

CARLOS DOMÍNGUEZ TAGLE

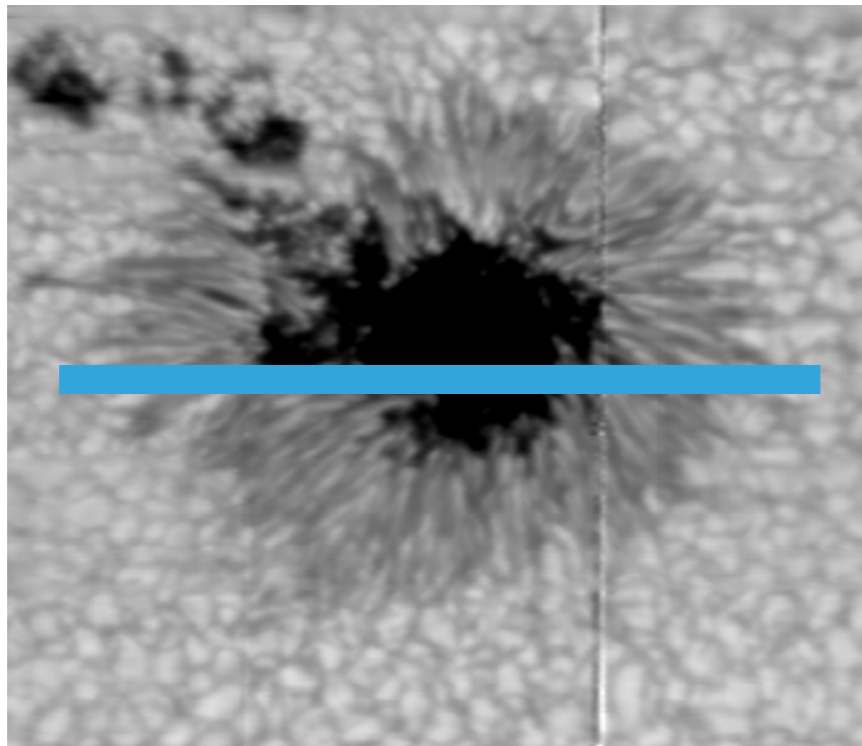
ON BEHALF OF IAC GROUP

M. COLLADOS, R. LÓPEZ, T. VAZ, M. A. ESTÉVEZ, N. VEGA, E. PAEZ, A. ASENSIO RAMOS

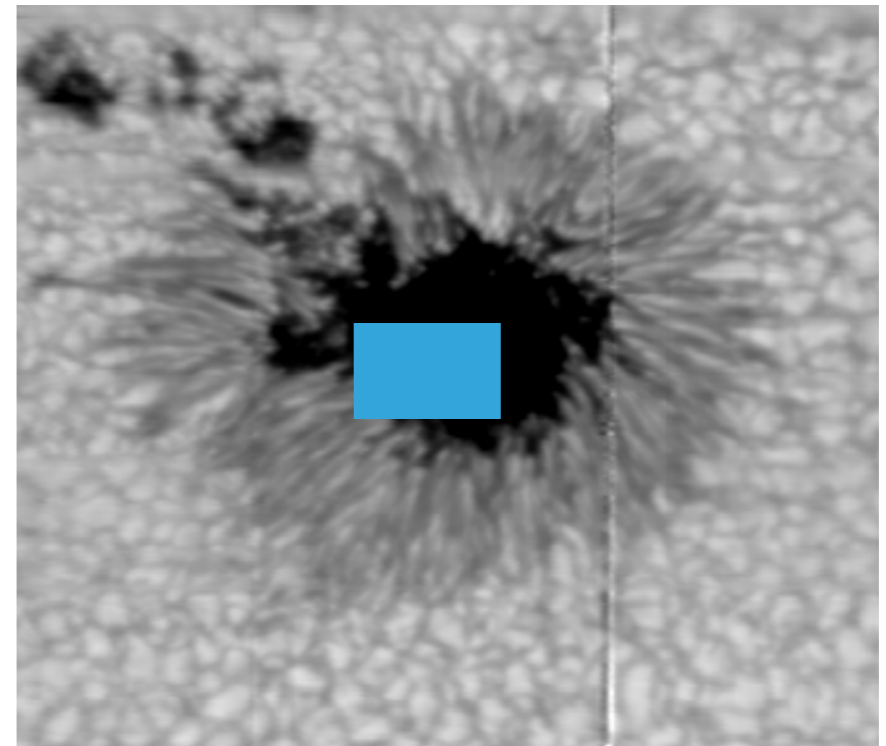
INTEGRAL FIELD UNIT

ON GRIS@GREGOR

IMAGE SLICER PROTOTYPE



64" x 0.27"

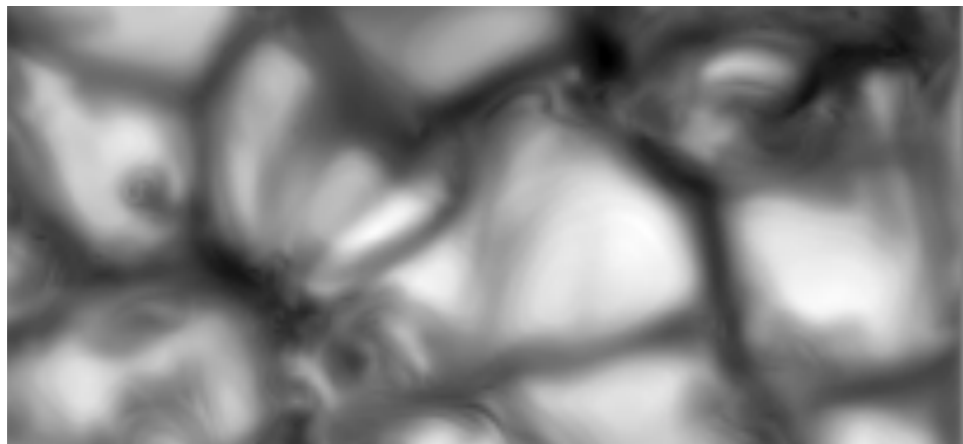


6.75" x 3"

1.8 x 0.8 mm

WHAT TO EXPECT

Simulation

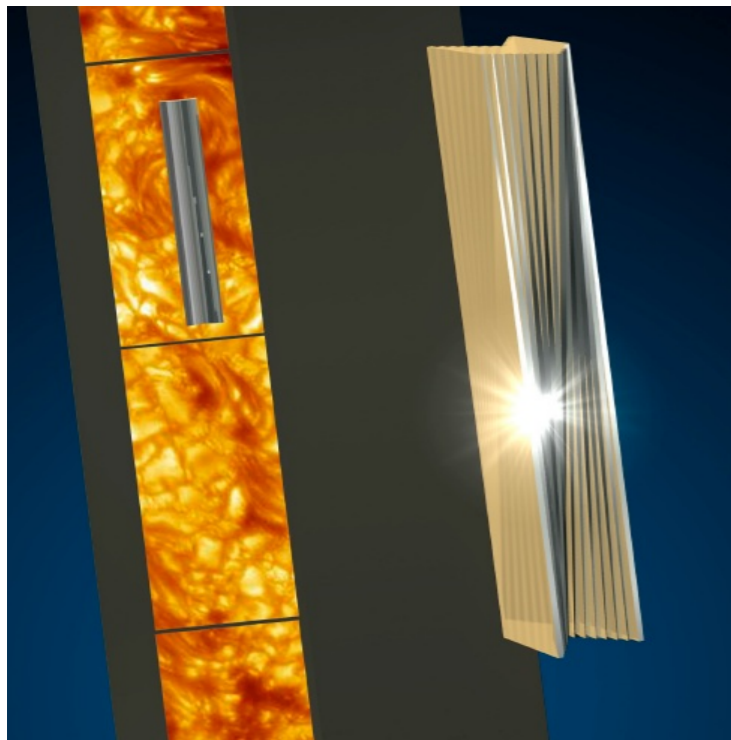


GREGOR + SLICER



6.75" x 3"

IMAGE SLICER PROTOTYPE BY WINLIGHT OPTICS



FoV	20.2 arcsec ² (6.75" x 3")
Number of slices	8
Slice width	100 μm (0.375")
Output slit	54" x 0.375"

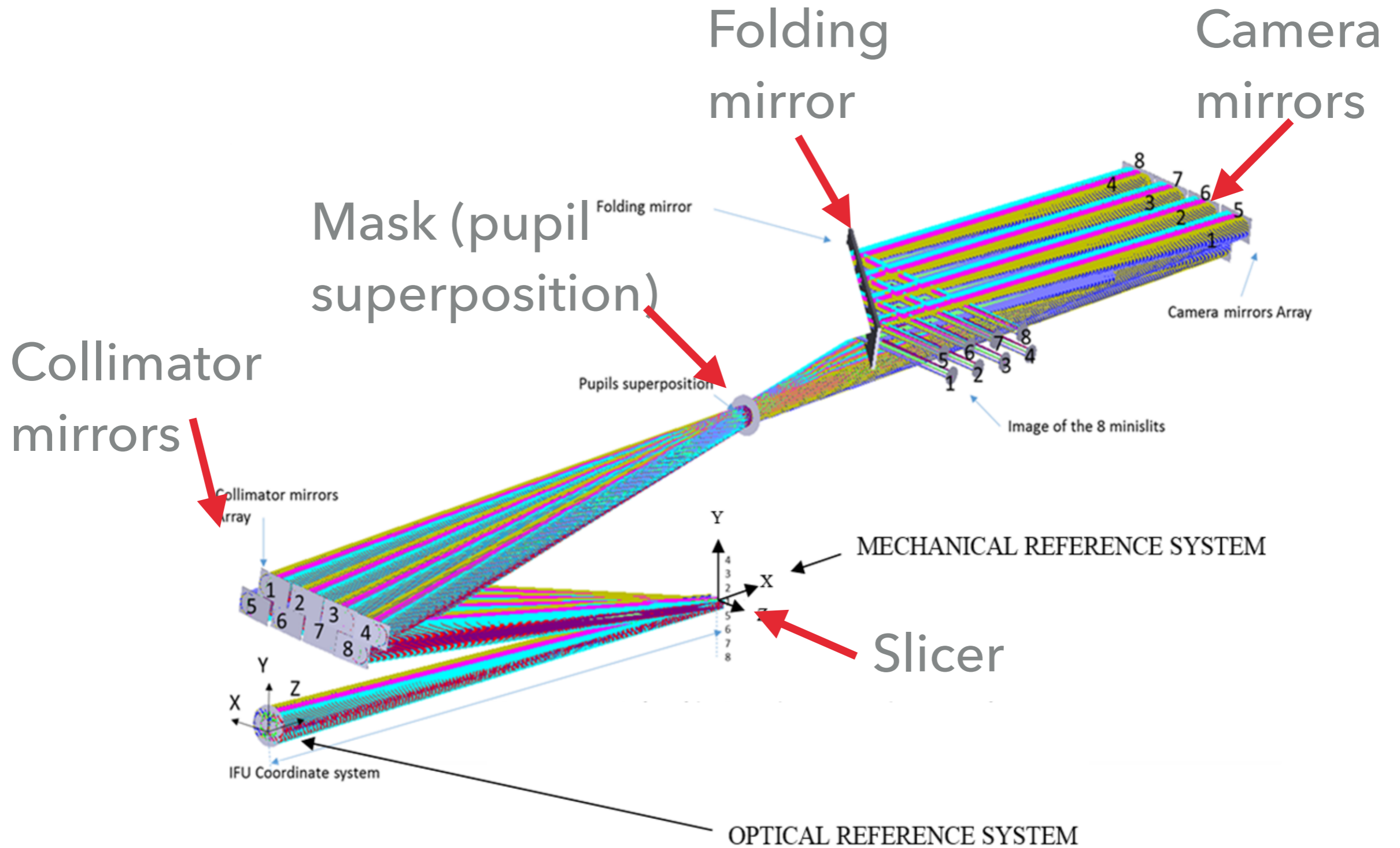


IMAGE SLICER PROTOTYPE: DIFFRACTION LIMIT



Surface: TMA

Configuration Matrix Spot Diagram

25/01/2017

Units are μm . Airy Radius: 42.72 μm Legend items refer to Wavelengths

Scale bar : 100

Reference : Centroid

IS0715_FULL_FOV_DODDSNT_043V1.ZMX
Configuration: All 8

GRIS SPECTROGRAPH

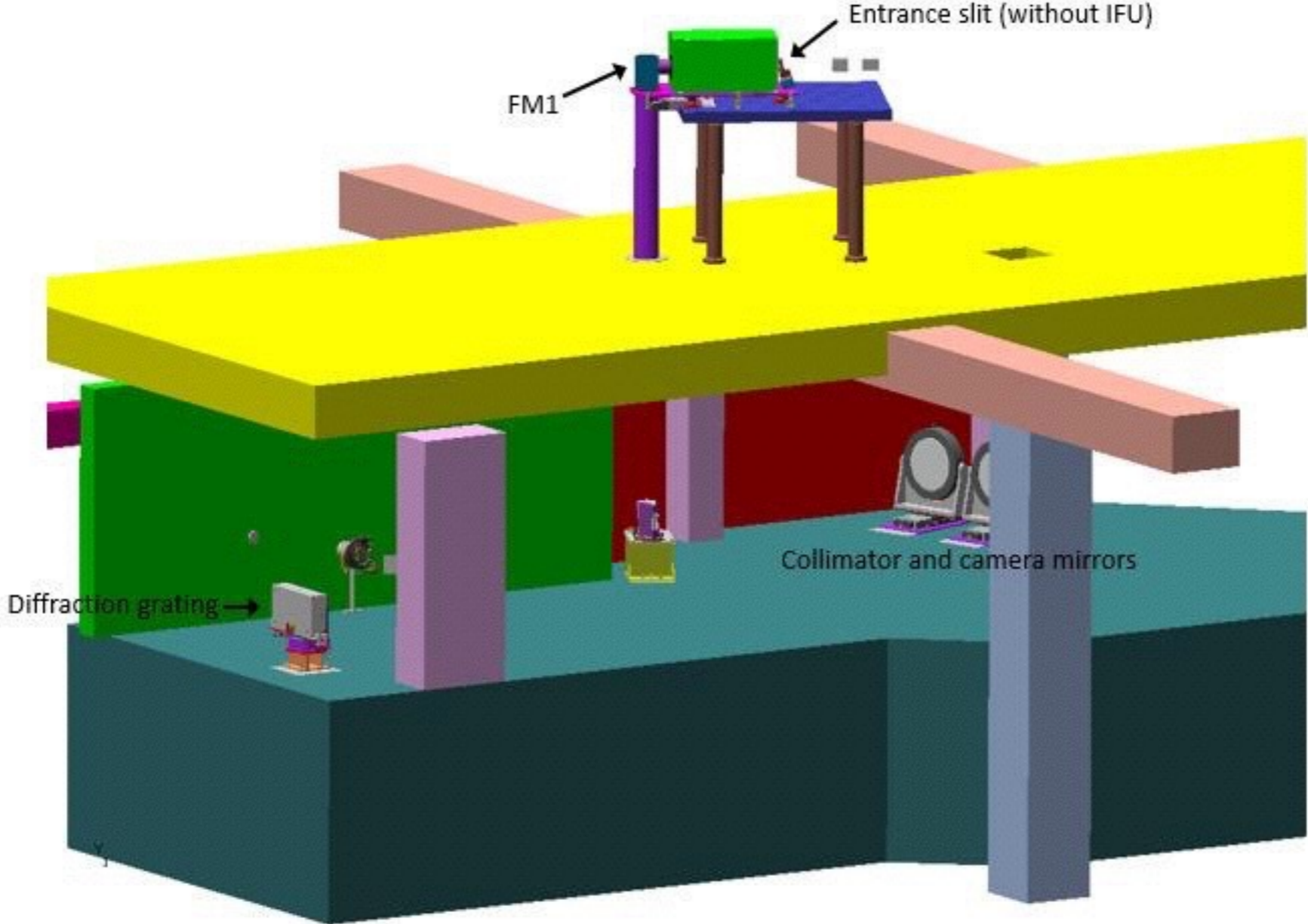


IMAGE SLICER PROTOTYPE: ADDITIONAL REQUIREMENTS

- ▶ New scanning system (three motors)
 - ▶ X axis
 - ▶ Y axis
 - ▶ Focus compensation
- ▶ New flat mirrors → insert beam into spectrograph
- ▶ New optical bench

ALIGNMENT

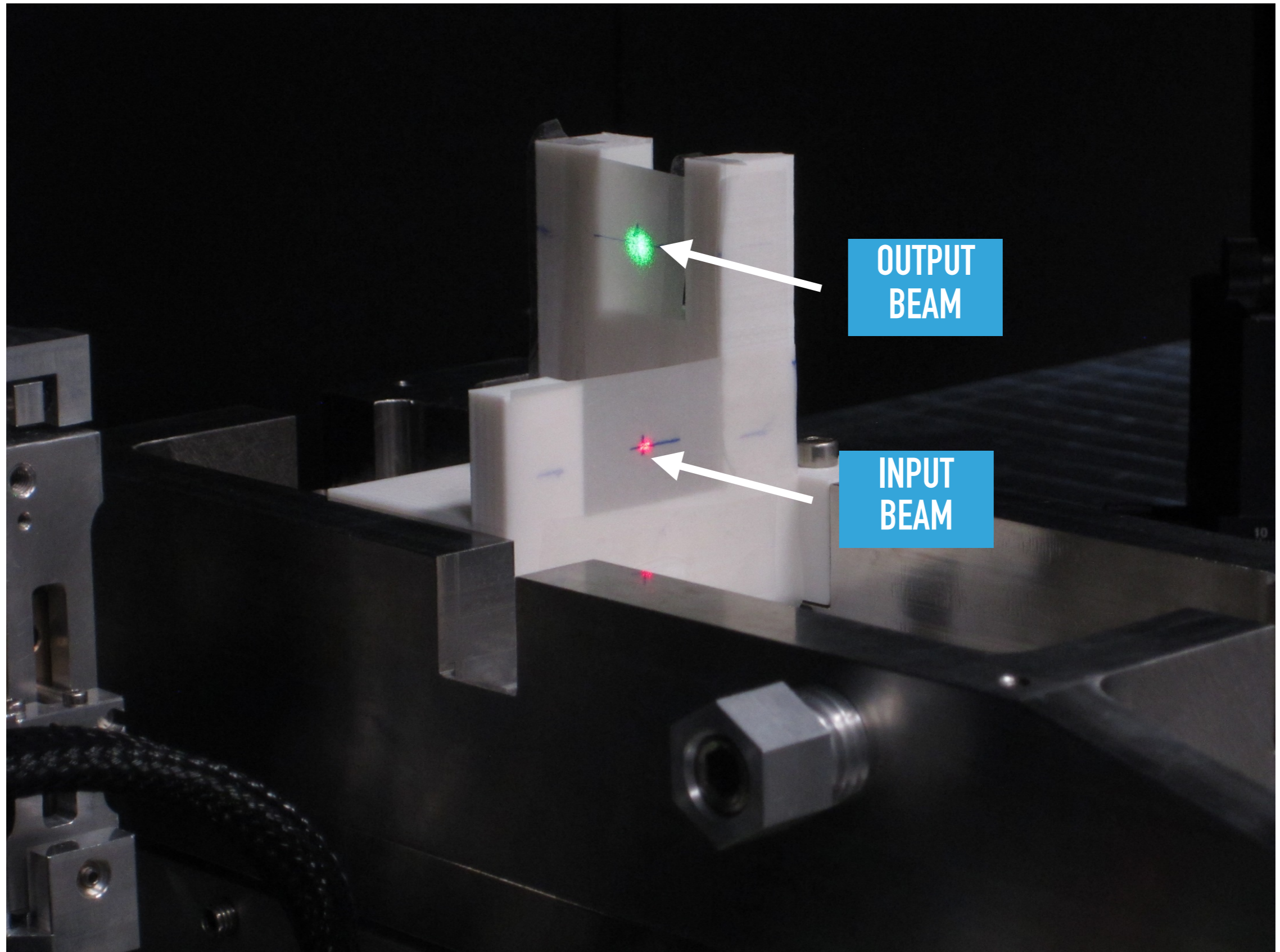


IMAGE SLICER

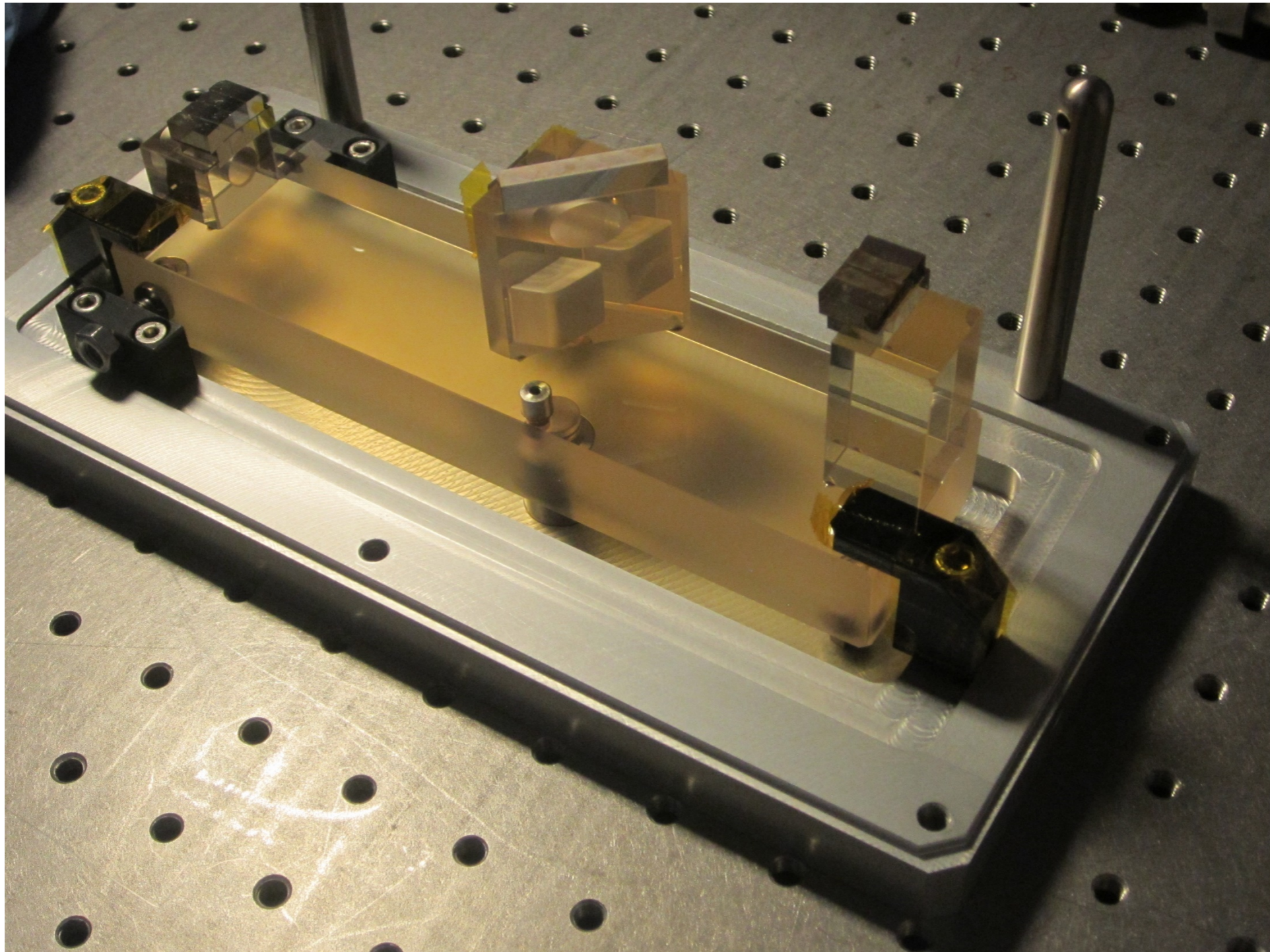


IMAGE SLICER PROTOTYPE

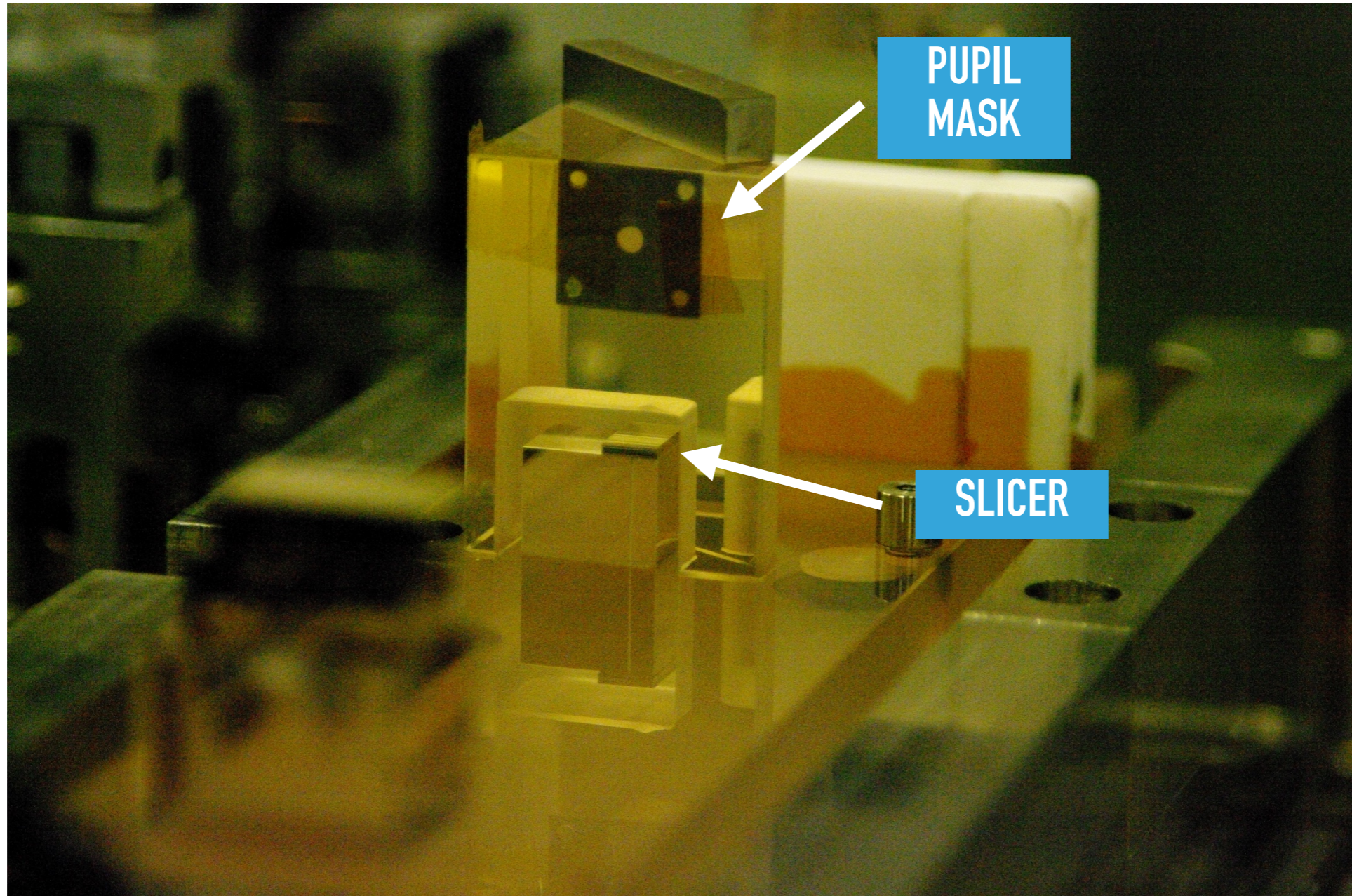


IMAGE SLICER PROTOTYPE

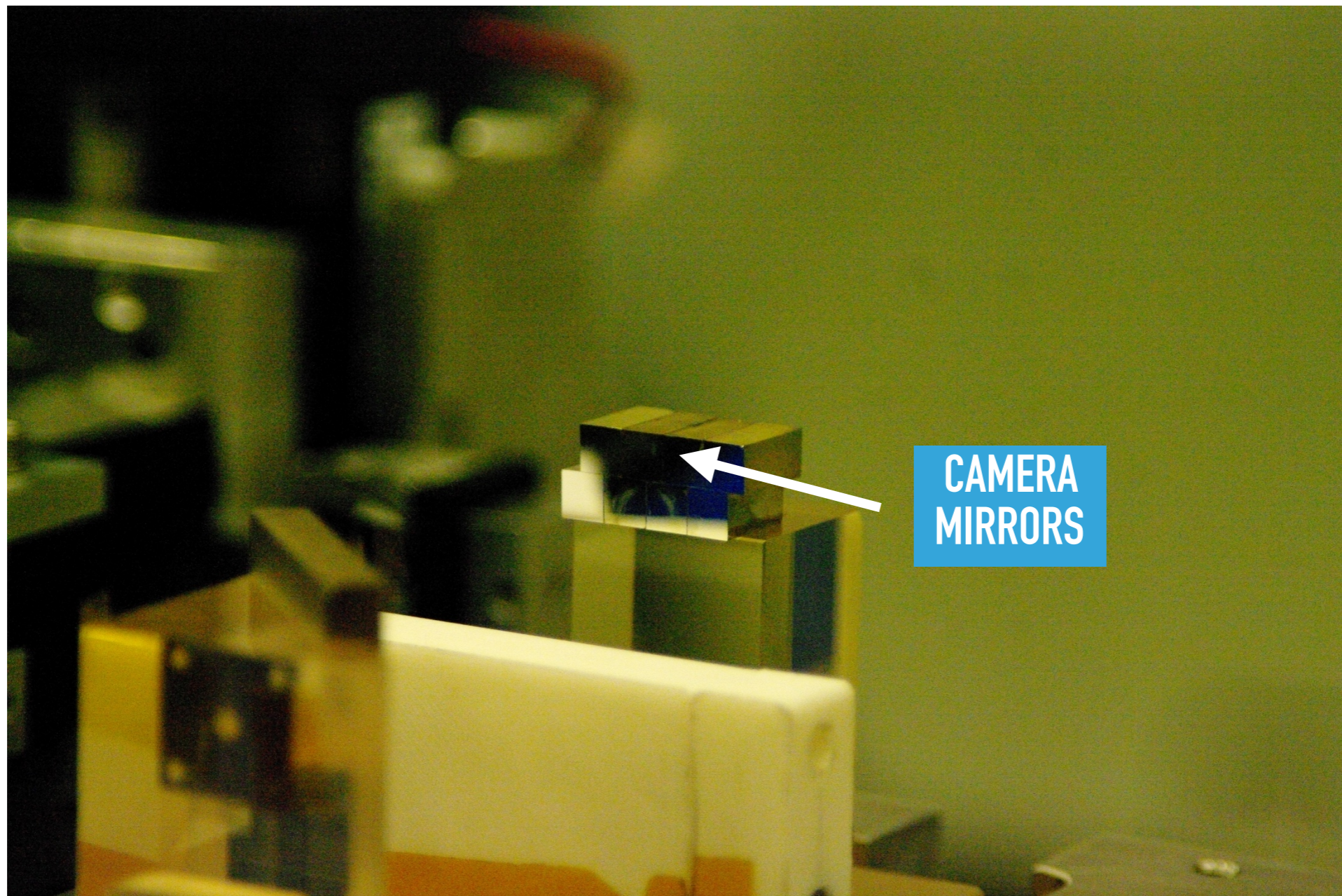


IMAGE SLICER PROTOTYPE

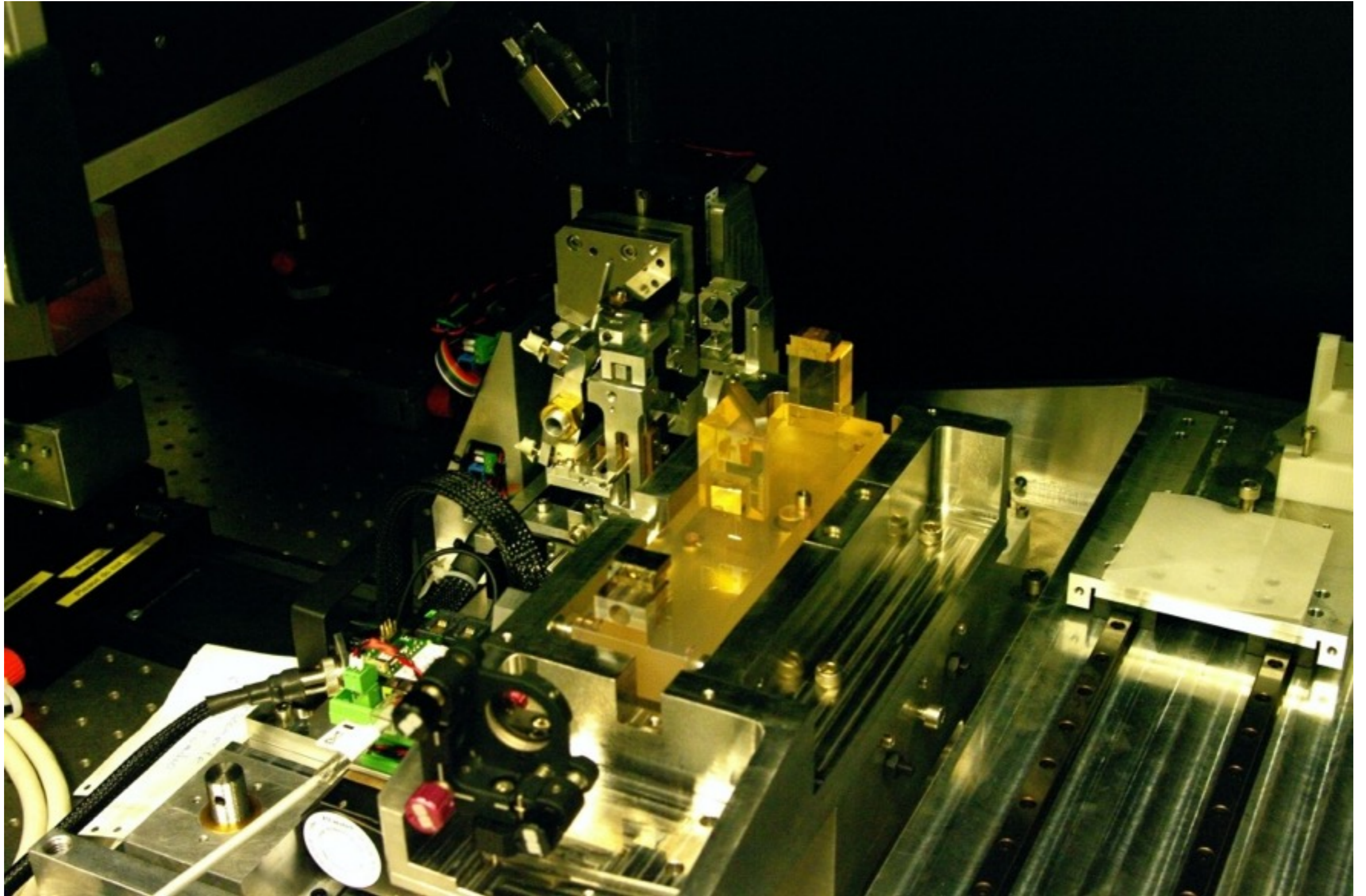


IMAGE SLICER PROTOTYPE

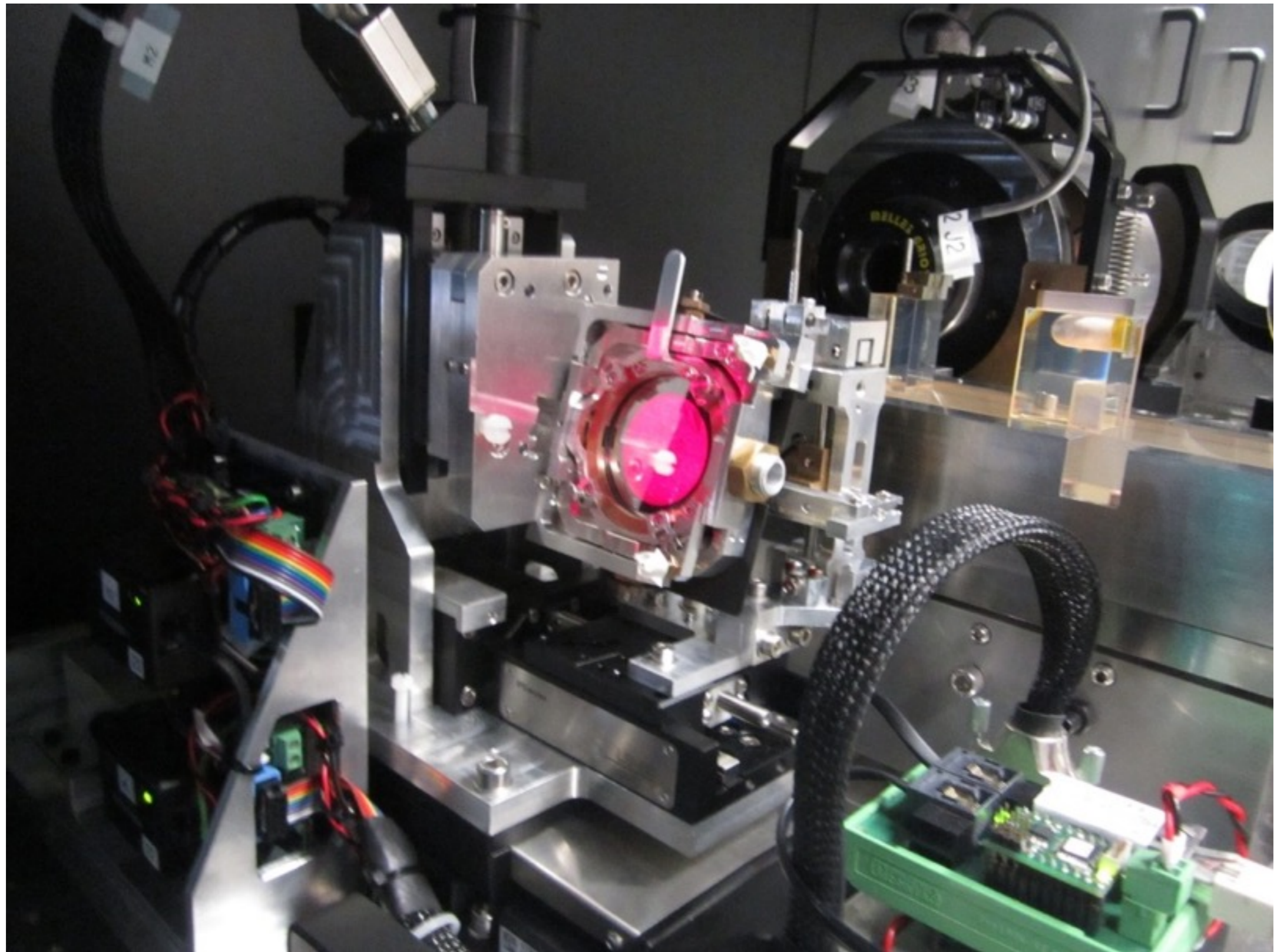
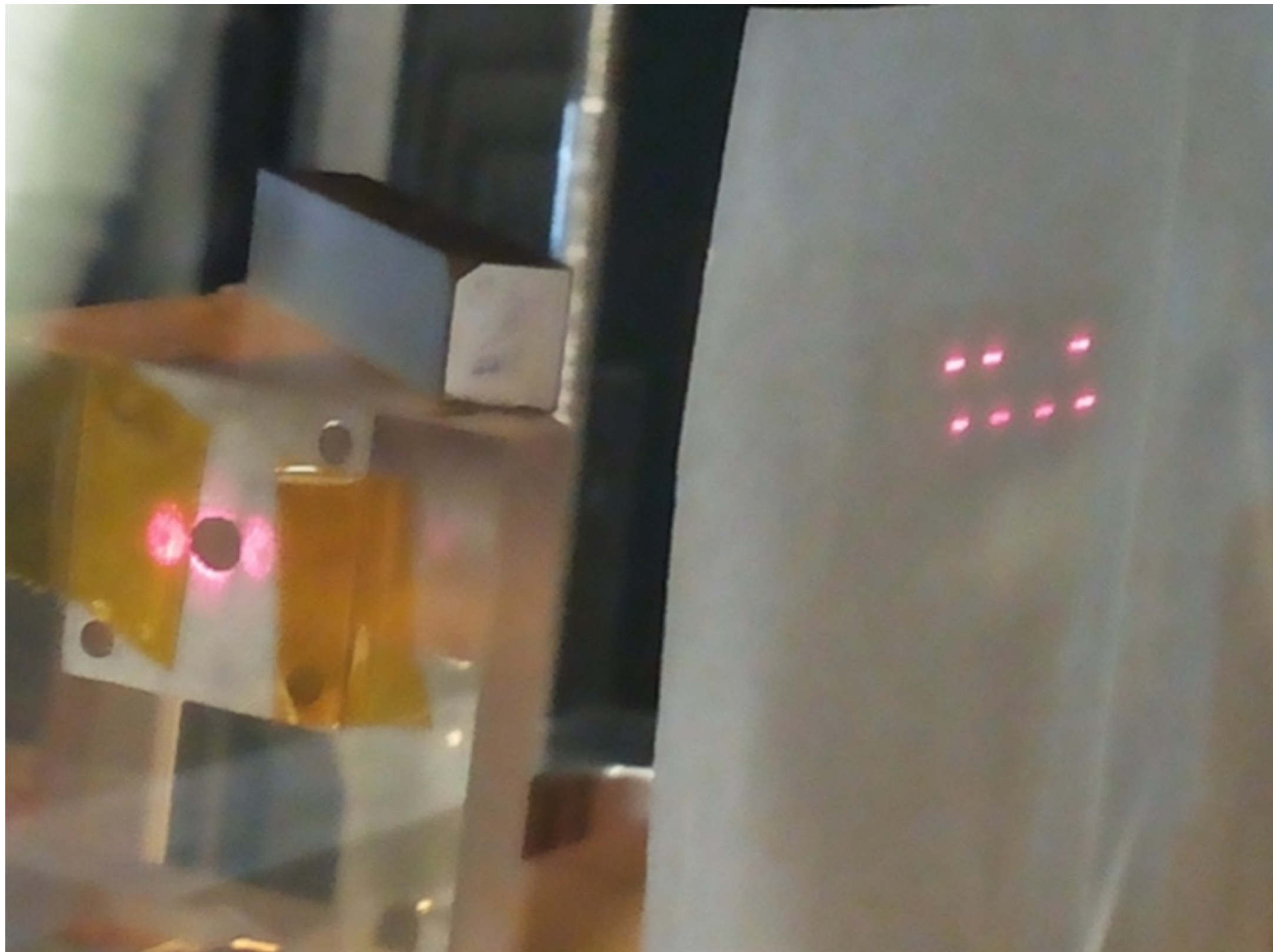


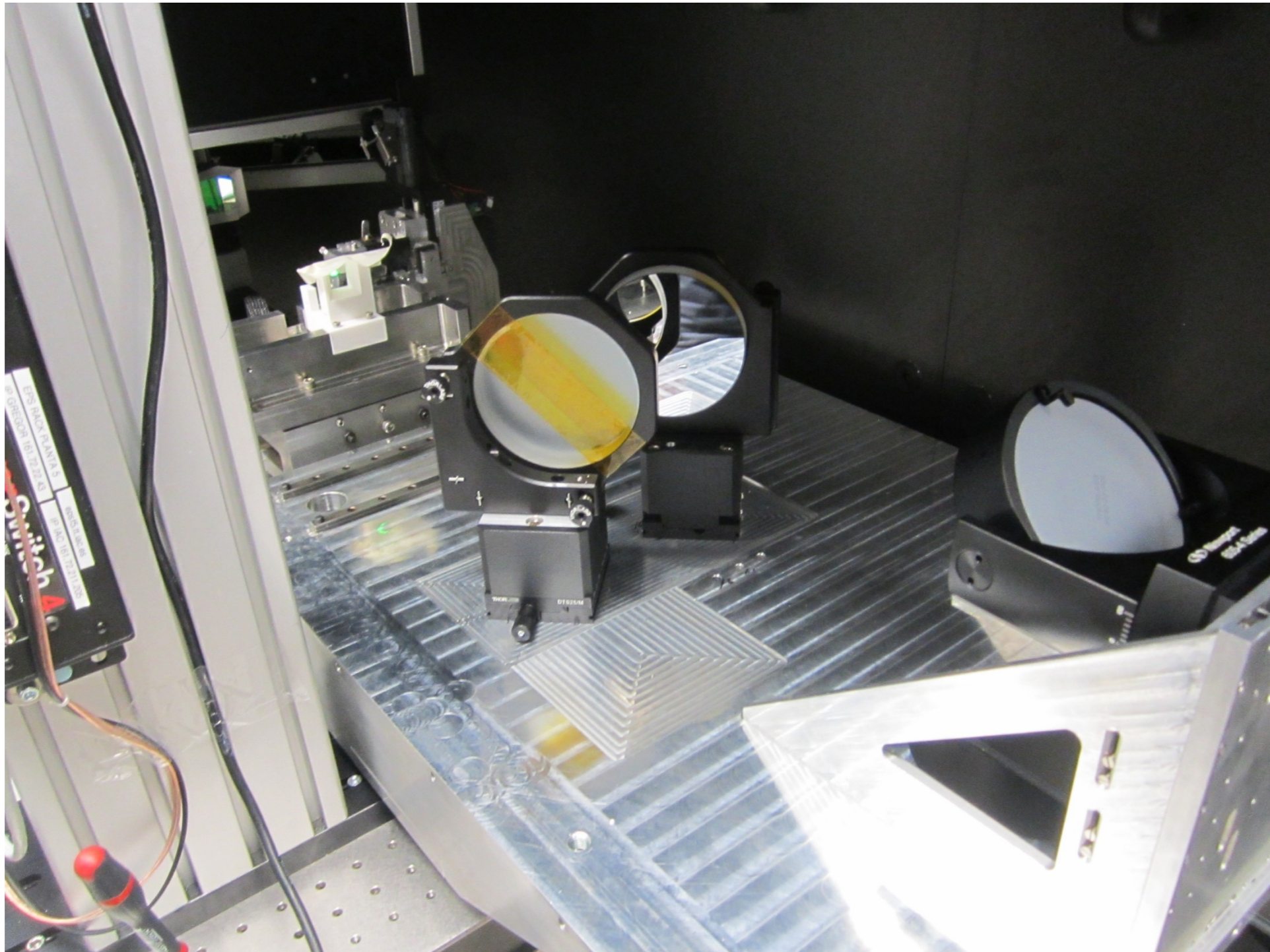
IMAGE SLICER PROTOTYPE



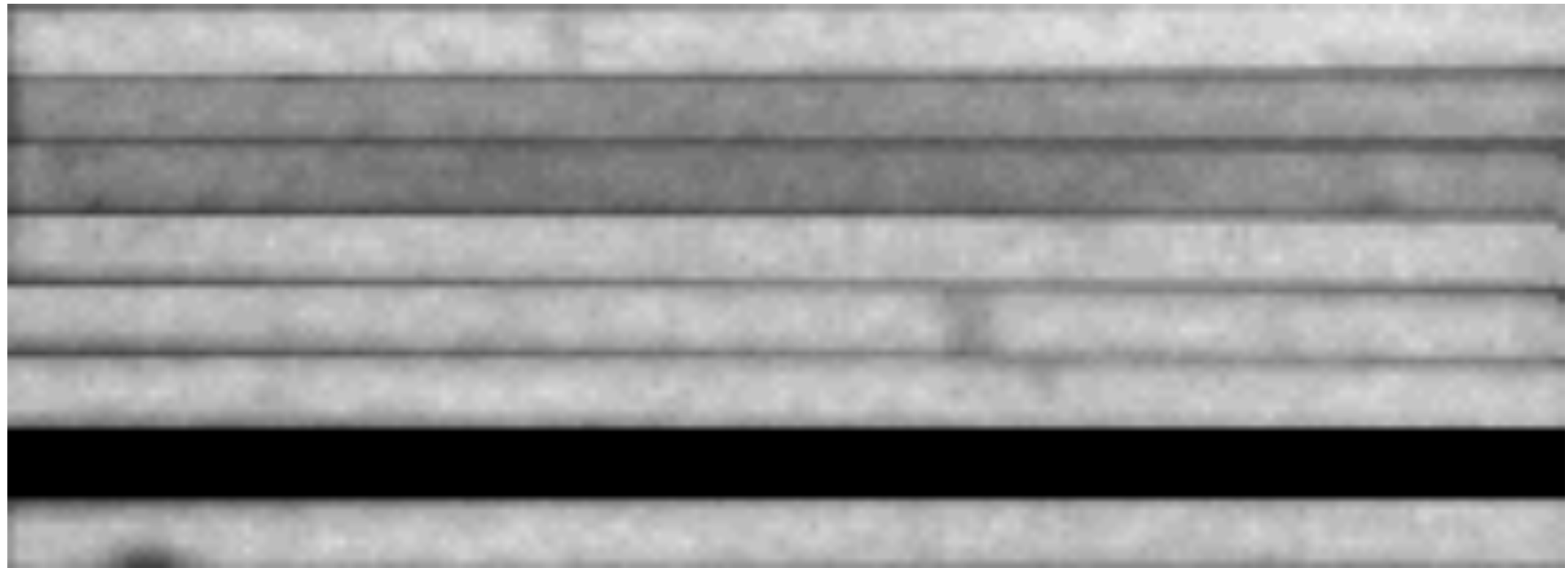
SLITS PRODUCED BY THE SLICER



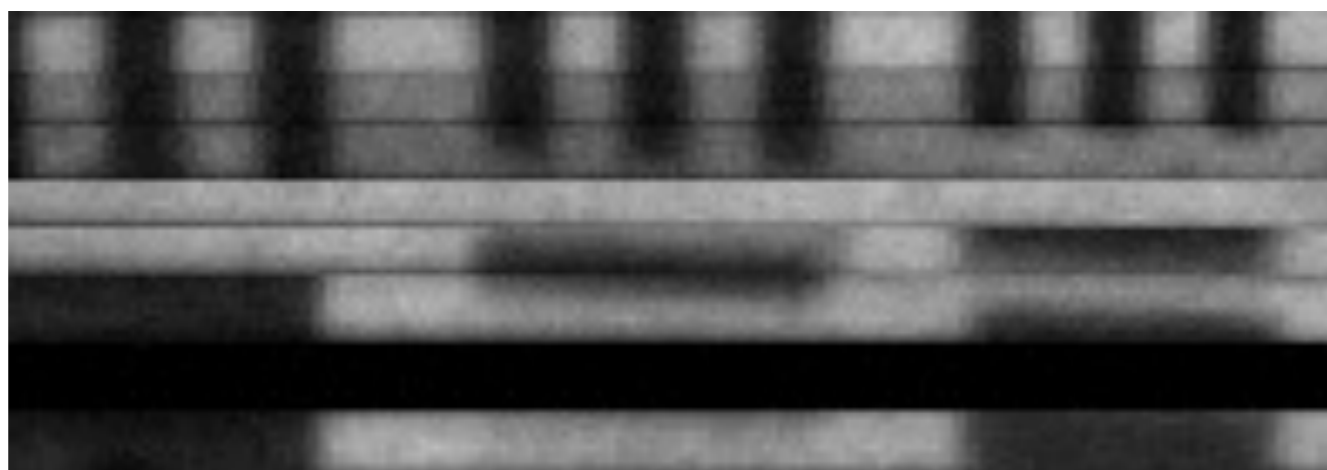
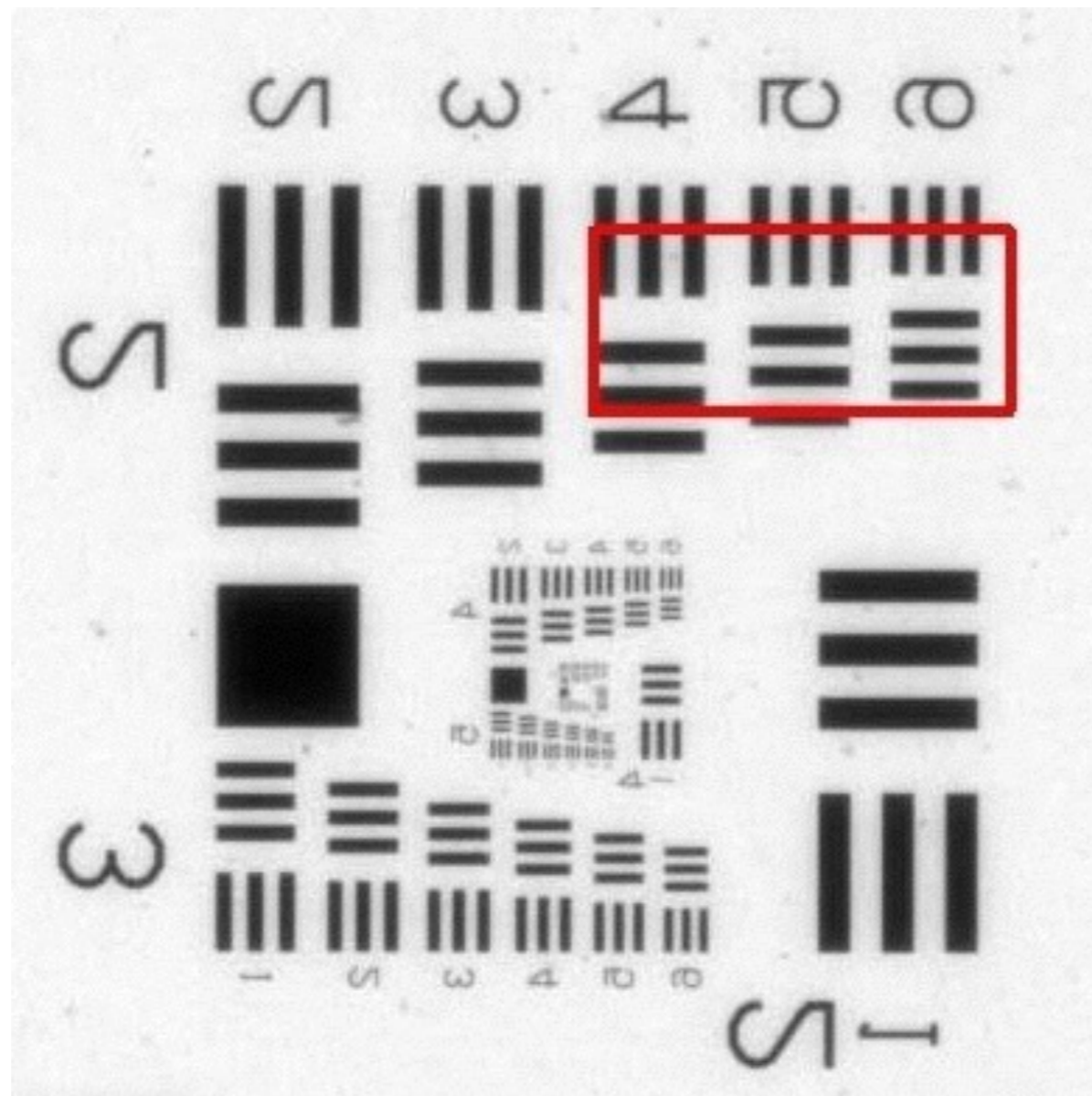
MIRRORS FOR ALIGNMENT WITH SPECTROGRAPH



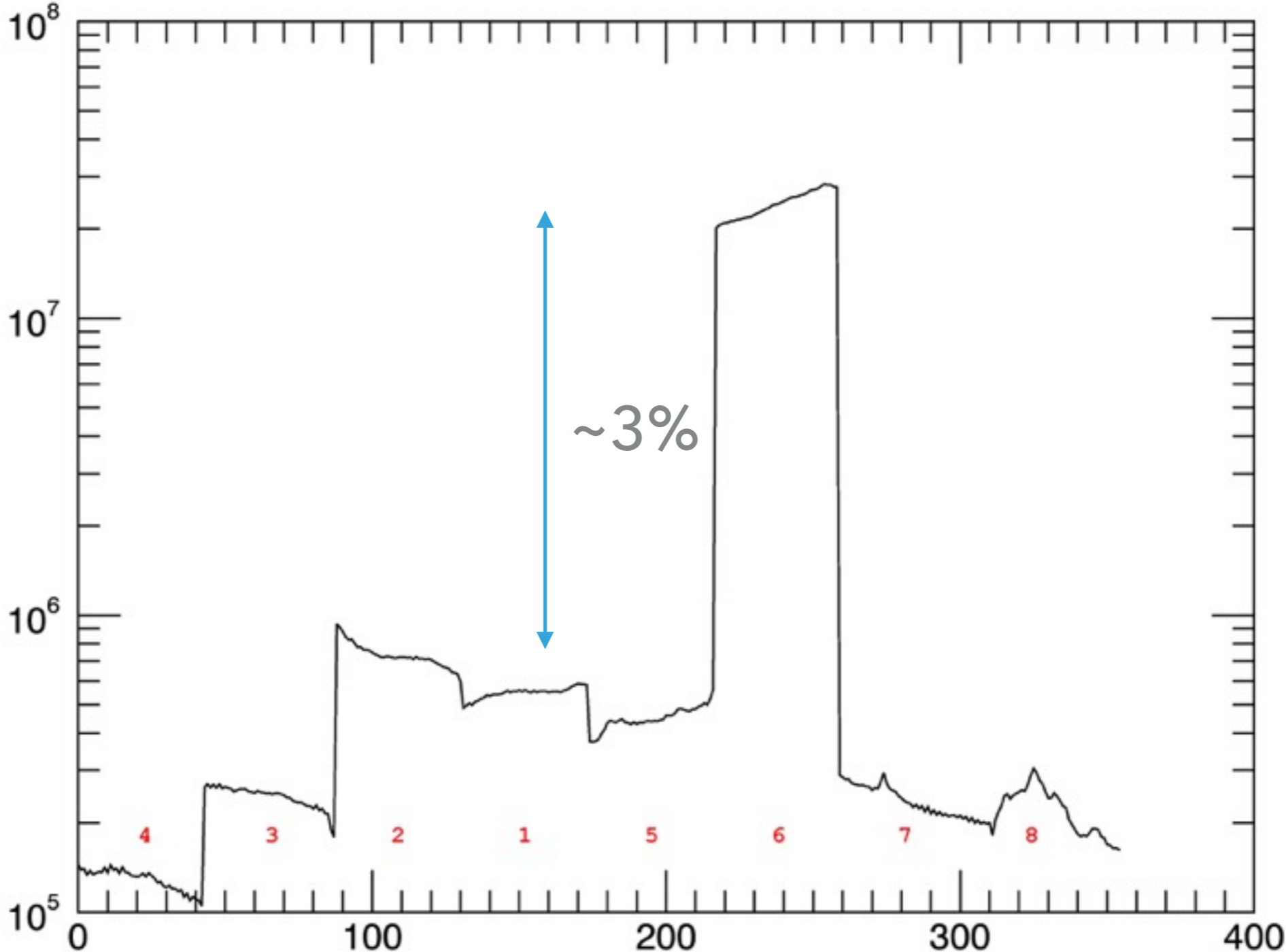
MINISLITS RECONSTRUCTED



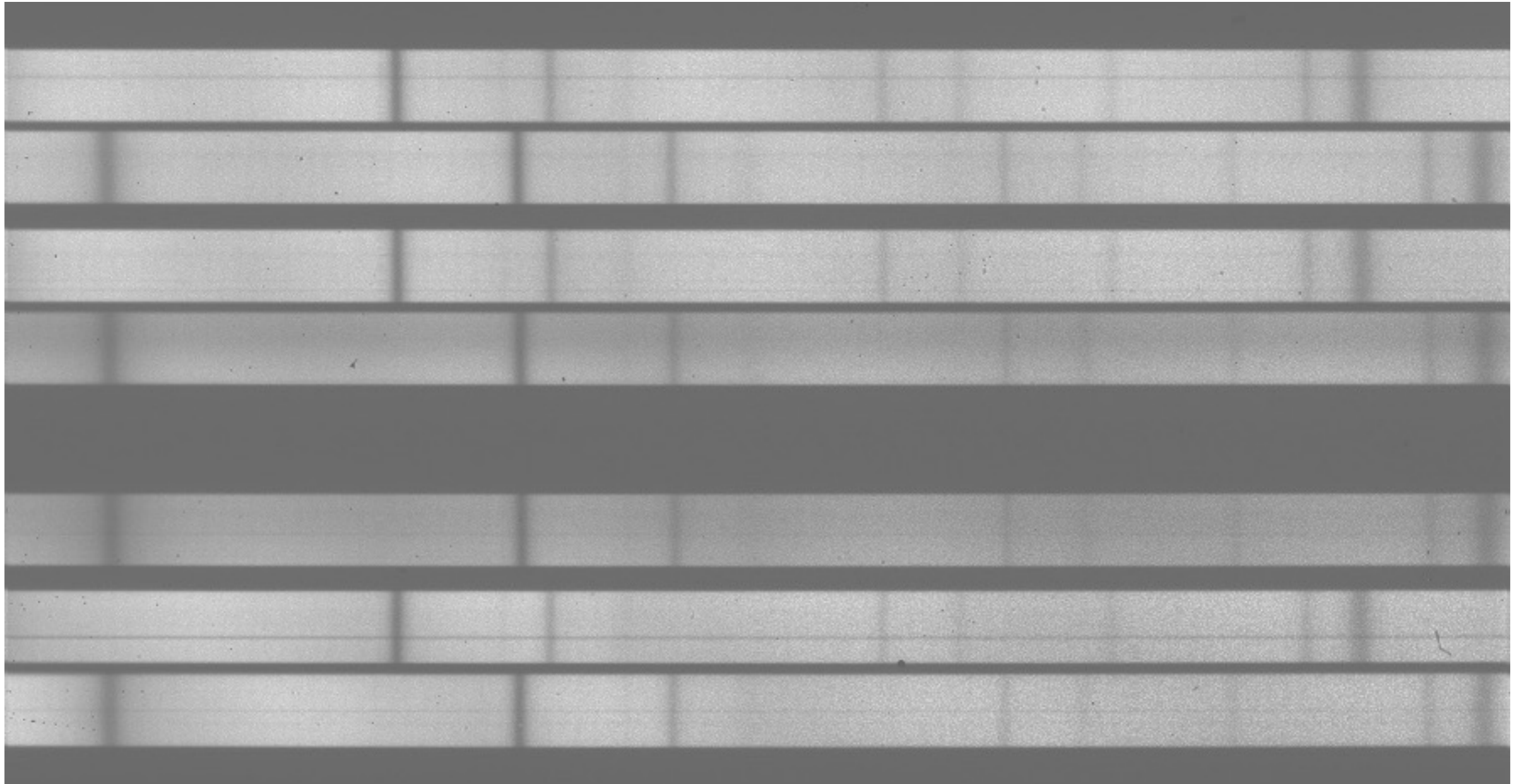
SLITS PRODUCED BY THE SLICER



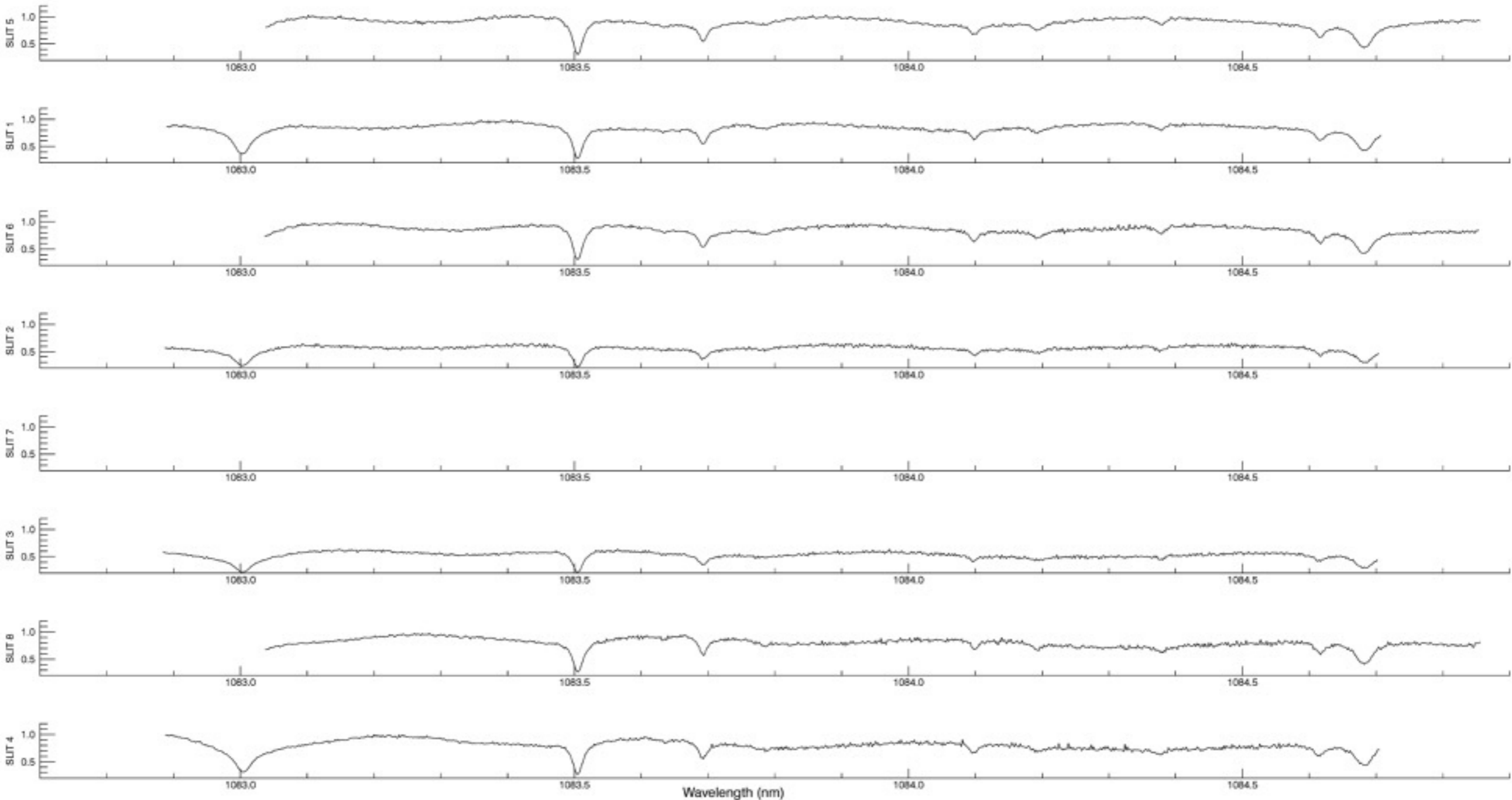
CROSSTALK BETWEEN SLITS (ILLUMINATING SLIT 6)



SPECTRUM

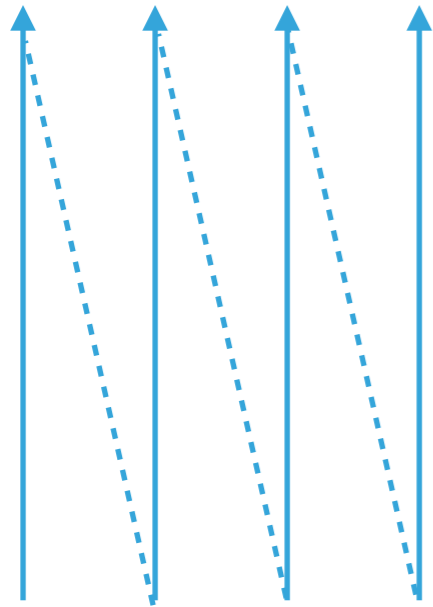


SPECTRUM

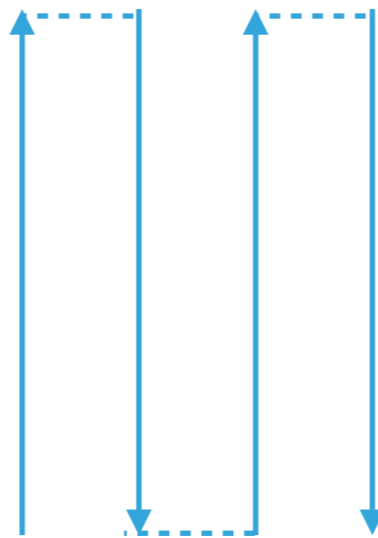


SCANNING MODE

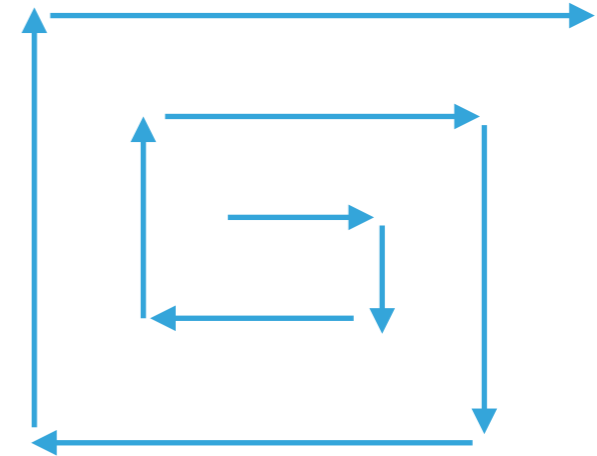
Raster



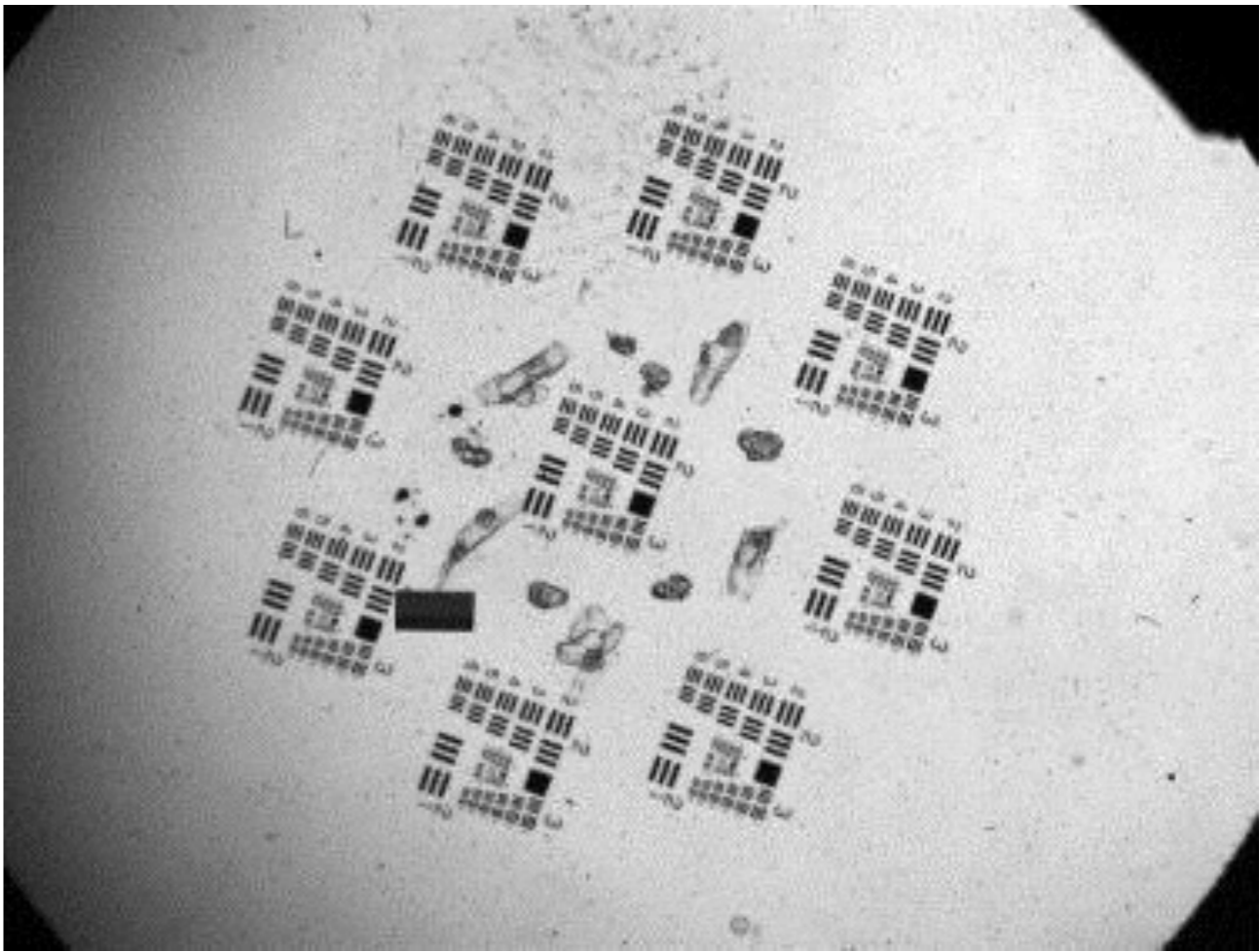
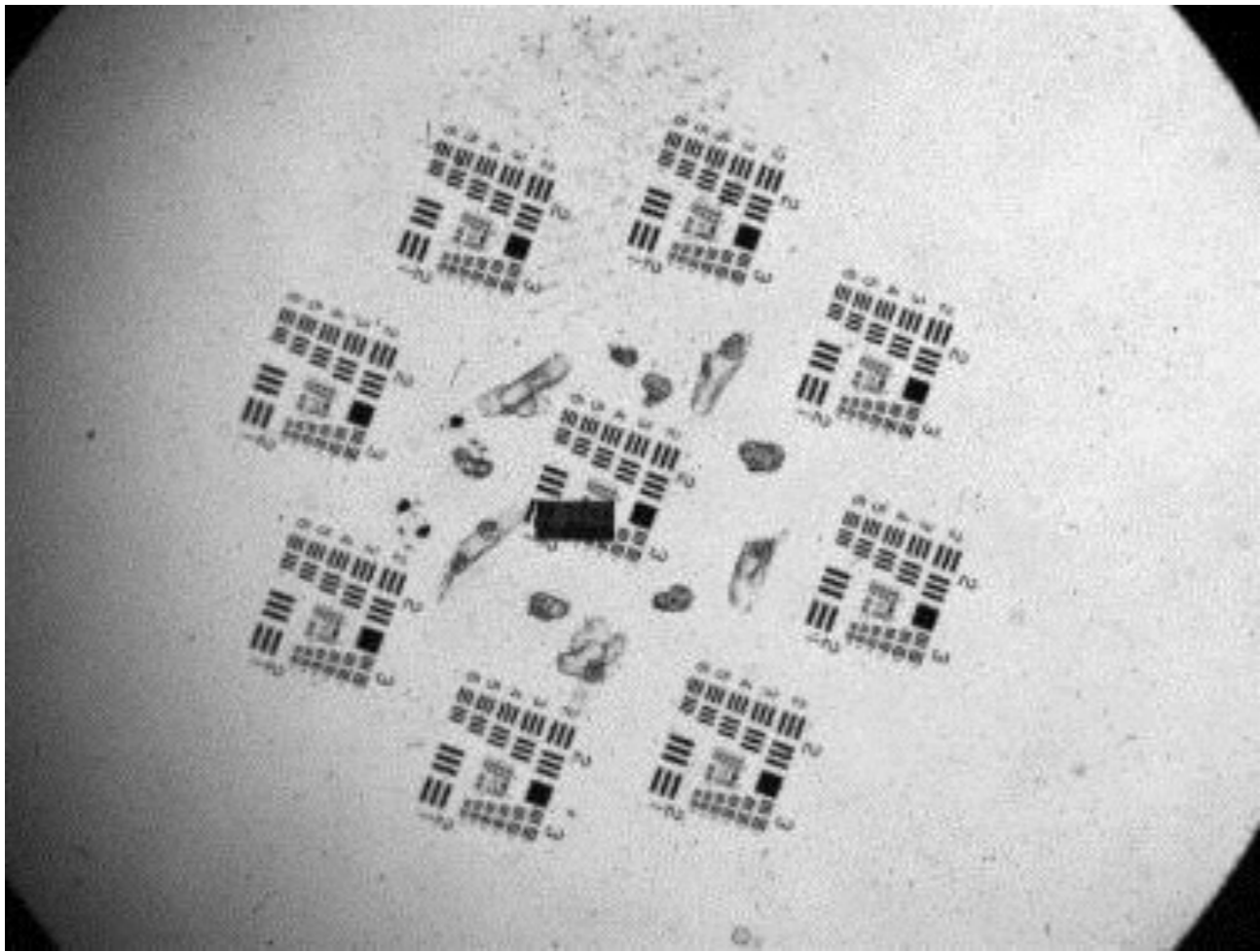
Snake



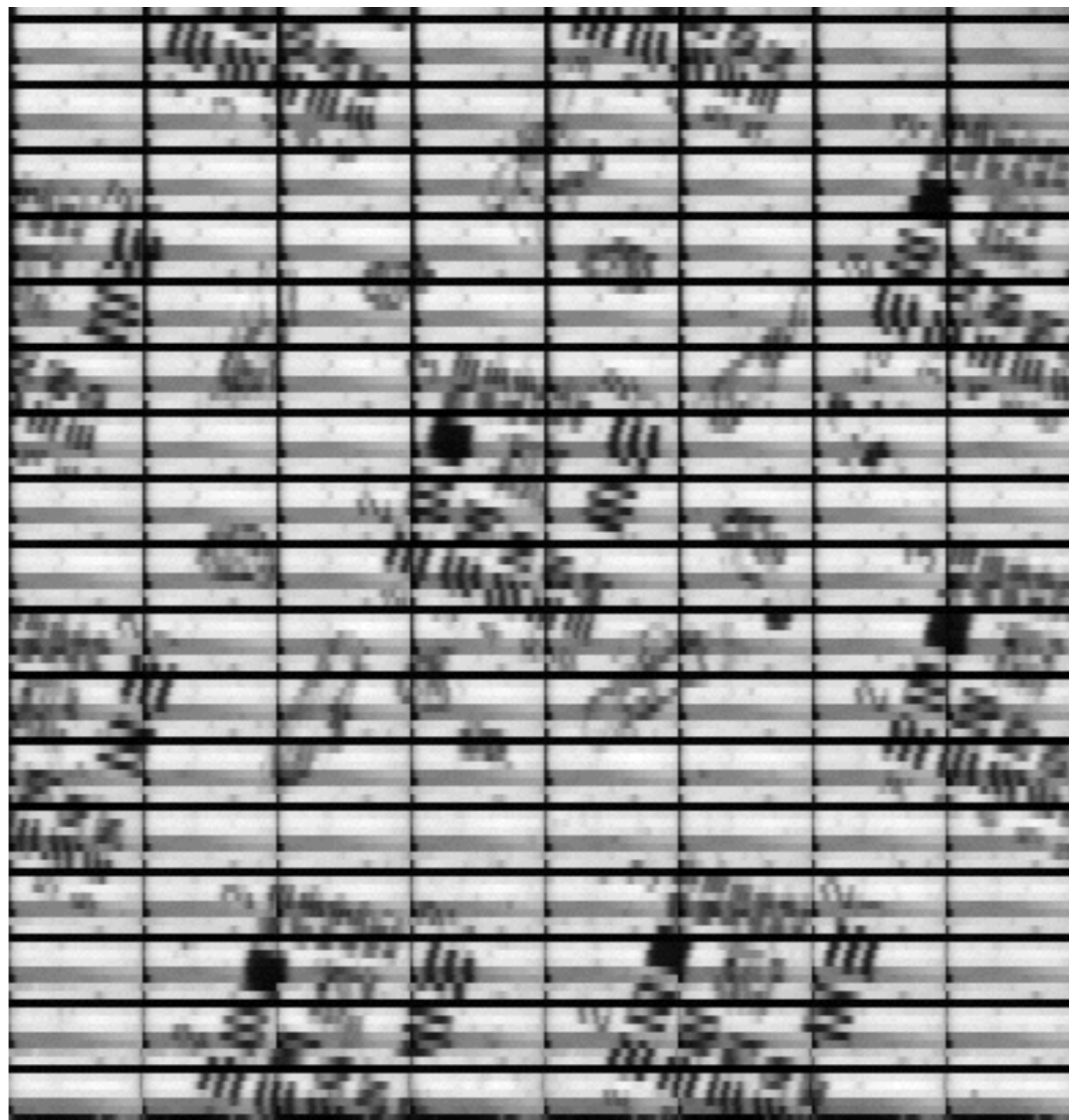
Spiral



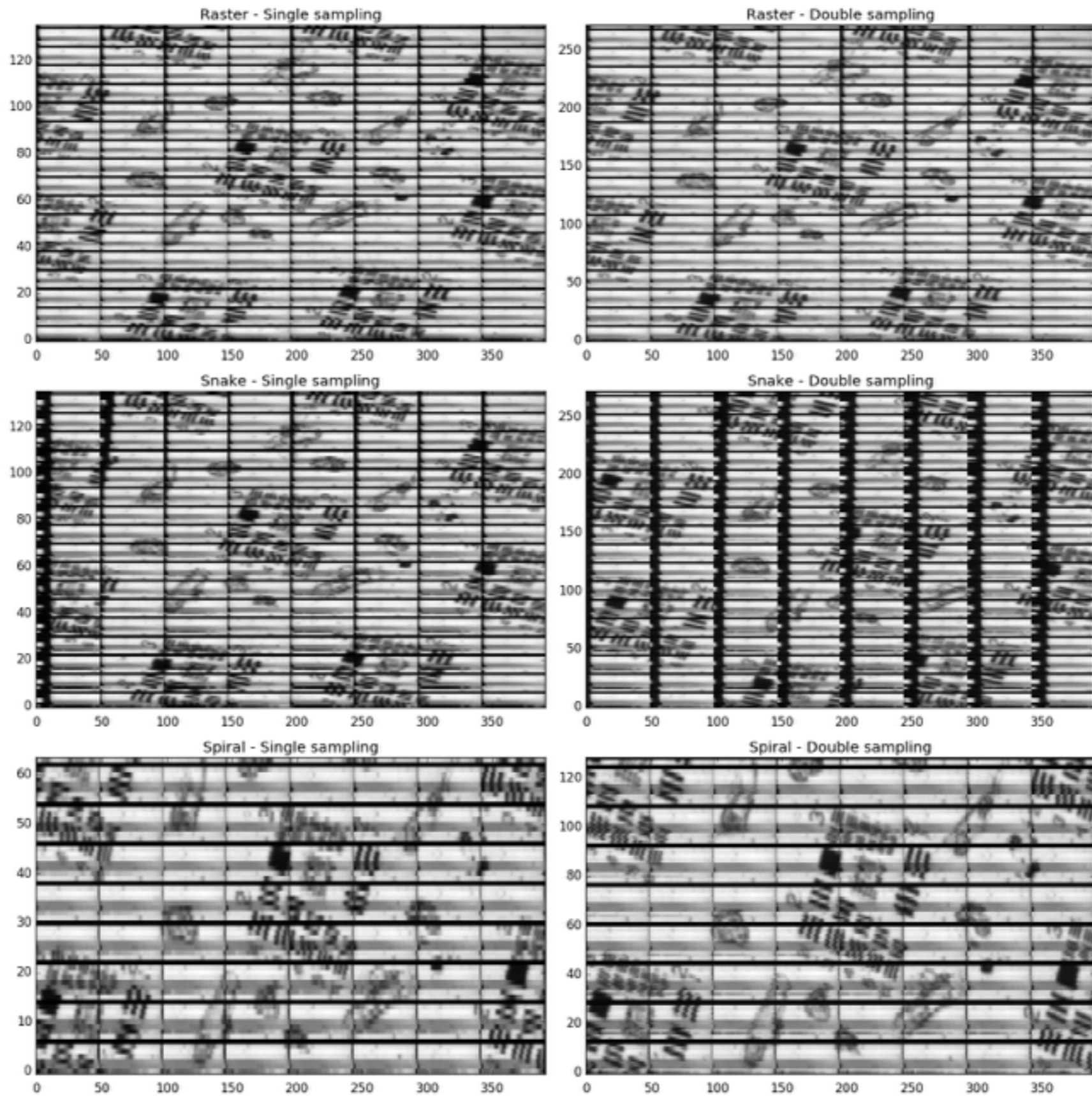
USAF TARGET



RECONSTRUCTED IMAGE



FIRST LIGHT RESULTS



CONCLUSIONS

- ▶ First tests are very encouraging
- ▶ We have validated the image slicer technology for solar observations
- ▶ We are working with WO to solve the problems in the next weeks
- ▶ We are already working on the next prototype with EST in mind