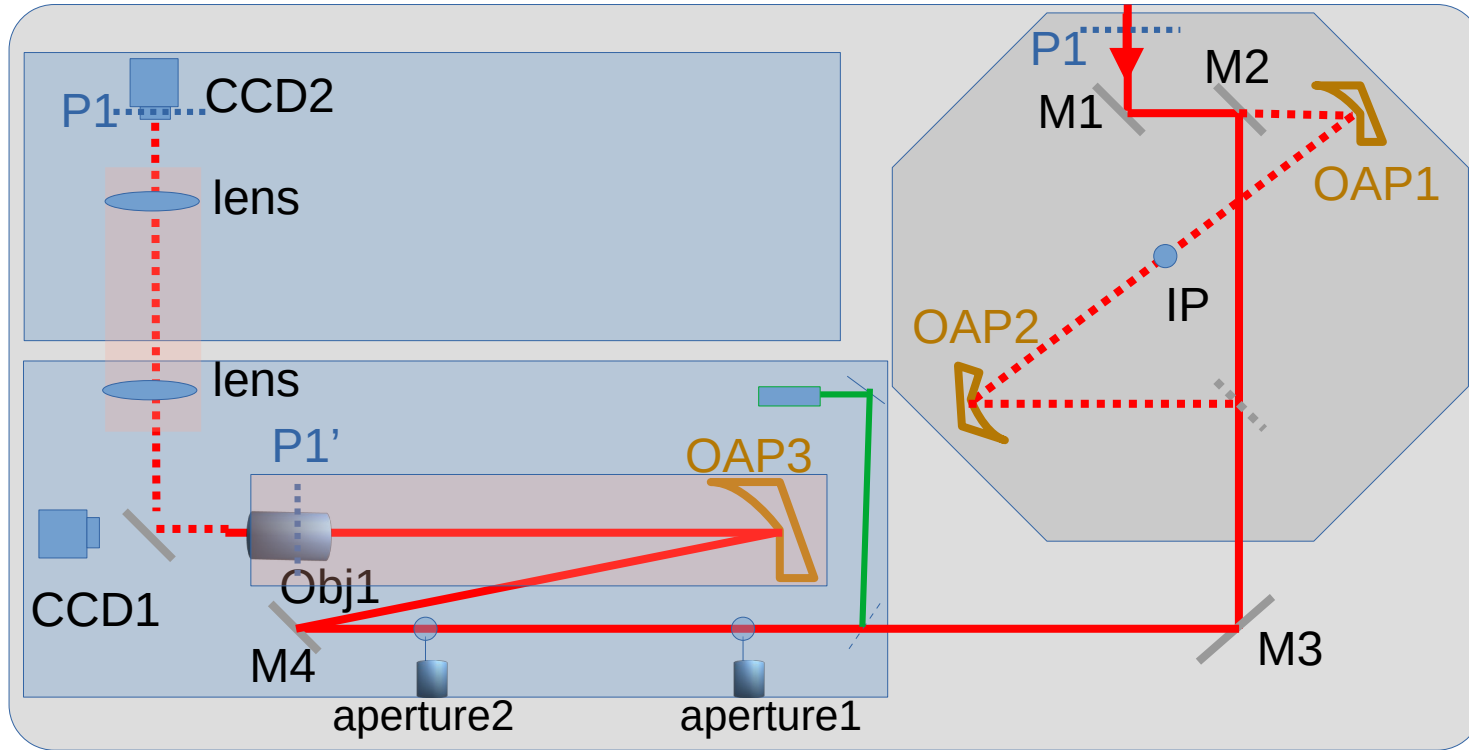


Current experimental activity:

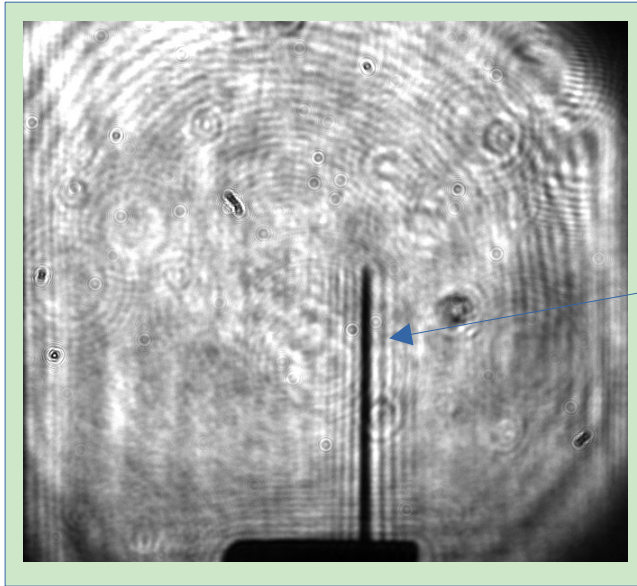
- 1) Aim of this set up is to image the plane P1 inside the vacuum chamber at CCD2
- 2) And compare the focus of OAP1 at IP with the focus on Imaging diagnostics



- Used Telescope (OAP+Obj) and 4f relay imaging to get the image of wire/blade (at P1) onto CCD2

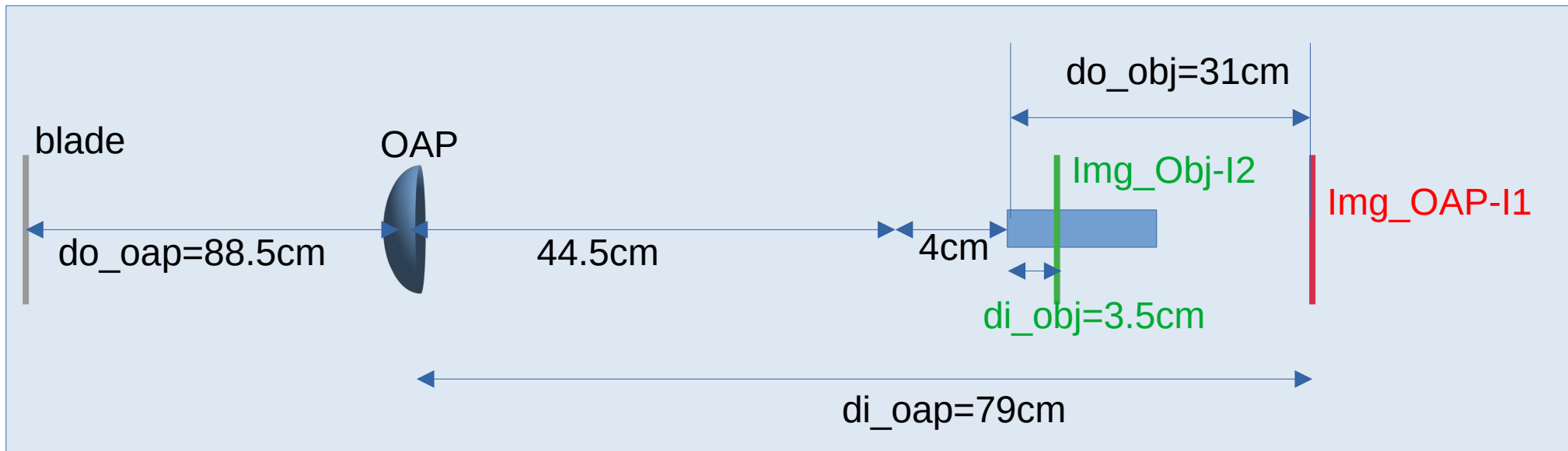
Main aim this time was to improve the image quality

- Few steps: good quality focus,
- collimation and
- check the image positions

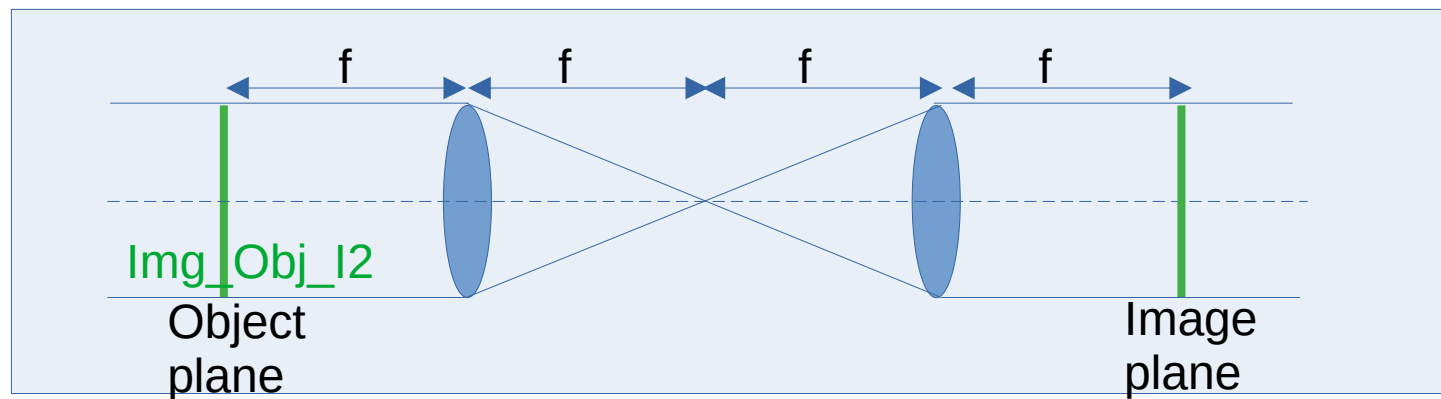


Fringes around the wire
image...not in focus

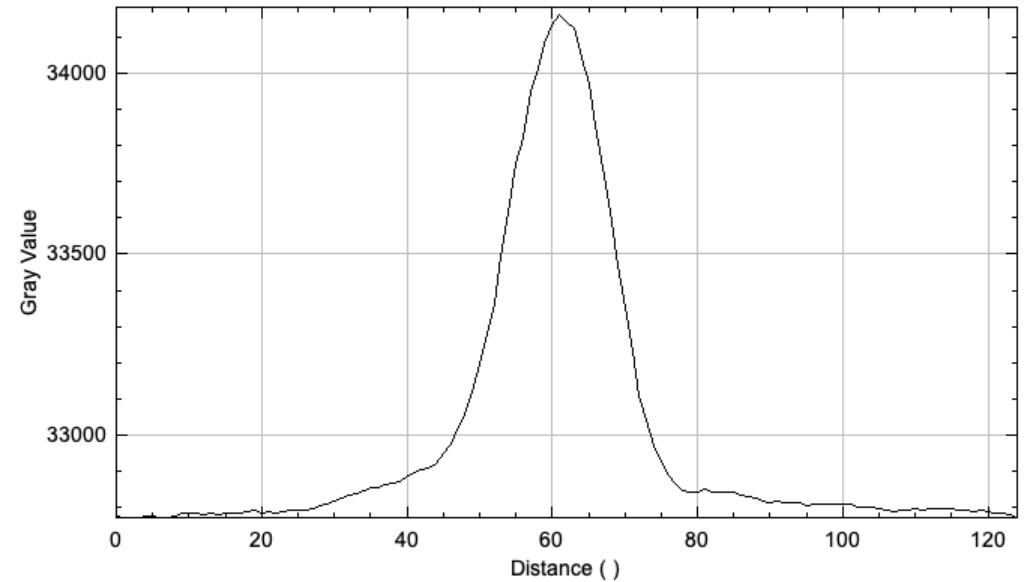
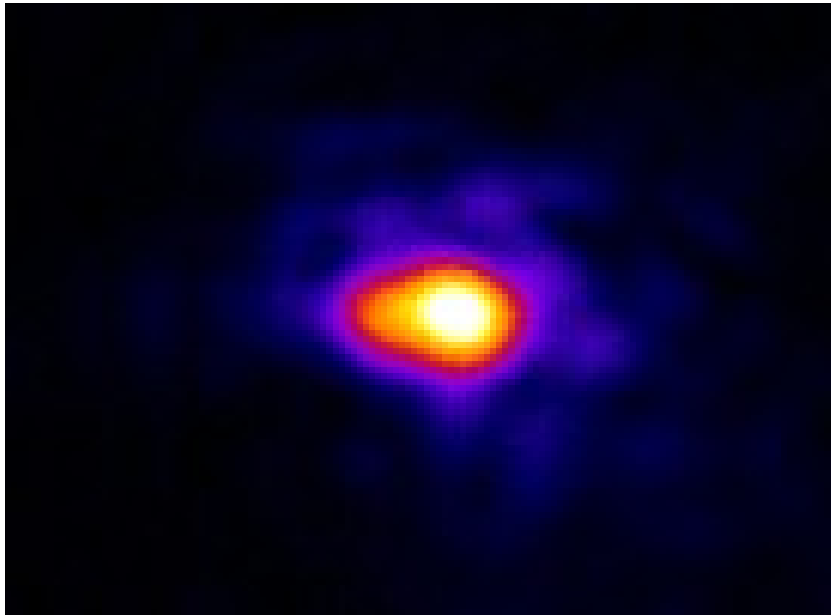
Telescope imaging



1:1, 4f relay imaging

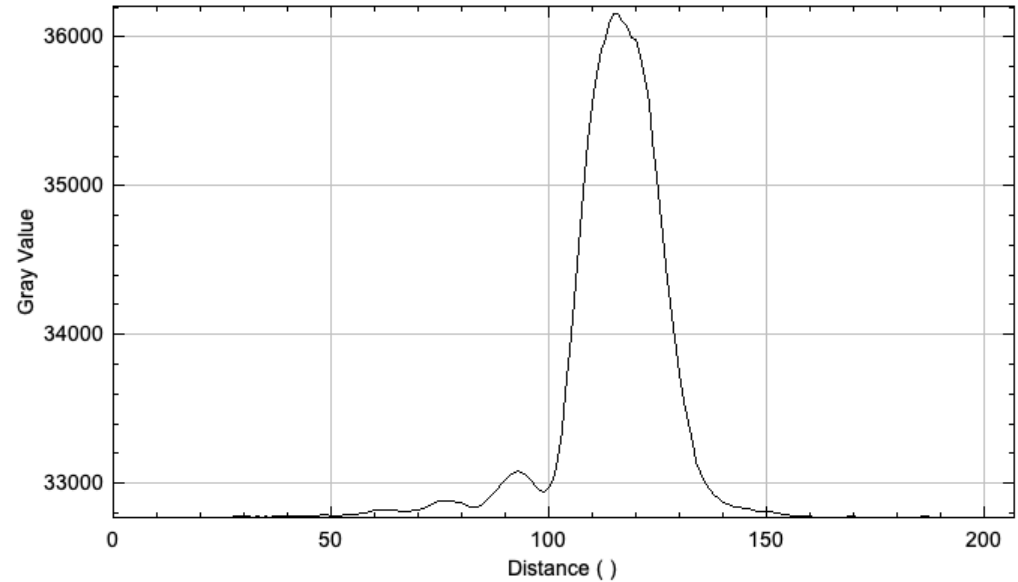
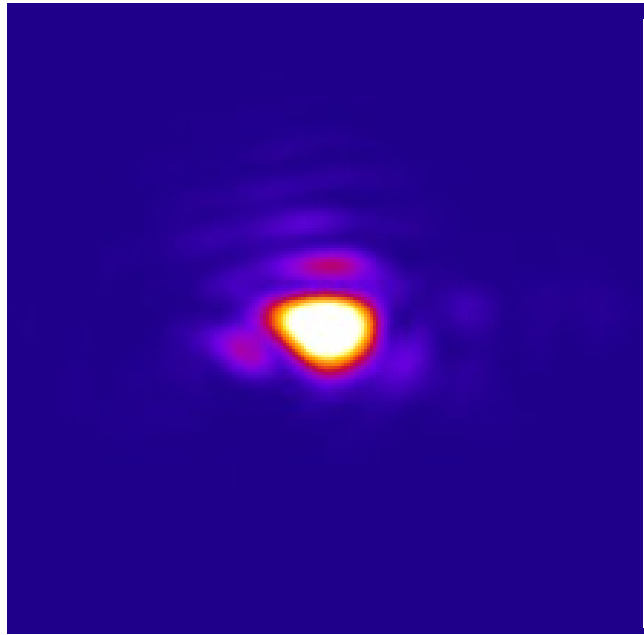


focus_with Adaptive loop_Kugler OAP_f=60cm



- We had to return the holder and OAP, so we moved to the on axis OAP setup

- Focus with Adaptive optics loop for On Axis Parabola $f=44.5\text{cm}$ with 4cm diameter beam
- Powerlite pumps on (timing change not to amplify)



- Also run the AO loop and got okish focus spot
- The image quality was still not satisfactory.

Simple imaging with single lens/OAP to get the impression of image quality and fringe patterns around the image

Image of wire with only lens $f=20\text{cm}$, $d_o \sim 225\text{cm}$

$$1/v + 1/u = 1/f$$

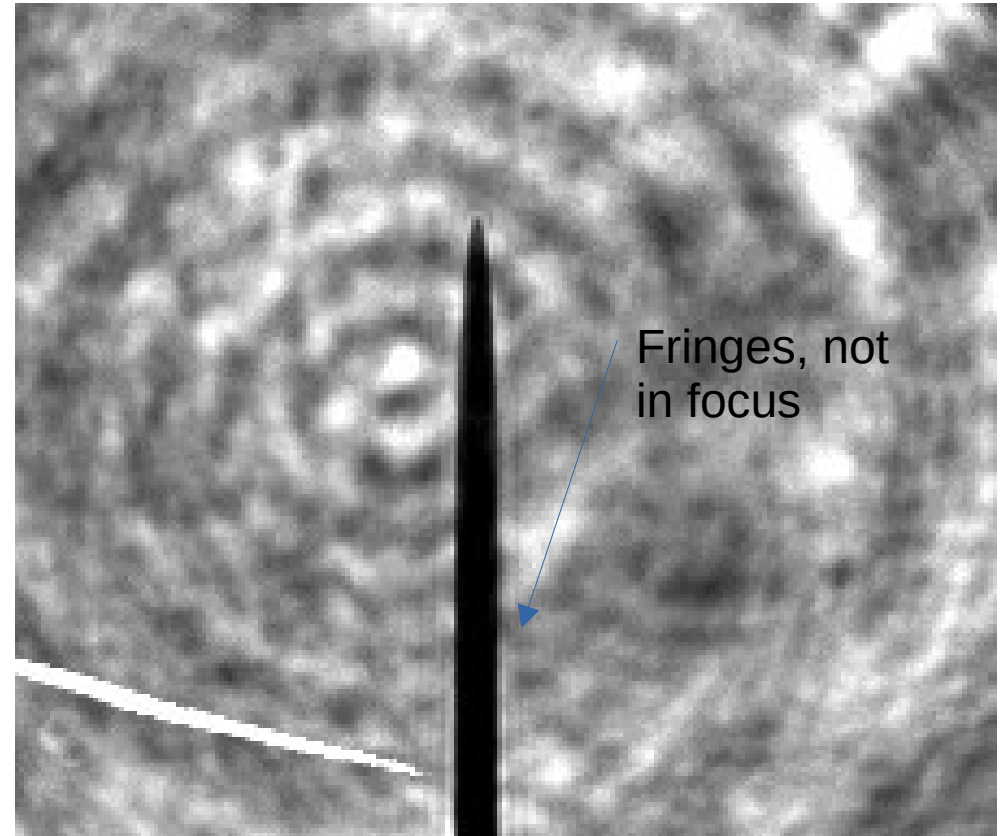
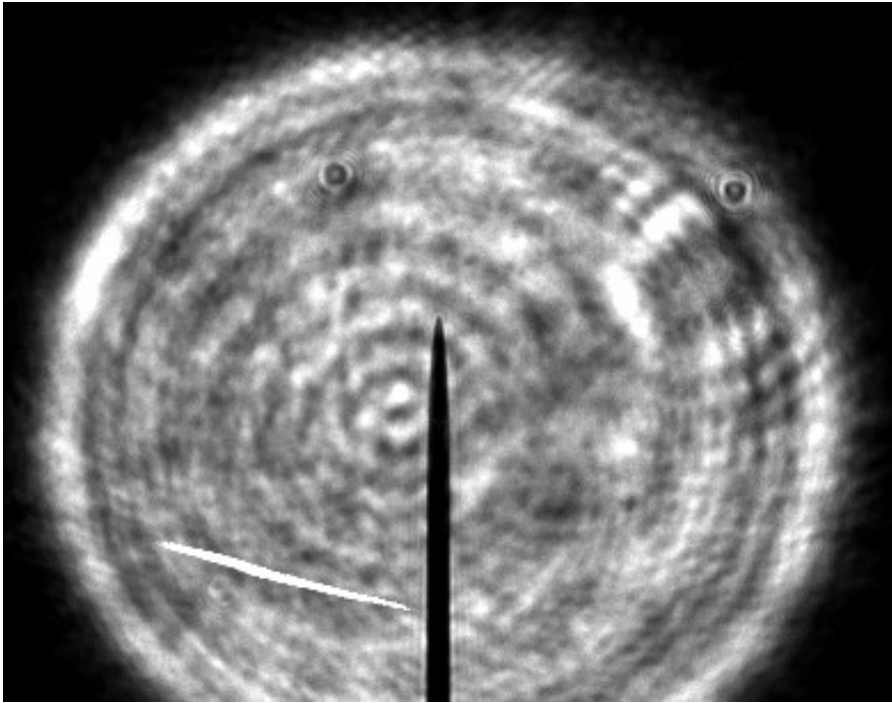


Image of razor blade with only lens $f=20\text{cm}$, $d_o=125\text{cm}$

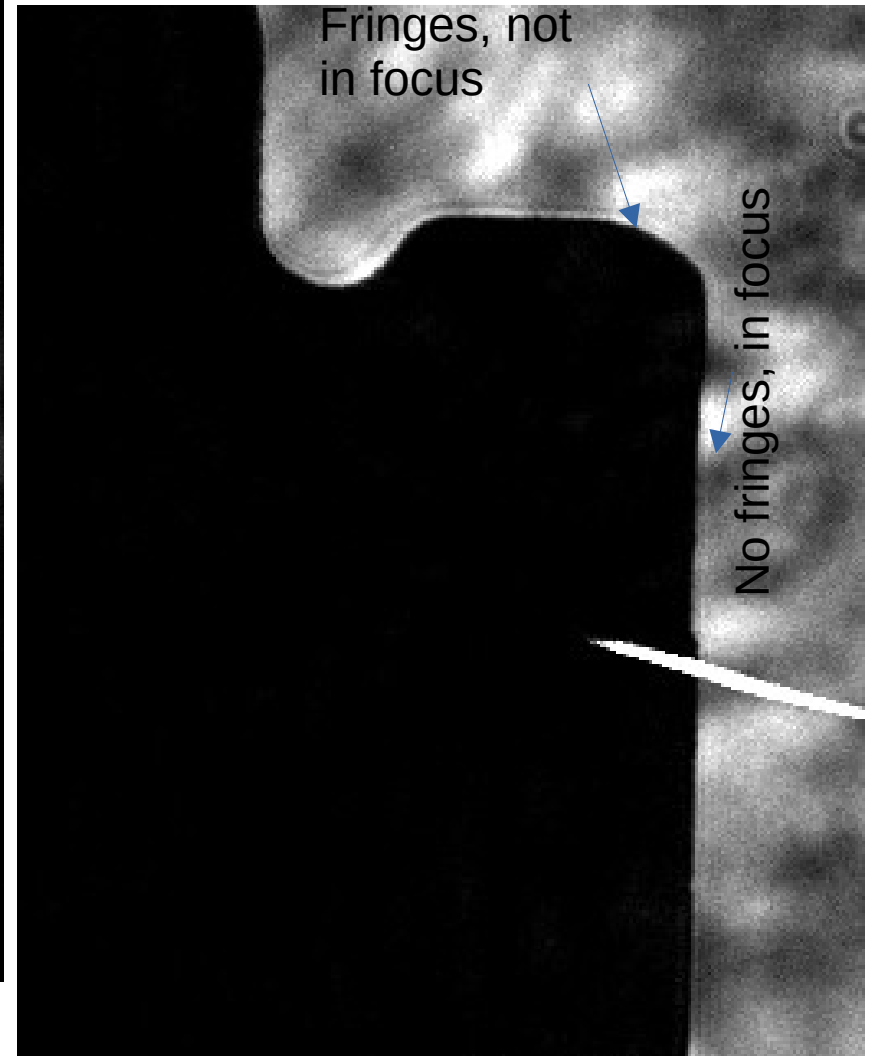
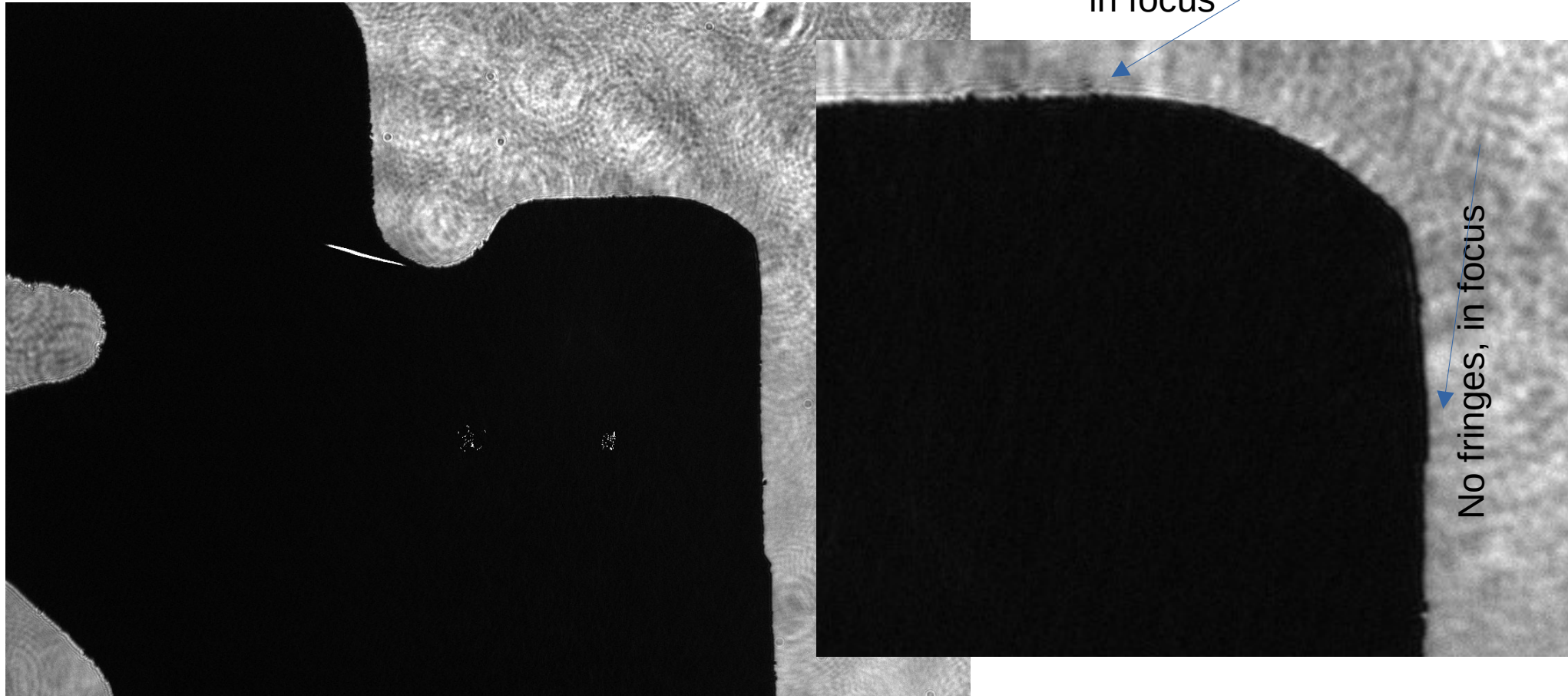
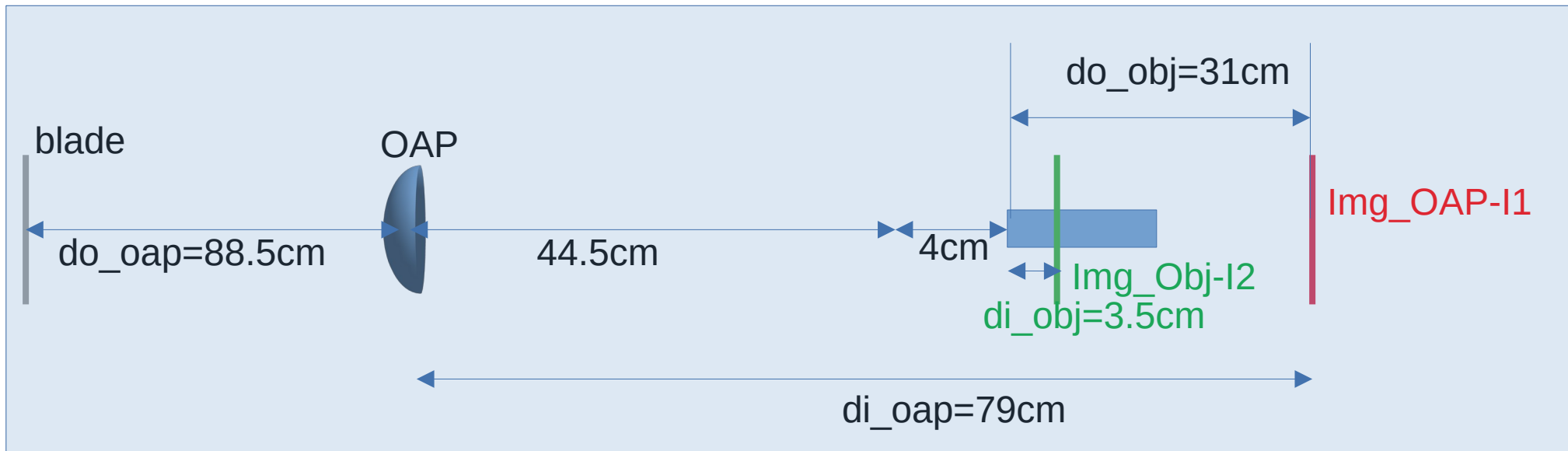


Image of razor blade with only OAP $f=44.5\text{cm}$, $d_o=88.5\text{cm}$, $d_i=79\text{cm}$ (measured), $d_i=90.5\text{cm}$ (calculated??)



Telescope imaging



1:1, 4f relay imaging

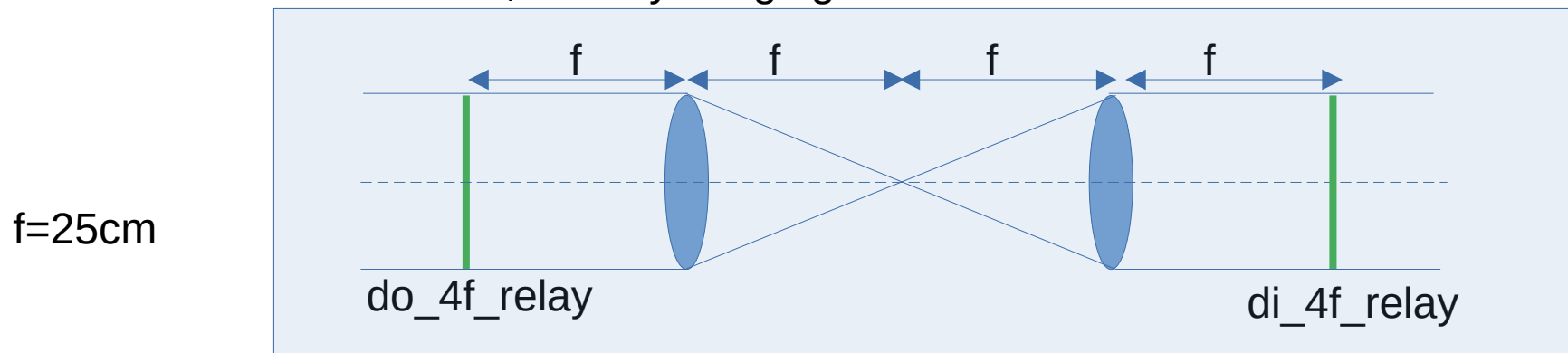
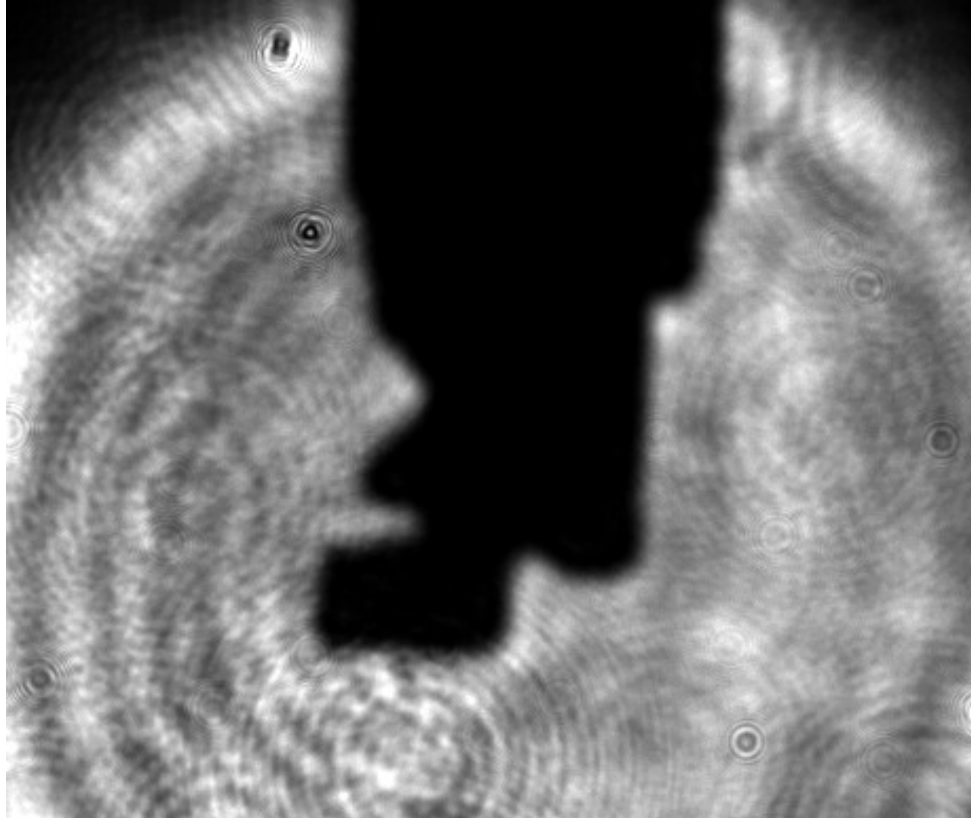


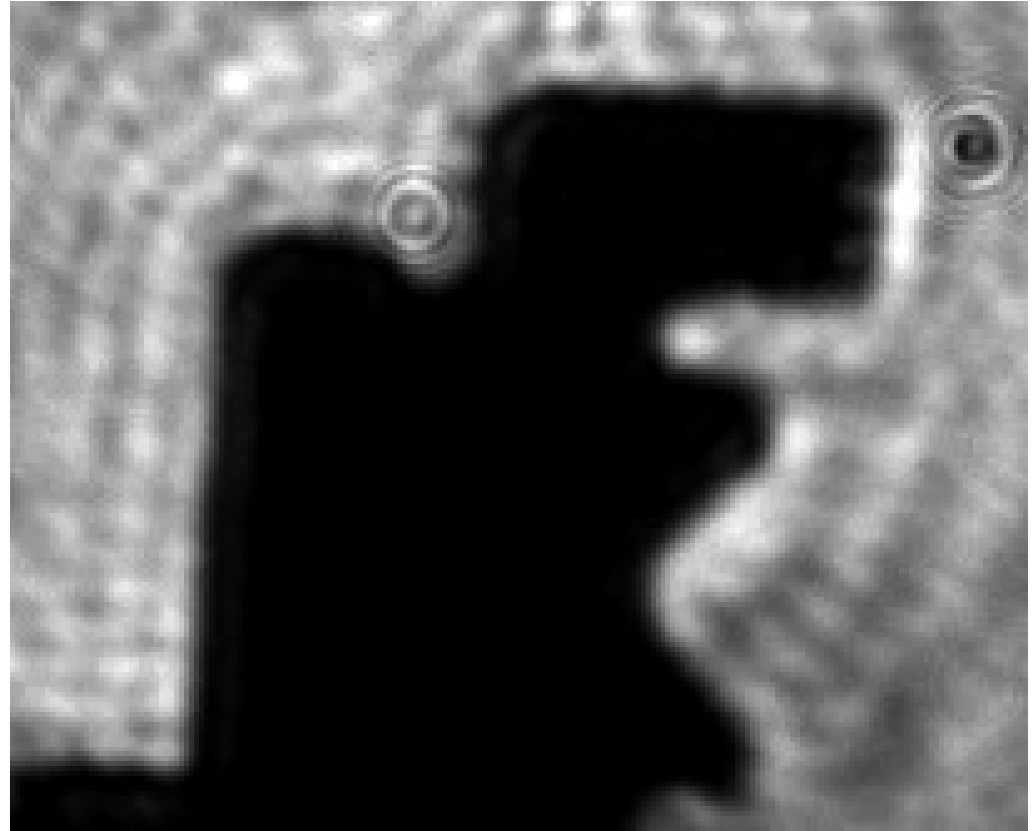
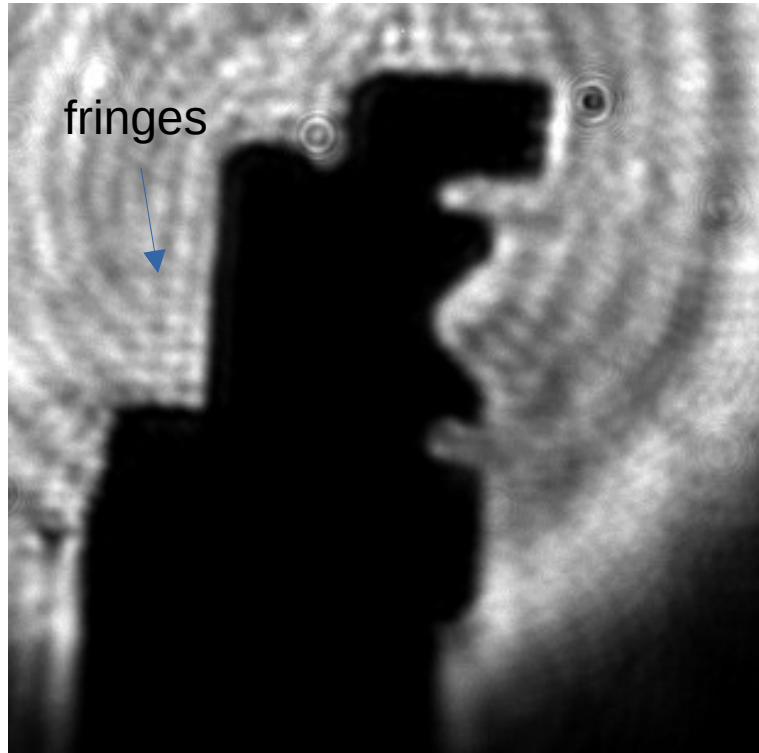
Image of razor blade with OAP+Obj (as Telescope)+collimation+ **4f relay imaging**
blade distance from OAP, $d_0=88.5$ cm



Lens $f=25$ cm

Still not very sharp as the
lenses are **not Achromat**

Image of blade with OAP+Obj (as Telescope)+collimation+ **double Obj ($f=1.8\text{cm}$)**
blade distance from OAP, $d_0=88.5\text{ cm}$
Not as 4f relay imaging



Next steps:

- We have to get the best image after 4f relay with right lenses
- Then we need to set up the Double OAPs inside the chamber
- Align and optimise the OAPs one by one and
- Then get the correlation of focus at IP with focus at imaging setup