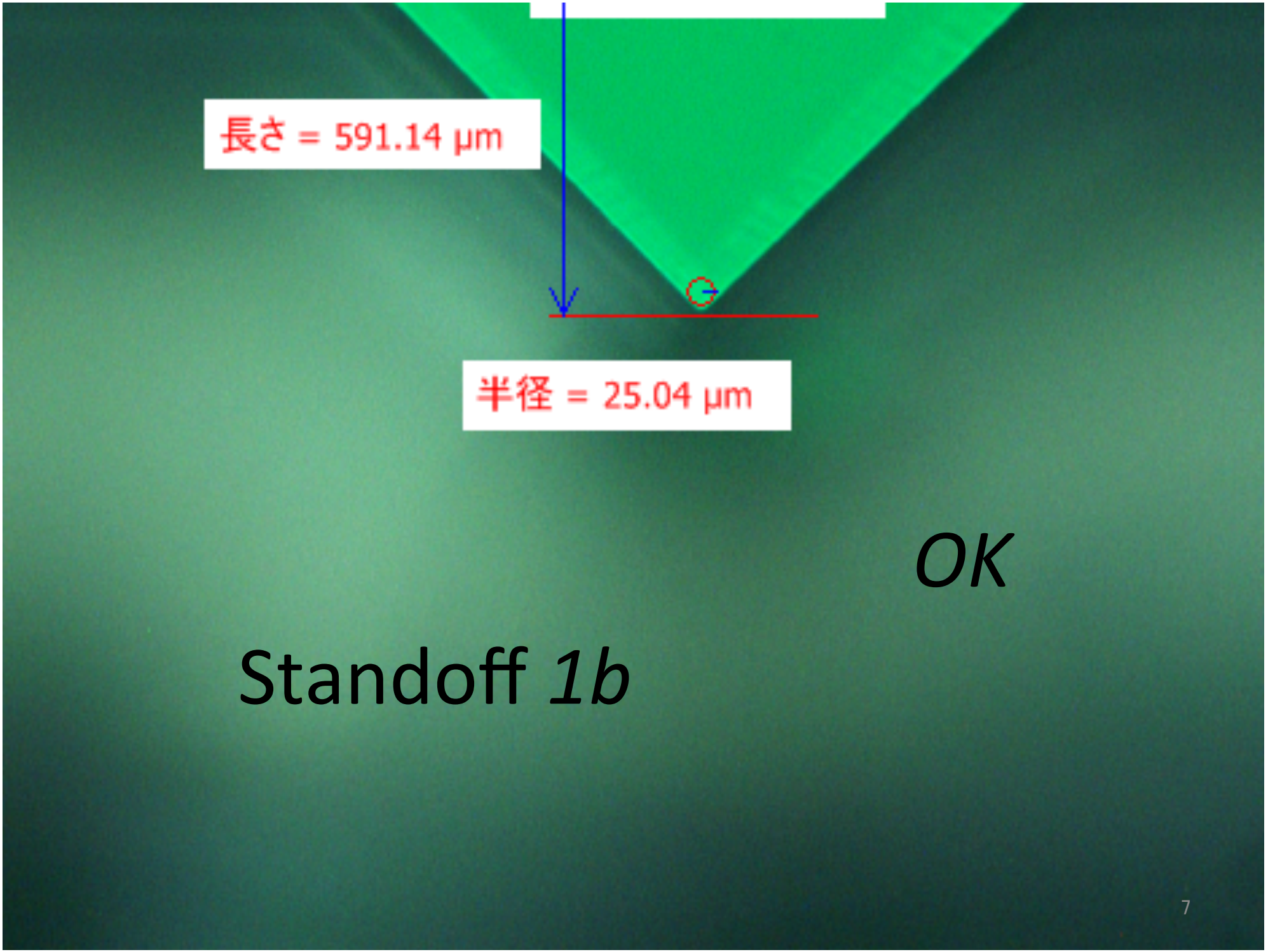
By T. Saito, K. Hirai, and T. Narita (Niigata Univ.)

Standoff *1a*

OK

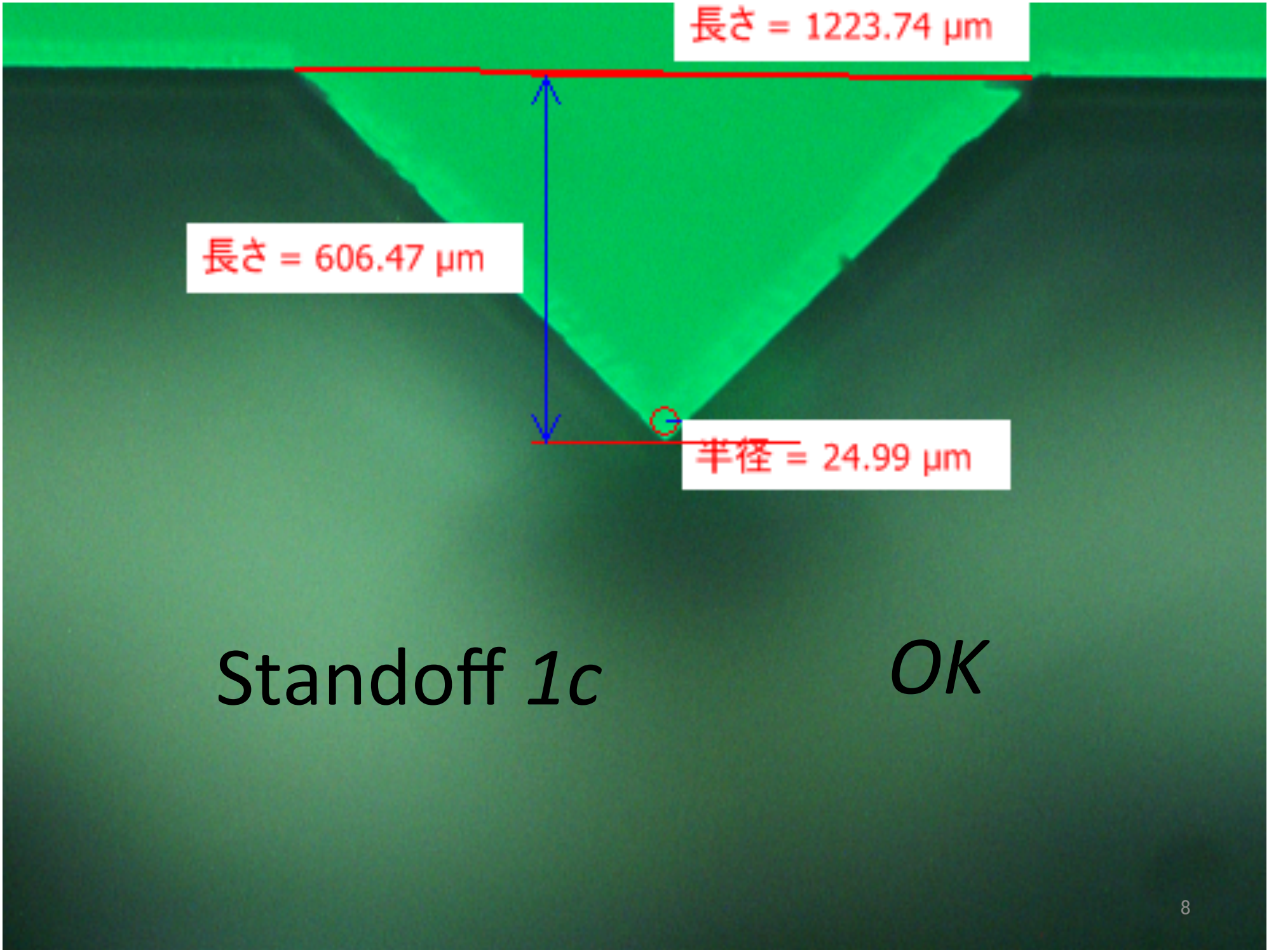


Referene circle
(50um in diameter)



OK

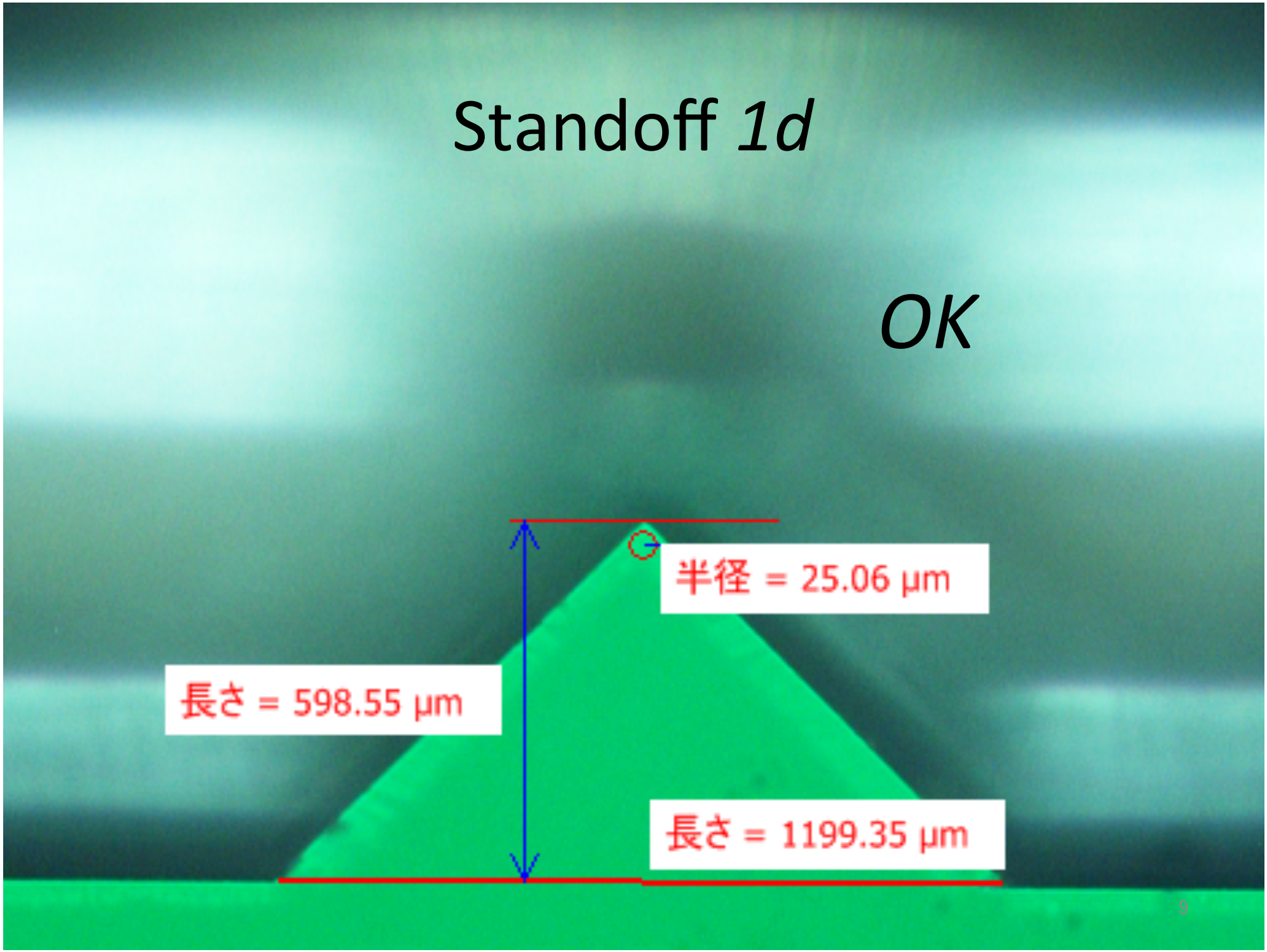
Standoff *1b*



Standoff *1c* *OK*

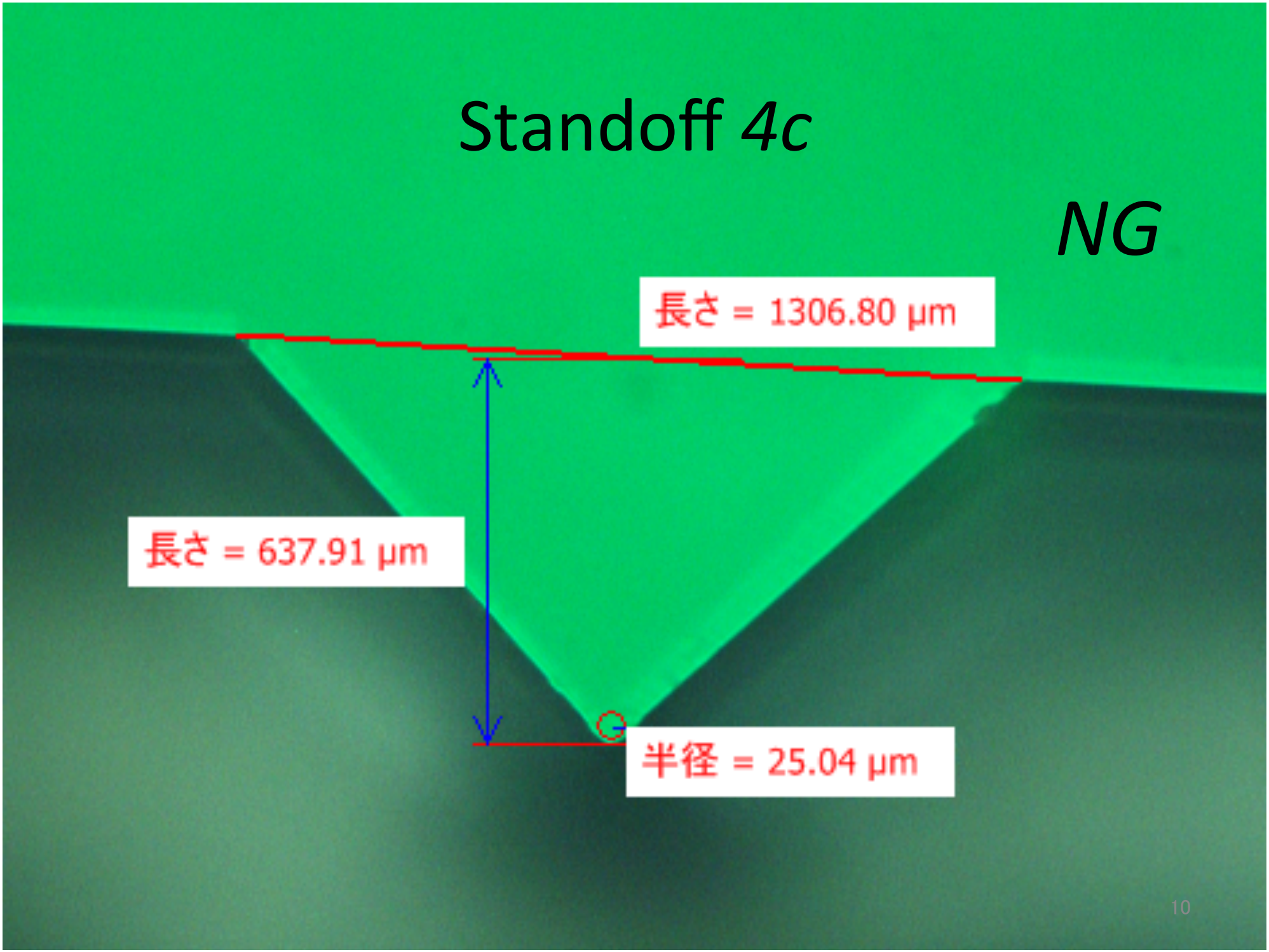
Standoff *1d*

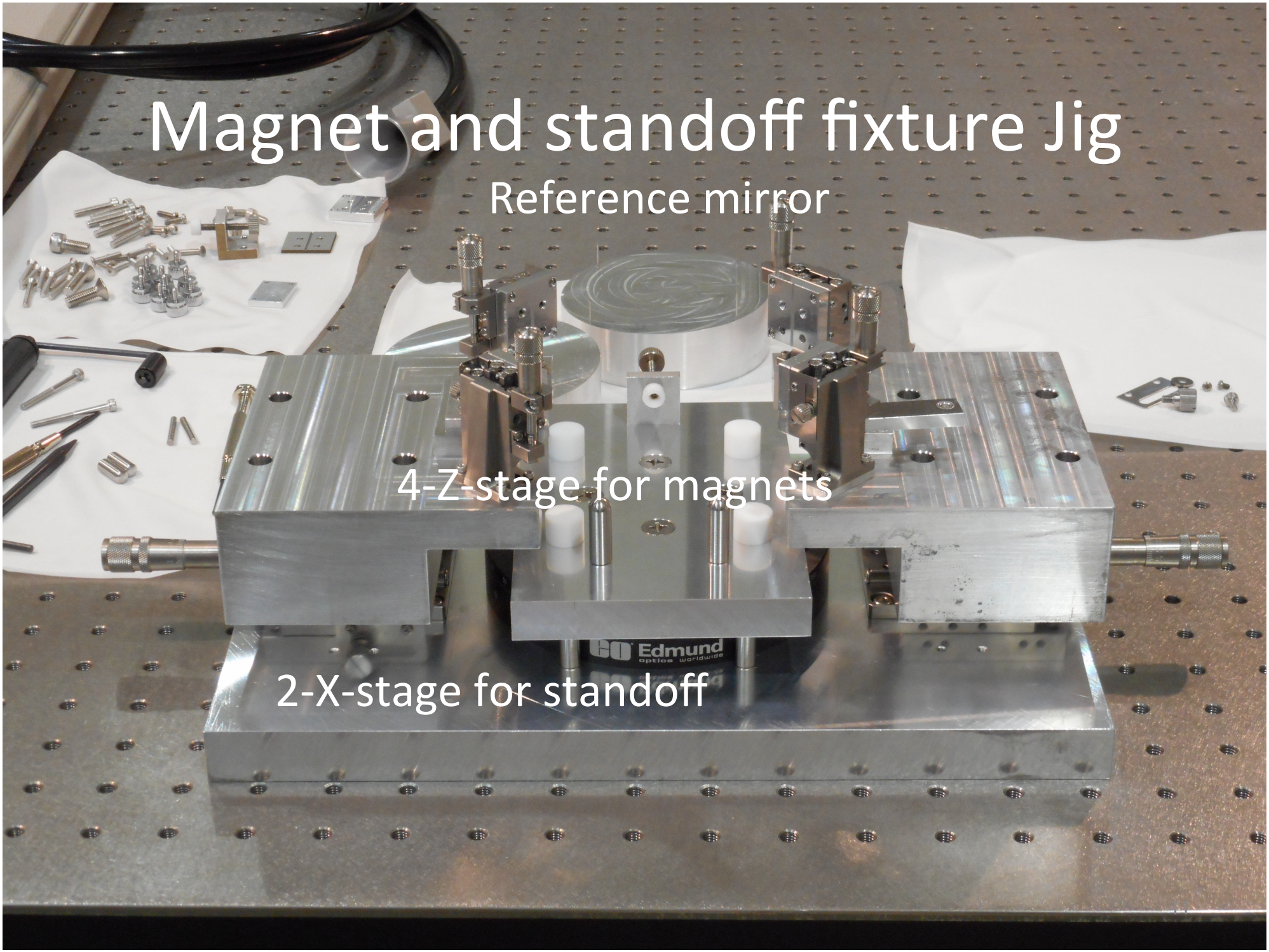
OK



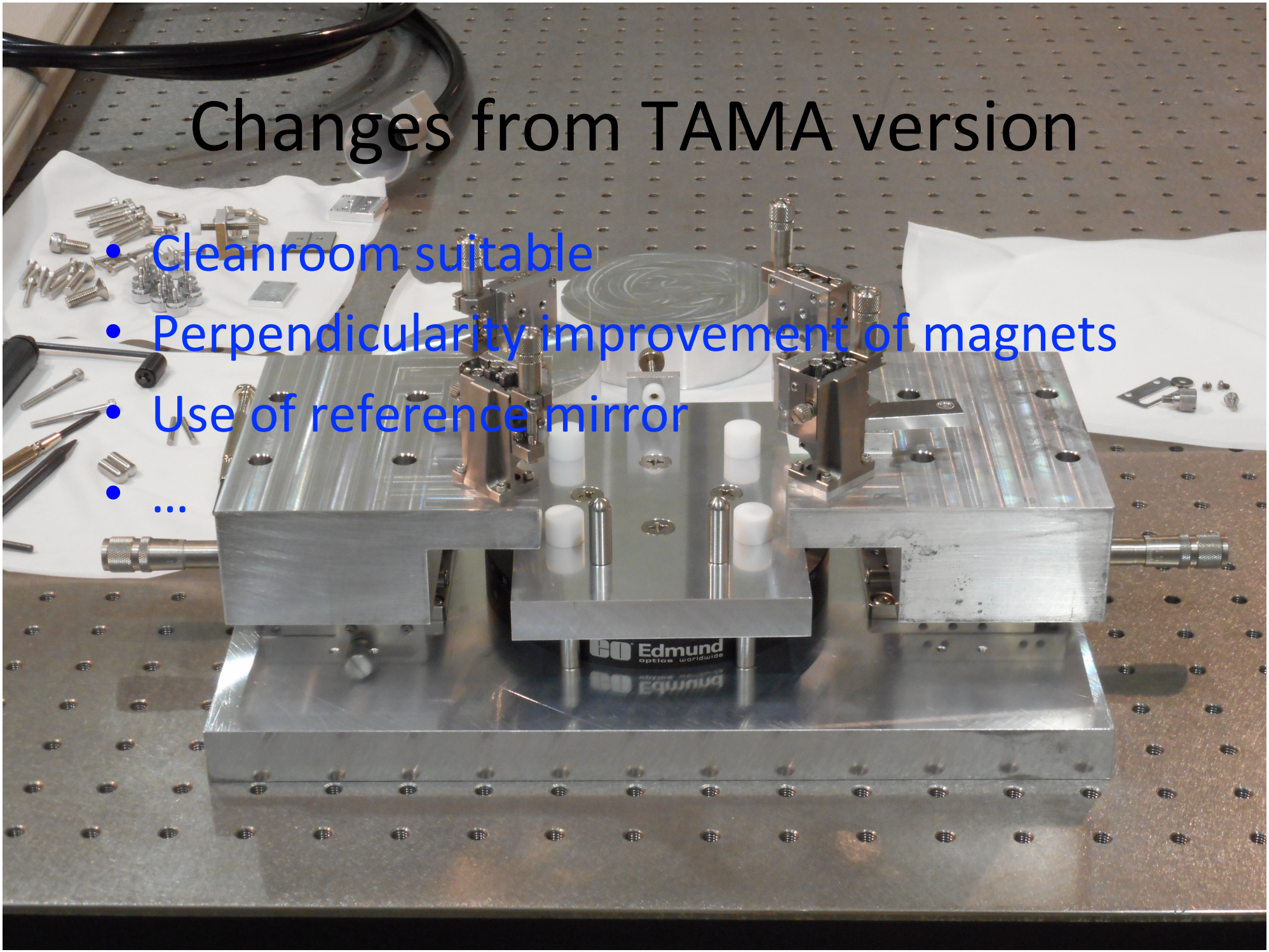
Standoff *4c*

NG




Magnet and standoff fixture Jig
Reference mirror
4-Z-stage for magnets
2-X-stage for standoff
Edmund
optics worldwide

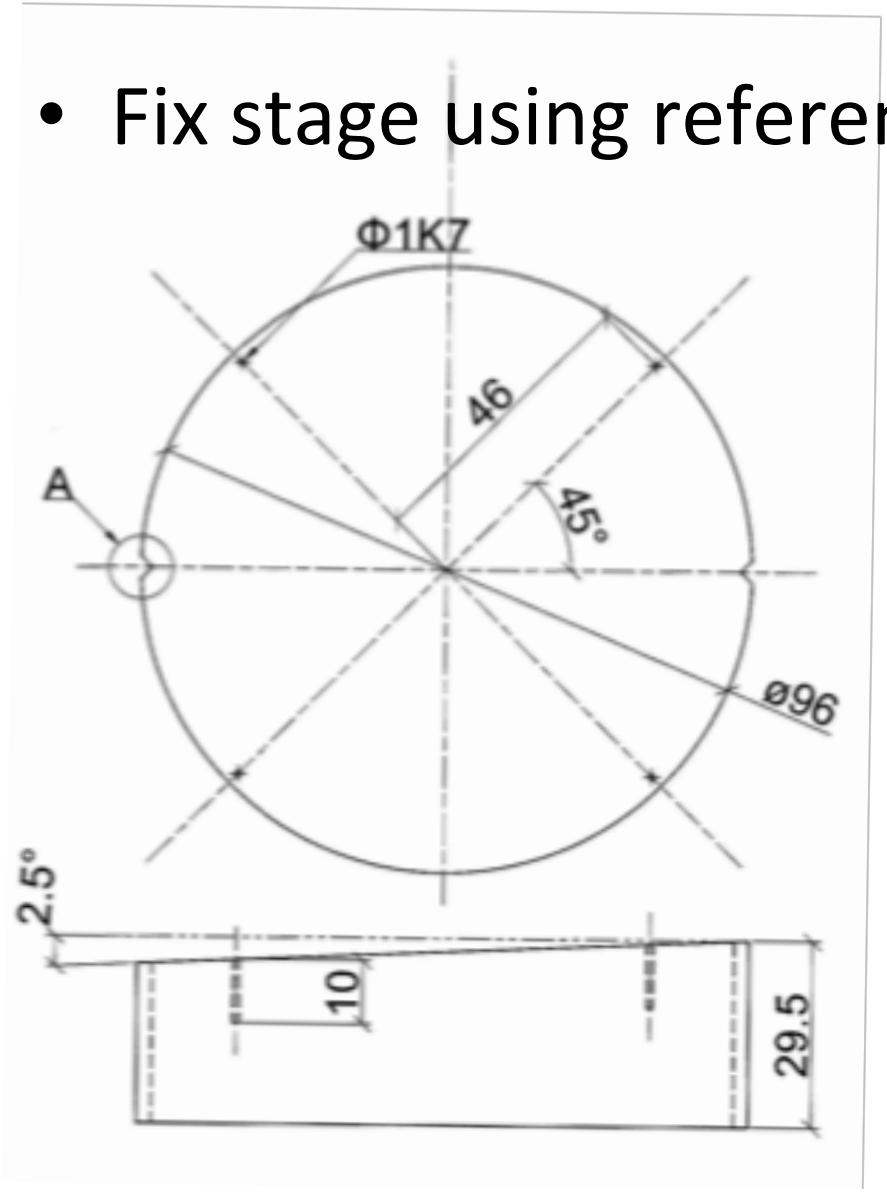
Changes from TAMA version

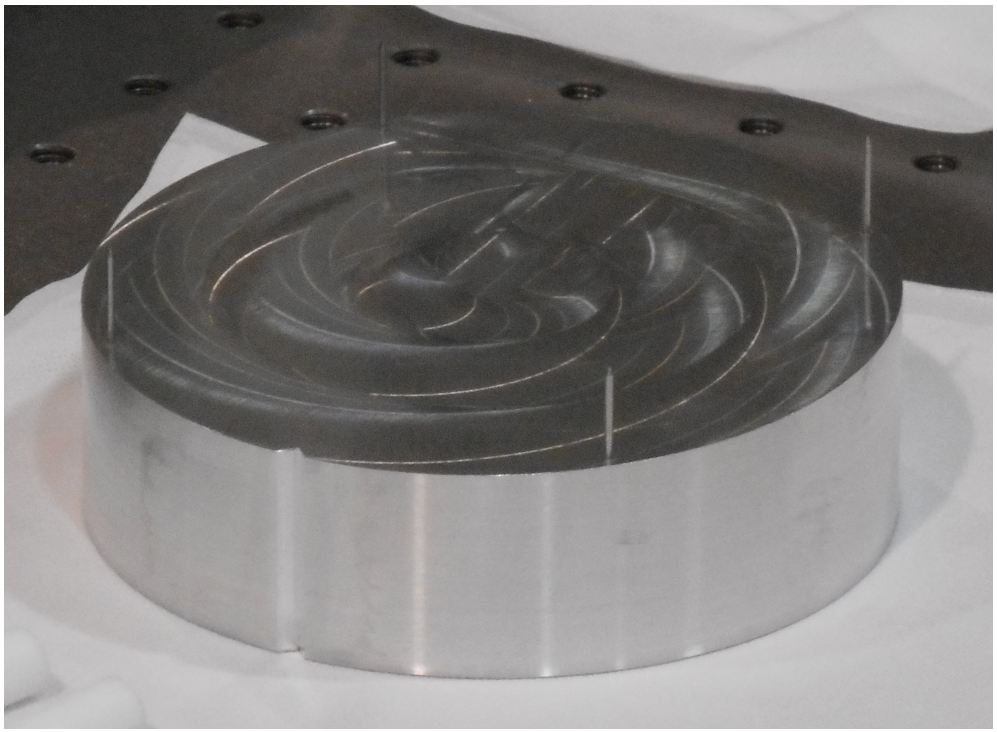


- Cleanroom suitable
- Perpendicularity improvement of magnets
- Use of reference mirror
- …

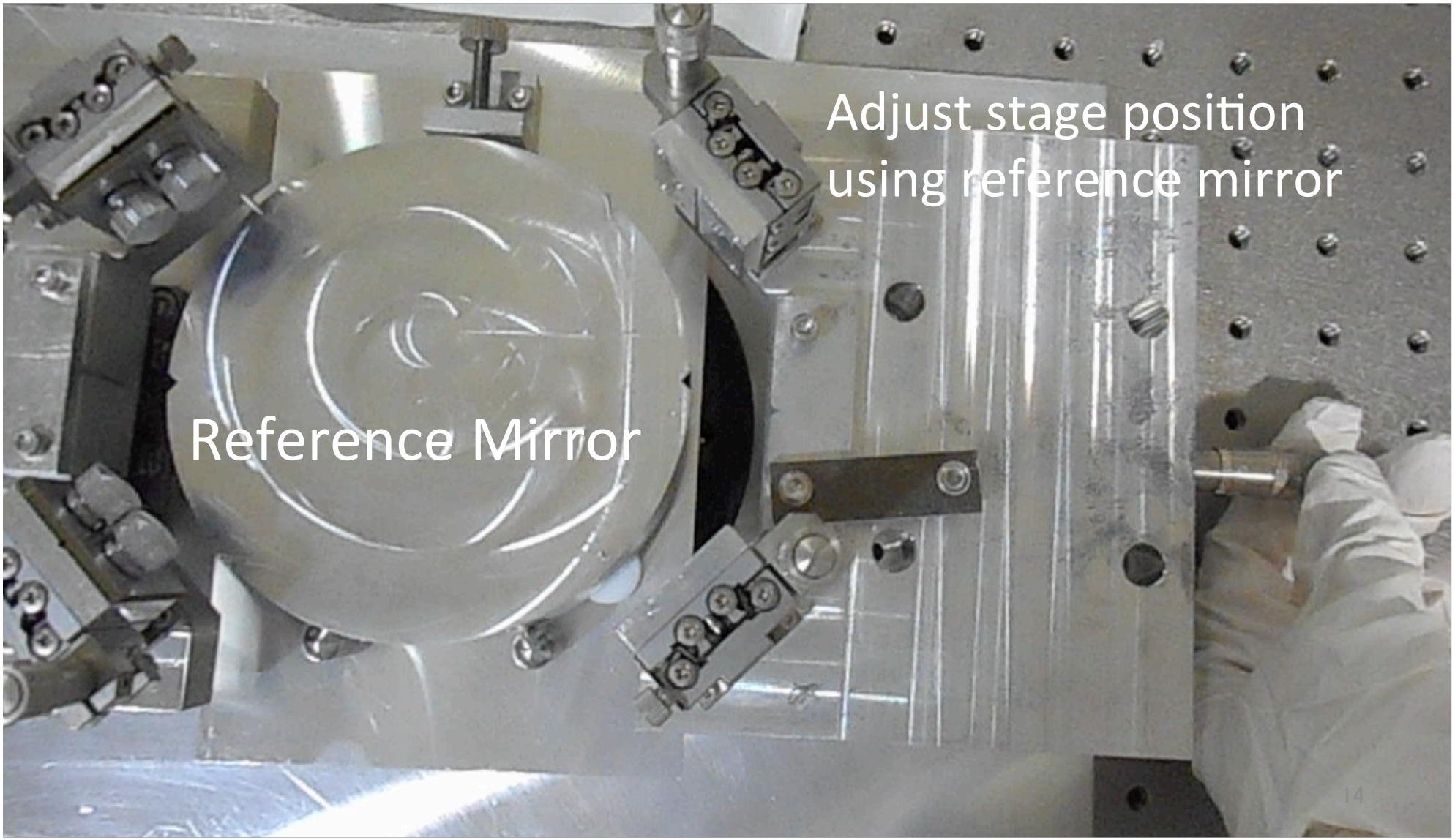
Reference Mirror

- Fix stage using reference mirror

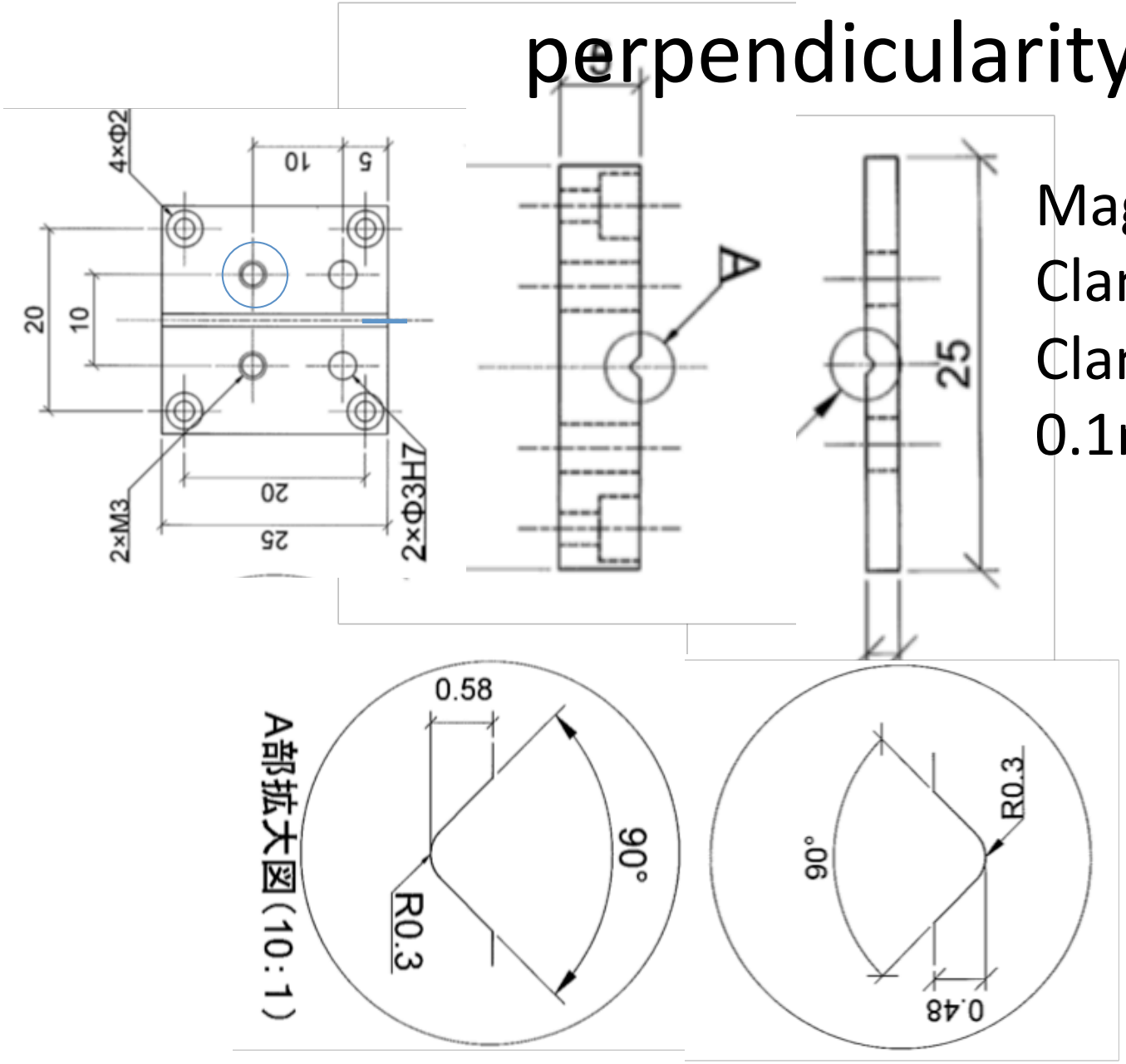




Fix fine position of stages with by using reference mirror

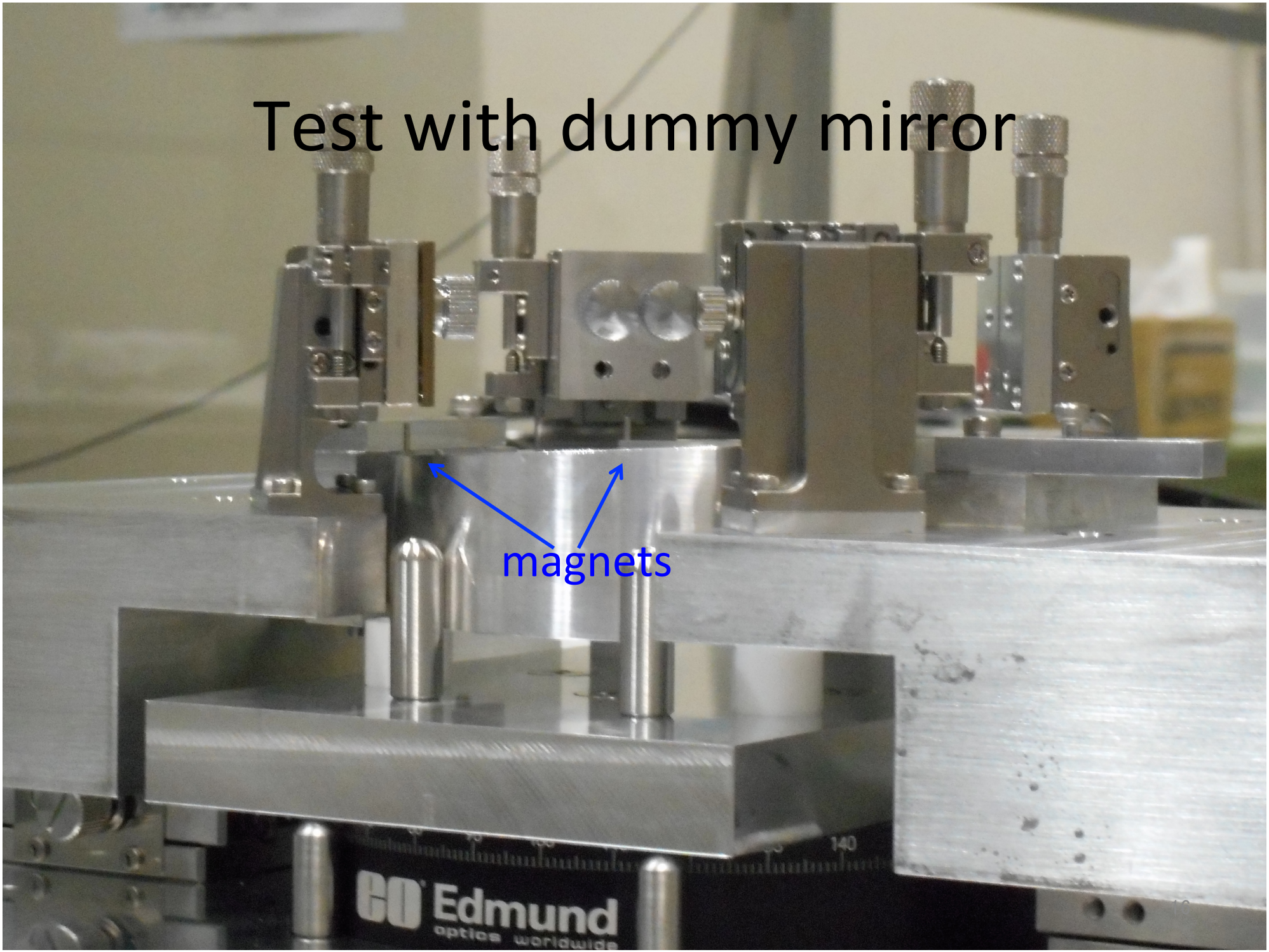


Improvement of magnet perpendicularity



Magnet diameter: 1mm
Clamp plate A: 0.5mm
Clamp plate B: 0.4mm
0.1mm Teflon washer

Test with dummy mirror



Summary of MC status

- MCE clean booth is ready:

  Cleanness: ISO class 4,

  Humidity: 76% (after 3hours dry air injection)
- Standoff design changed
- Magnet and standoff fixture jig:

  under 2nd (=perhaps final) modification
- MCE Breadboard replacement:

  scheduled this week