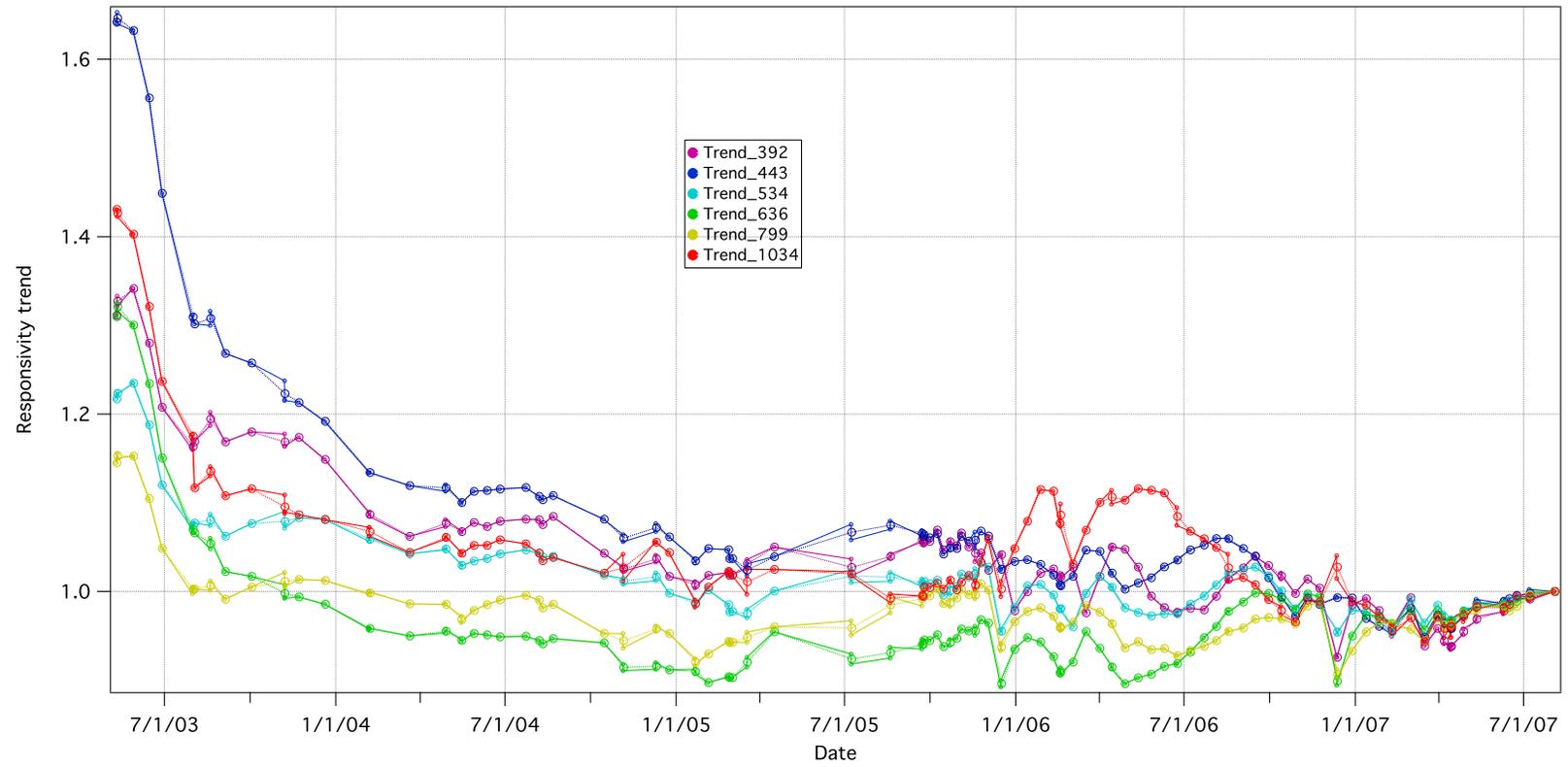


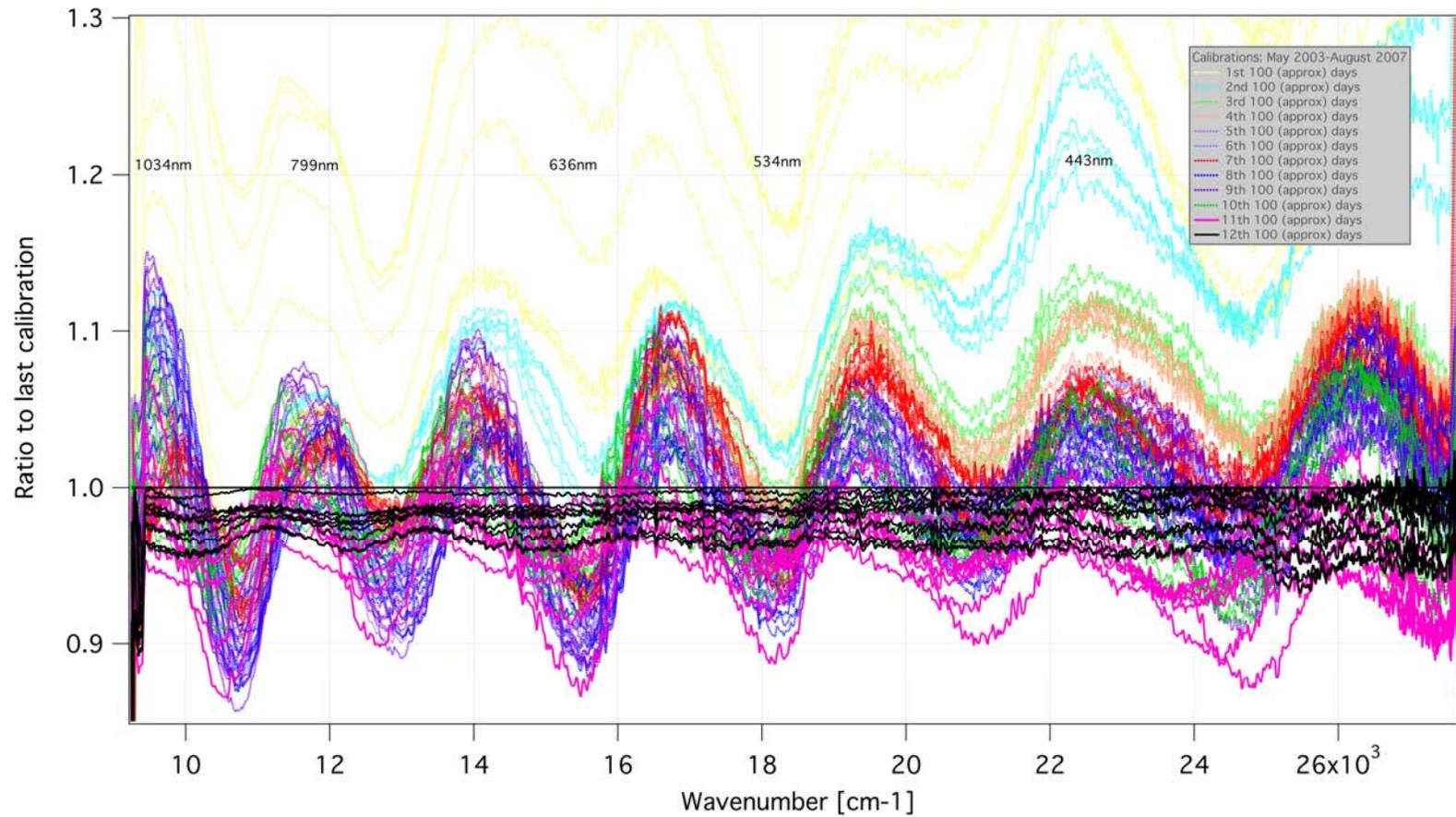
RSS Overhaul: P. Kiedron and J. Berndt



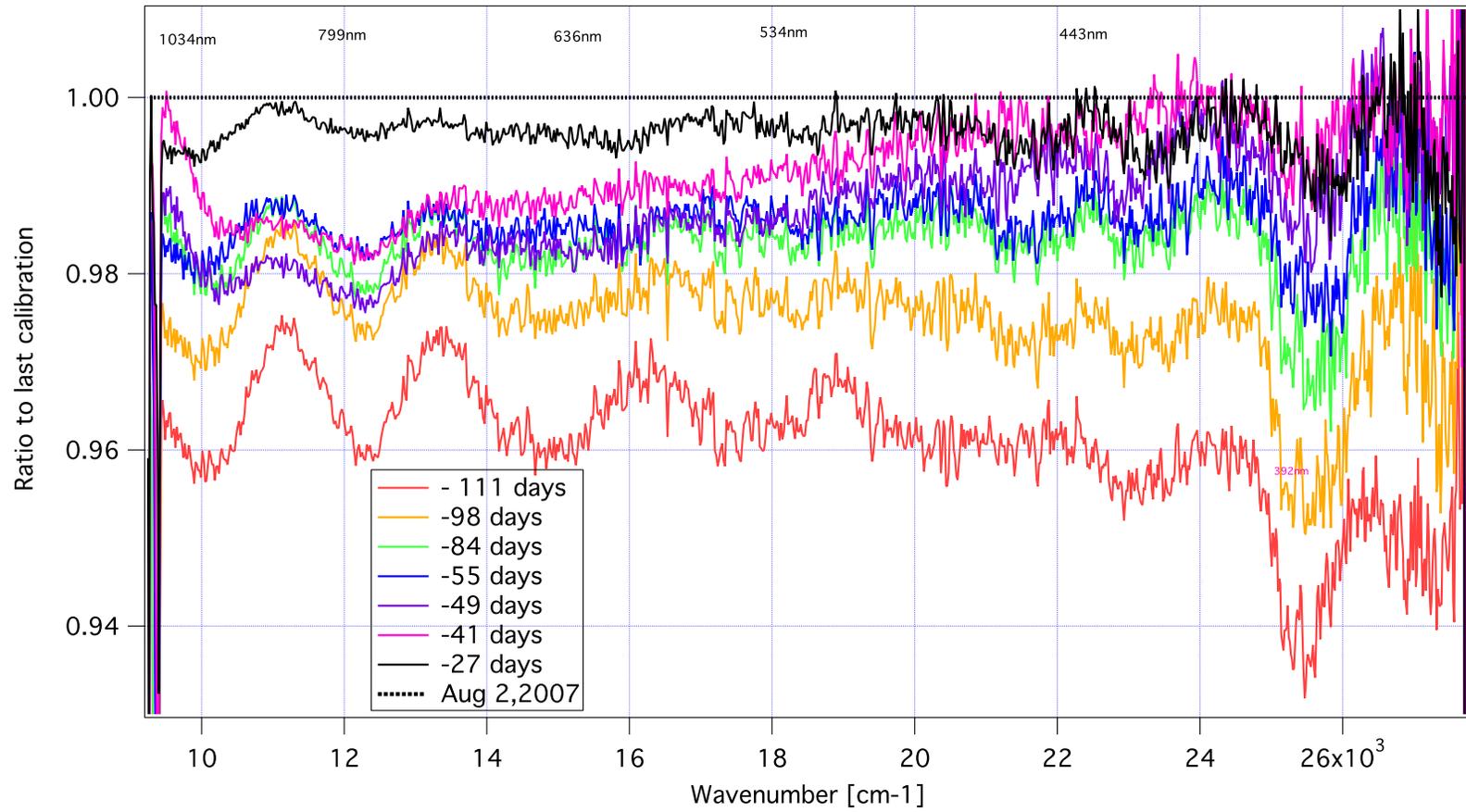
Responsivity Trends in Over 4 Years



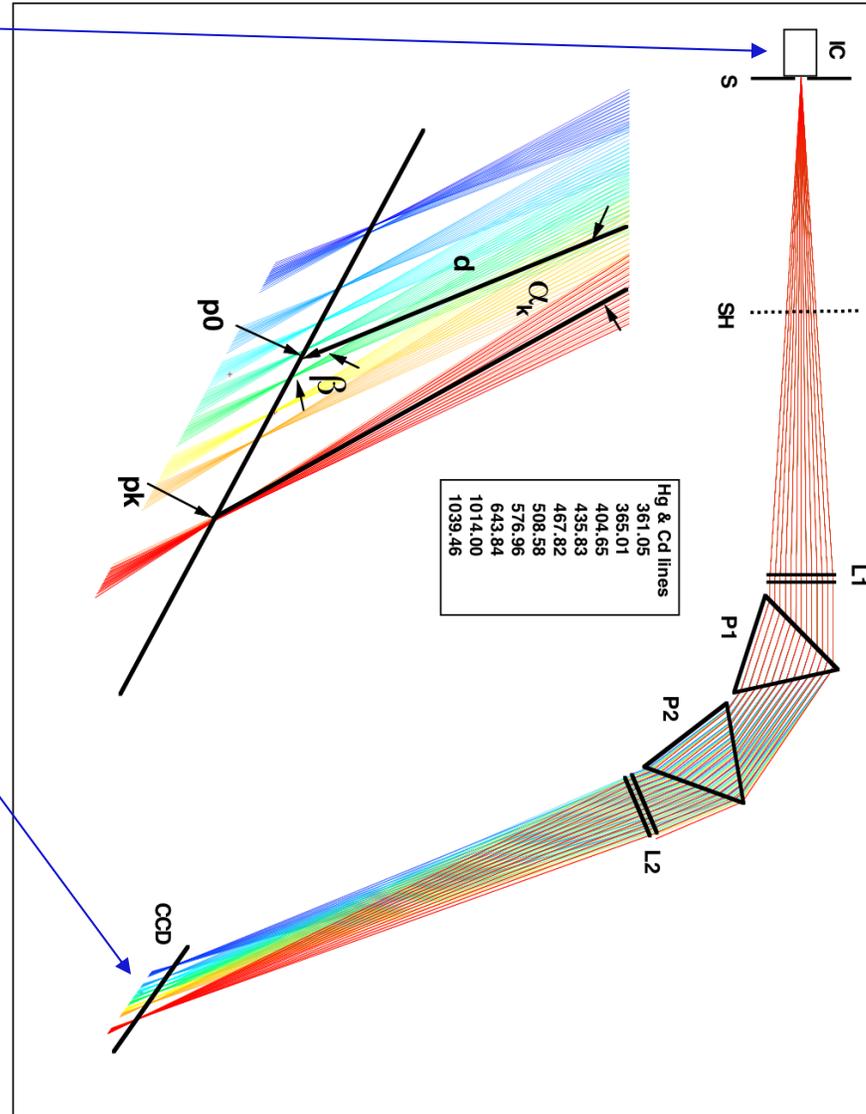
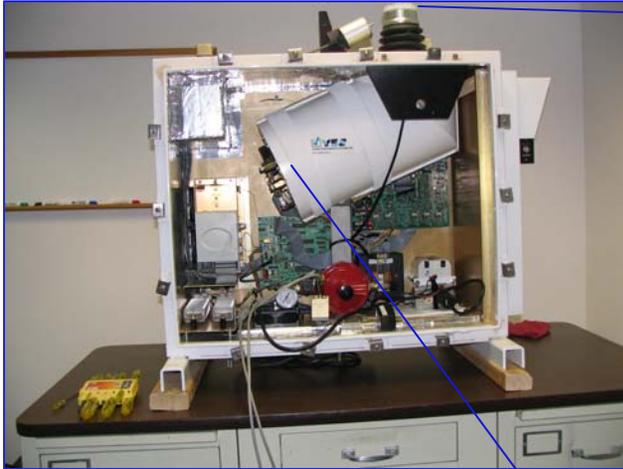
All Responsivities Divided by the Last



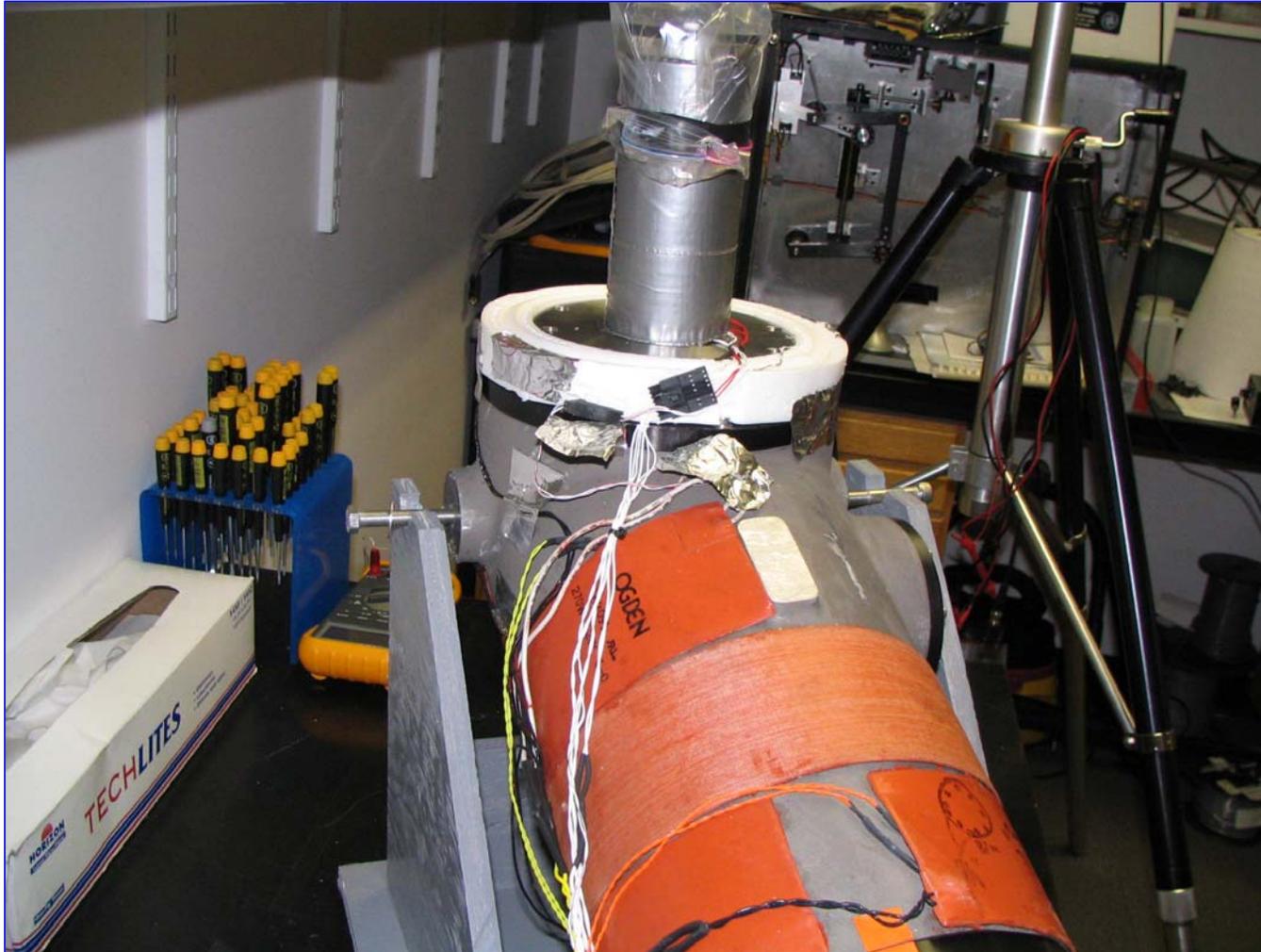
Responsivities In Last 111 Days



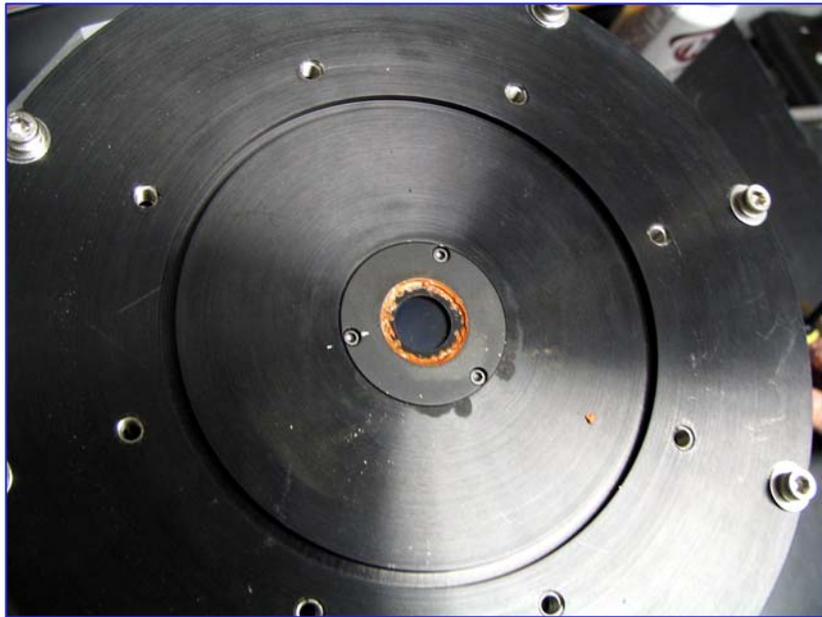
RSS Optical Layout



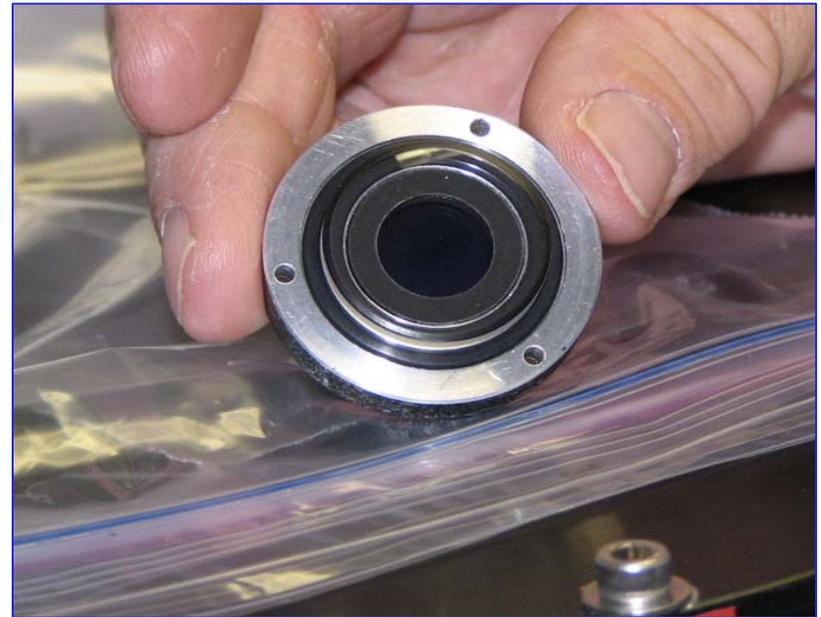
Casting (optical chamber) and inner snorkel removed



Dynamic Compression Filter

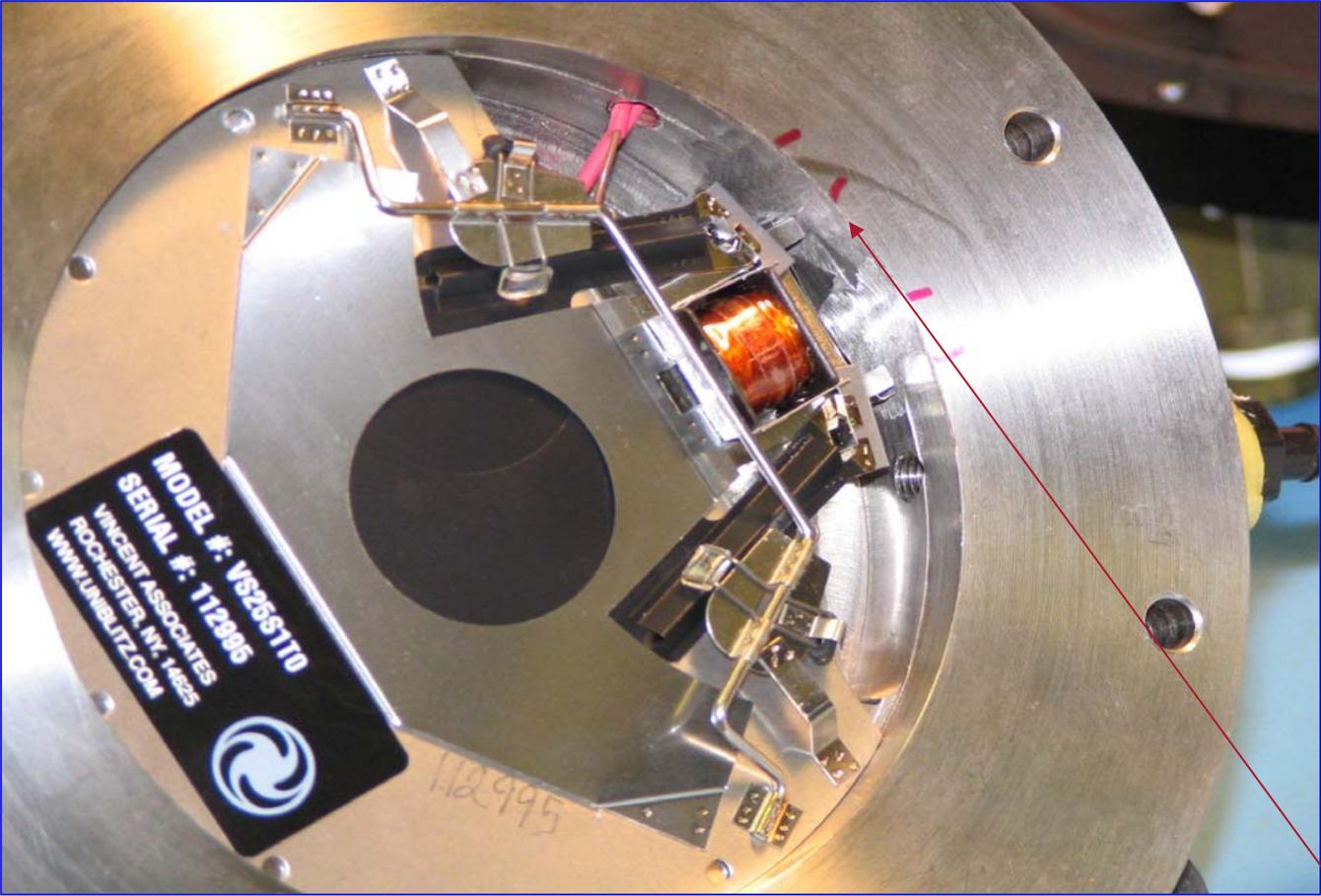


View at filter



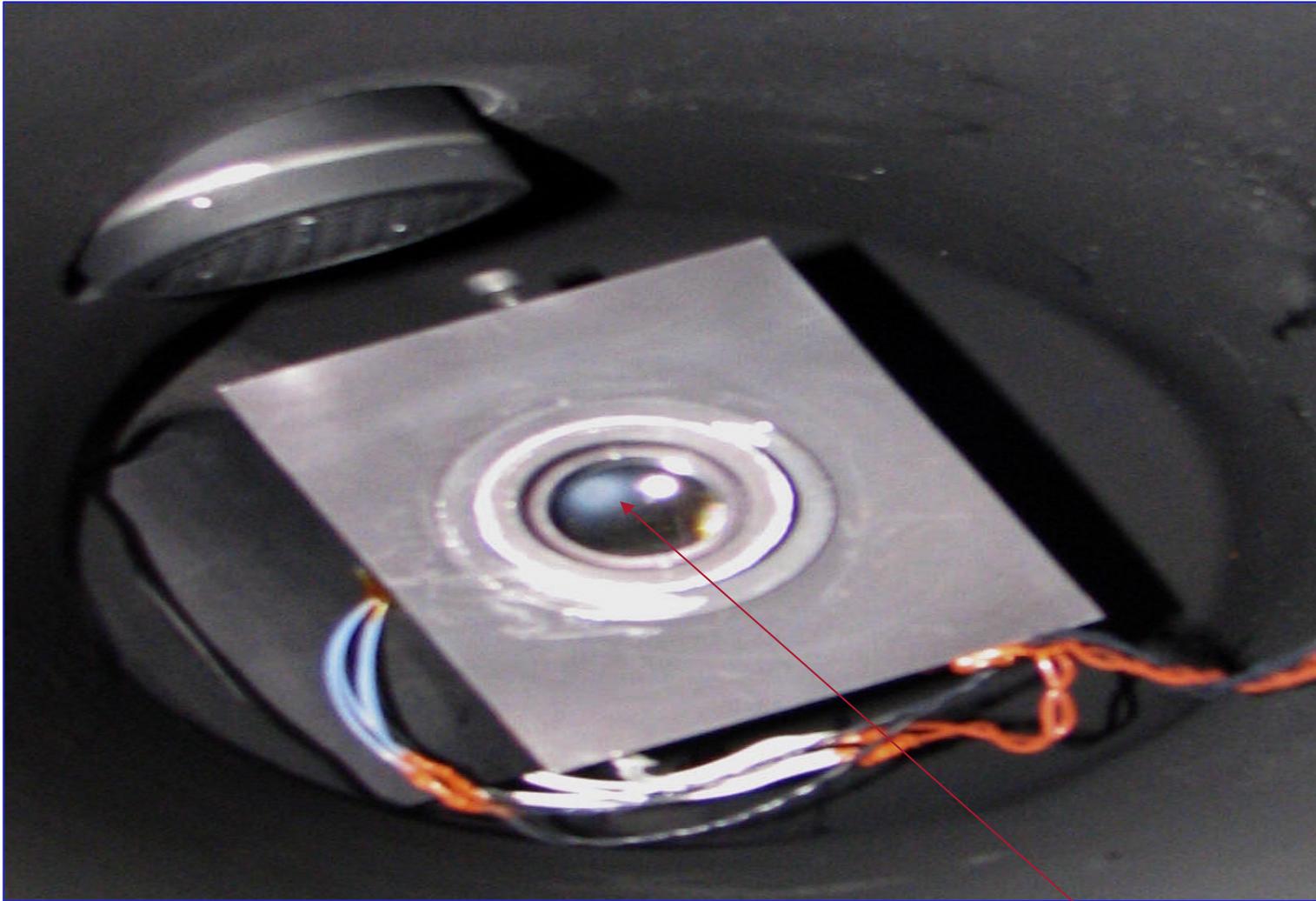
Filter holder removed

Shutter Replacement



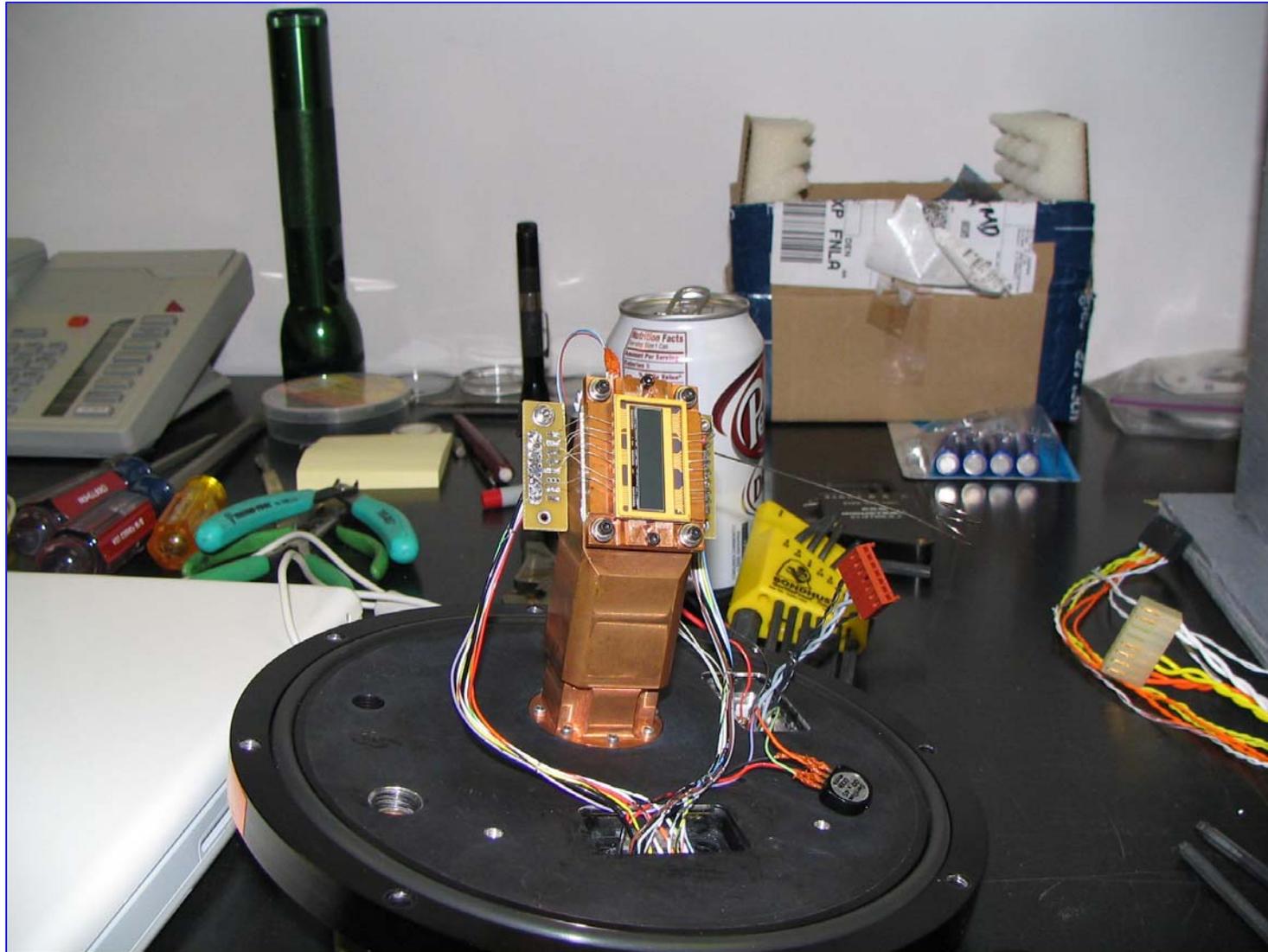
Need of larger opening

Camera Lens

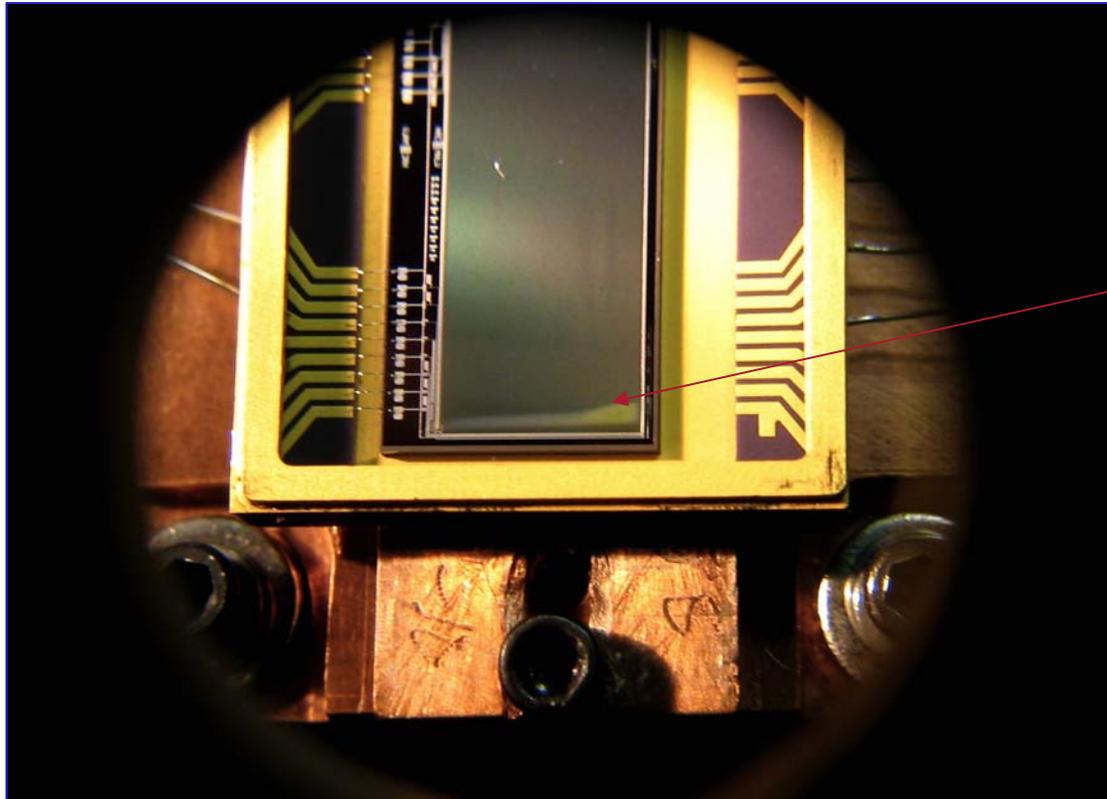


White foggy deposit on lens
off-axis but circular spot

Back Plate: Hot Finger With CCD

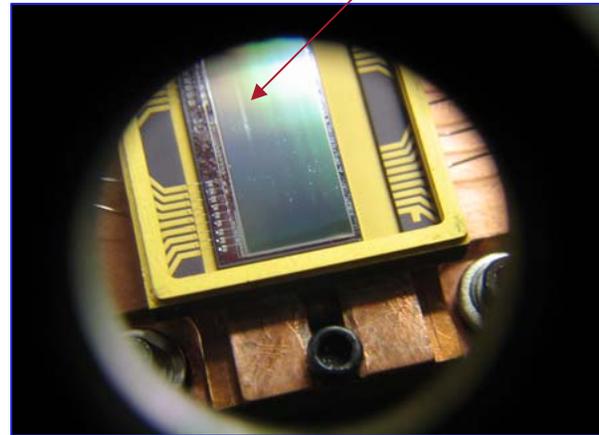
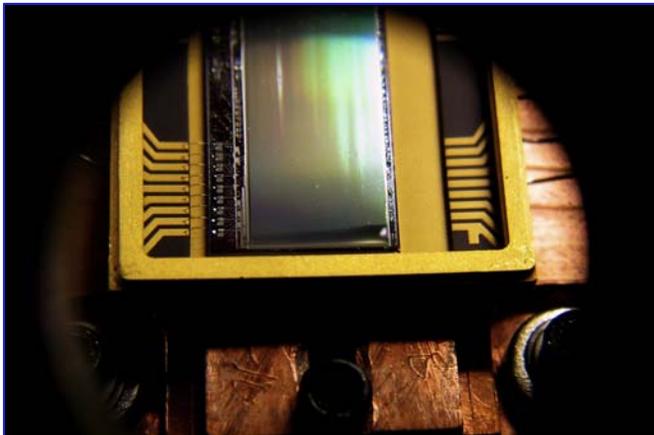


Deposits on CCD

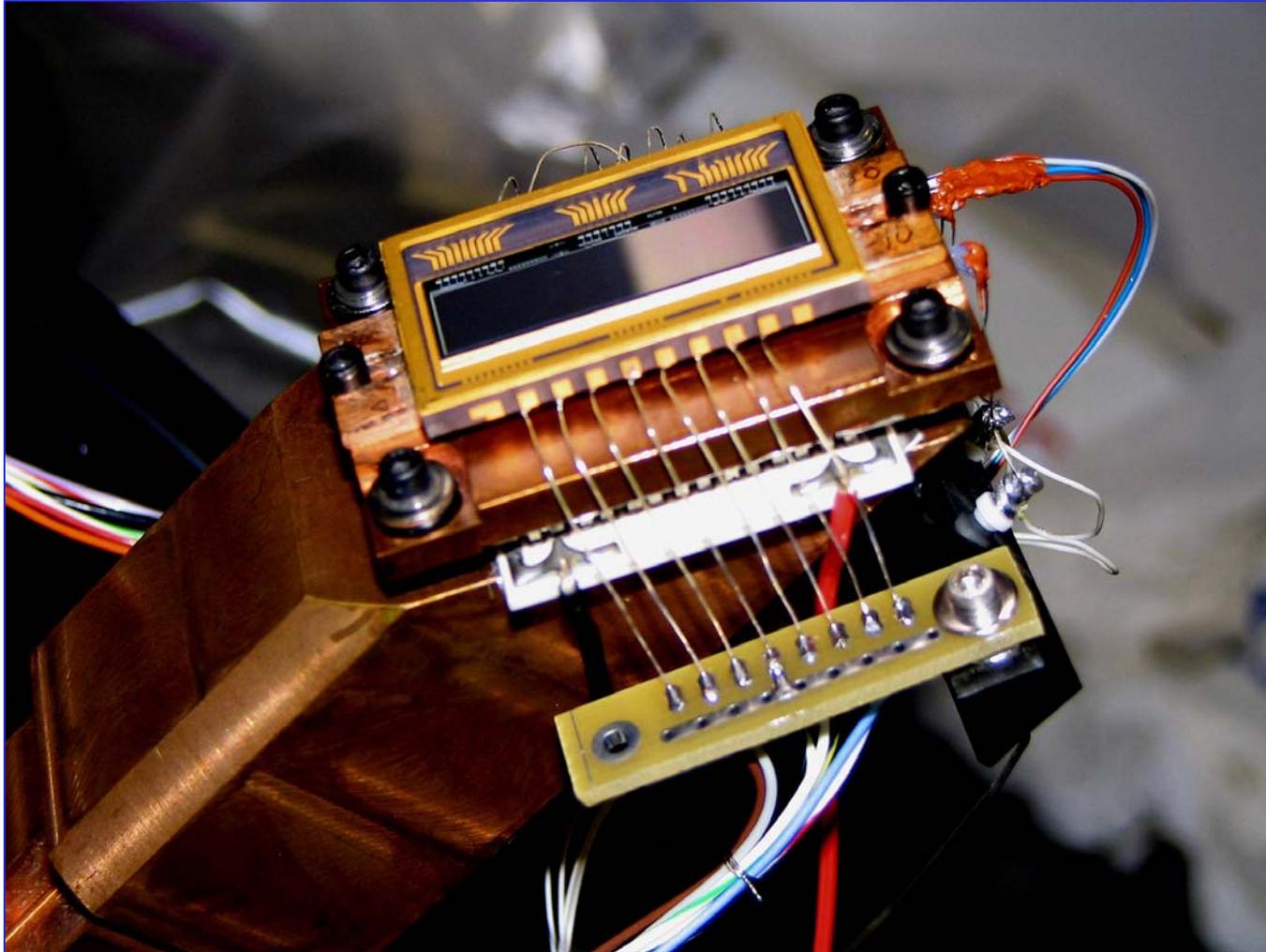


Oily substance

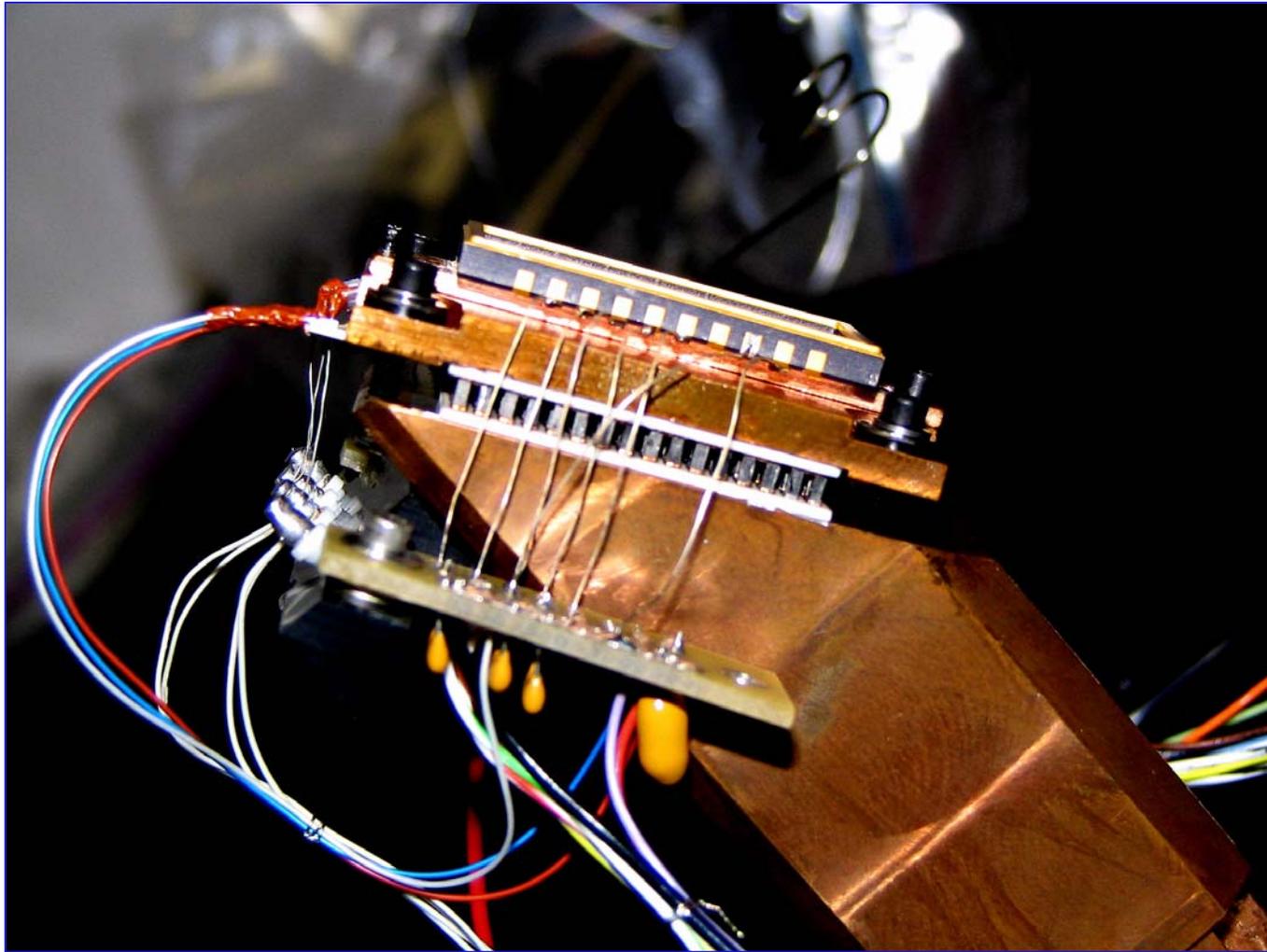
Smudges



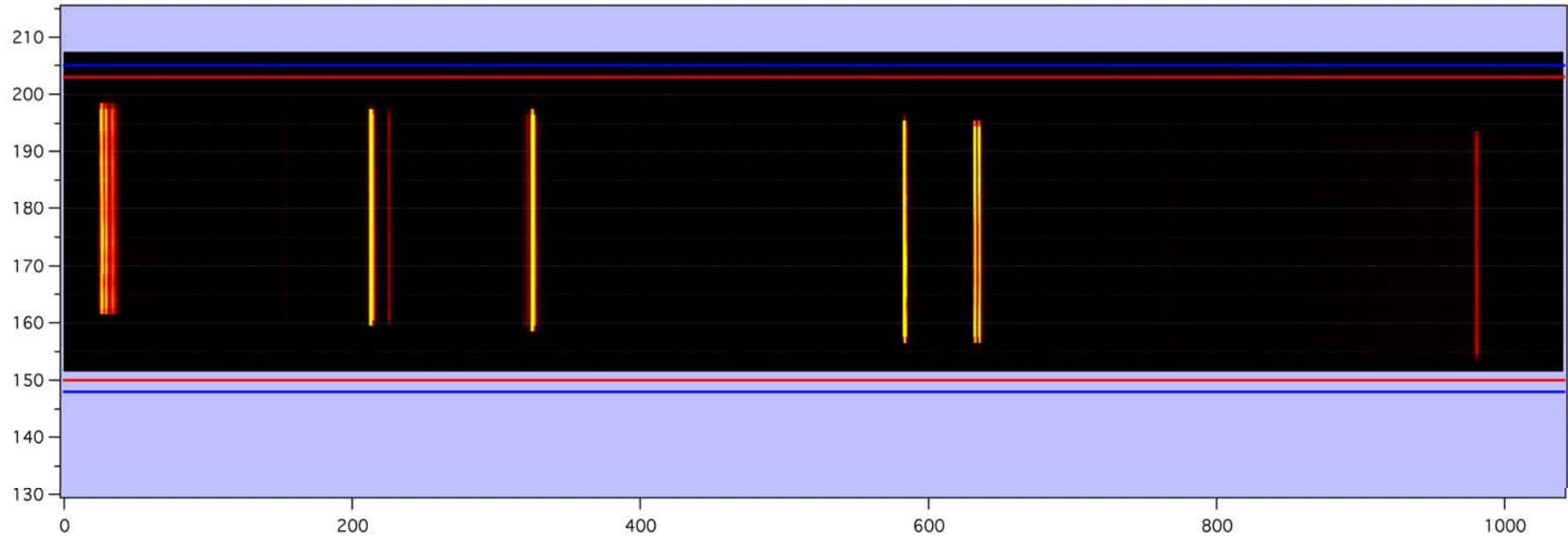
Installing New CCD



Installing New CCD



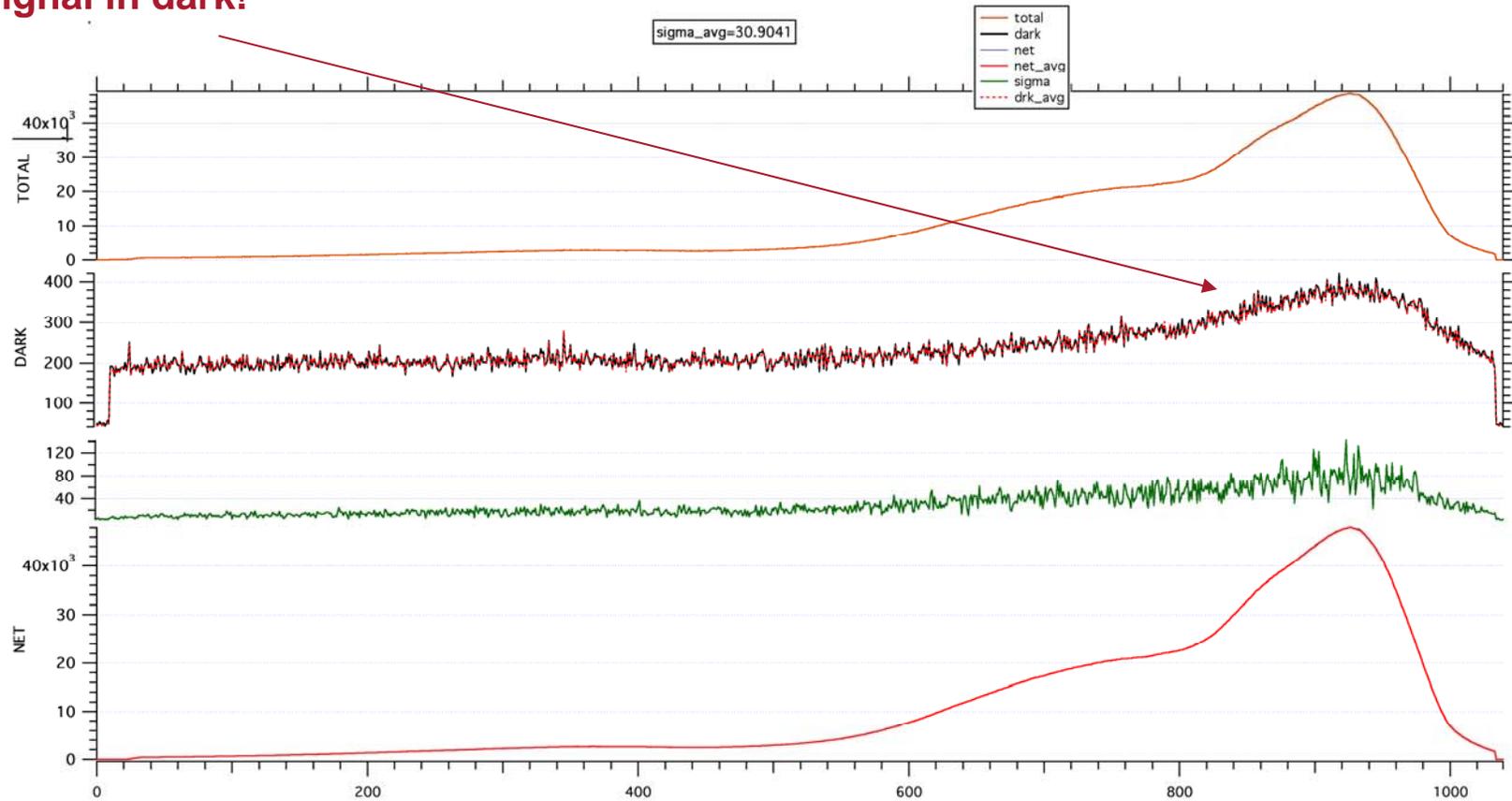
Optical Alignment



XY image of Hg lines on CCD after alignment

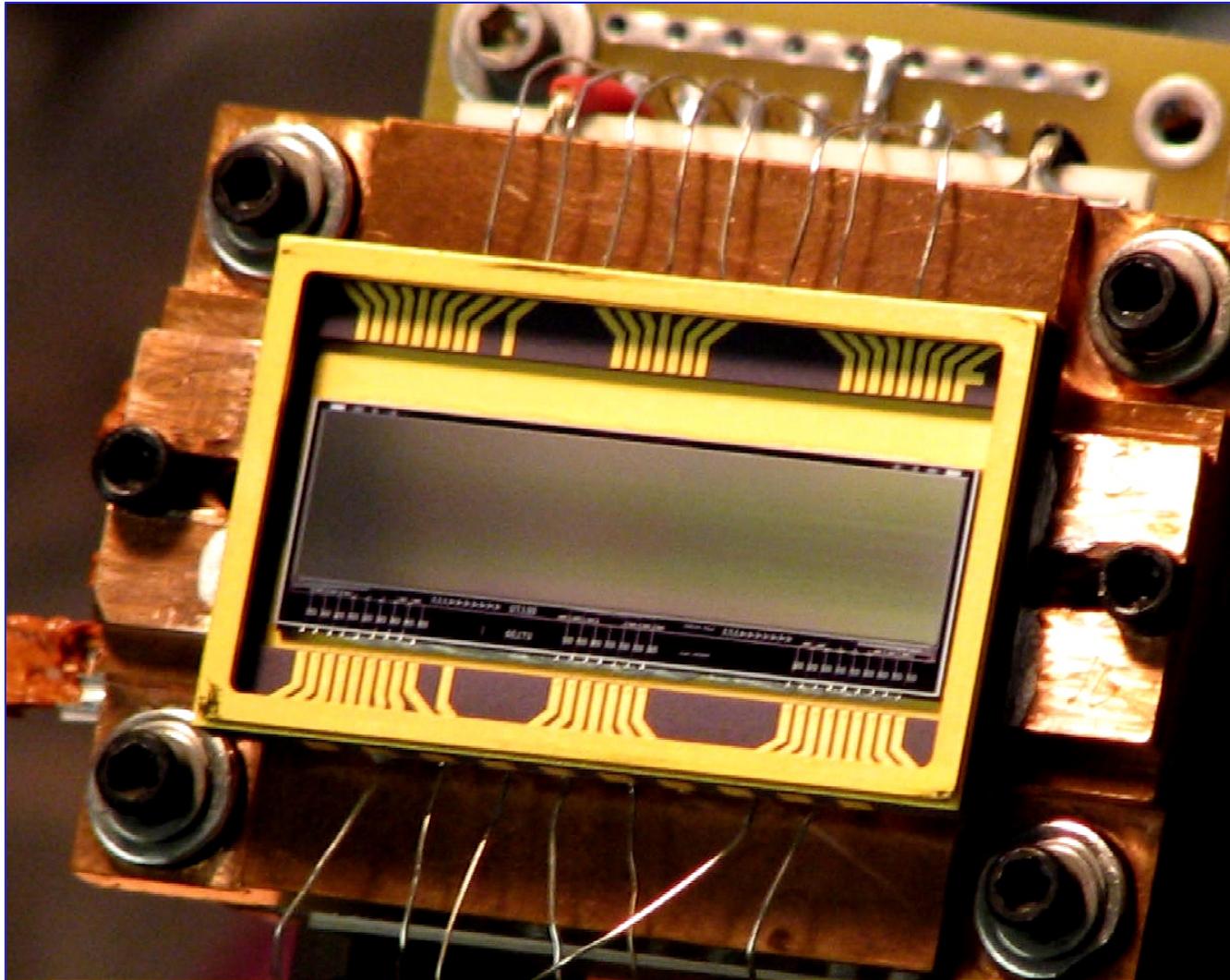
Bulk Trap Effect

Signal in dark!



After exposure to light dark counts contain residual signal at NIR pixels

Thin Coating On New CCD



Greenish-purplish interference fringes visible indicating coating
(fringes vanished after alcohol wash)

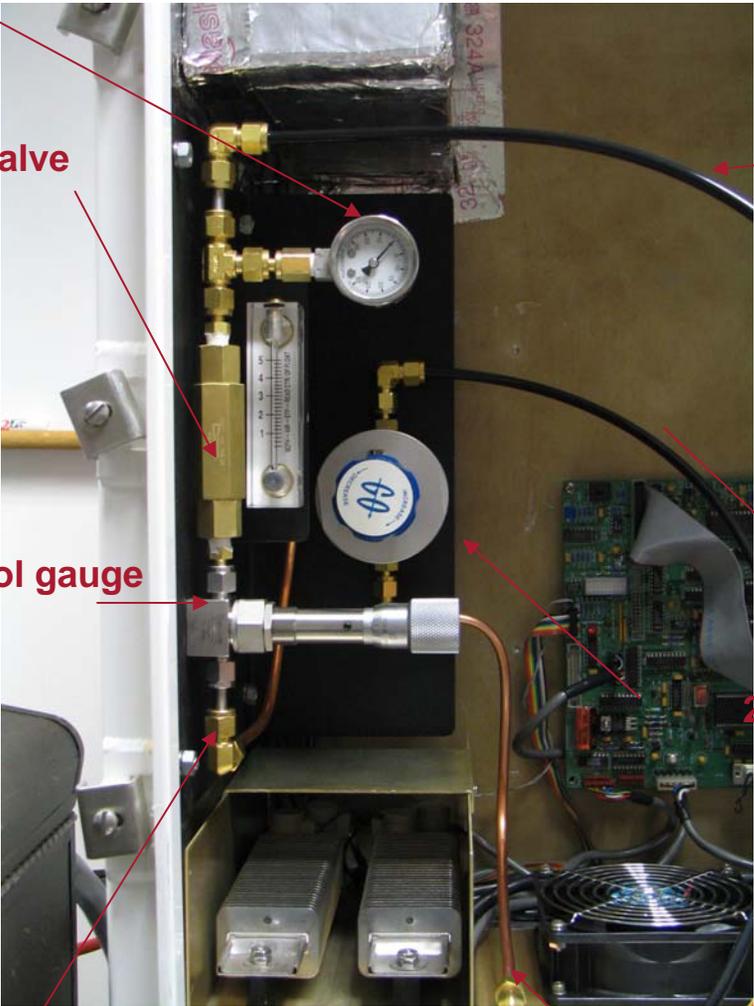
New Purge System

5. Pressure gauge

6. Check valve

8. Flow control gauge

8. Flow control valve

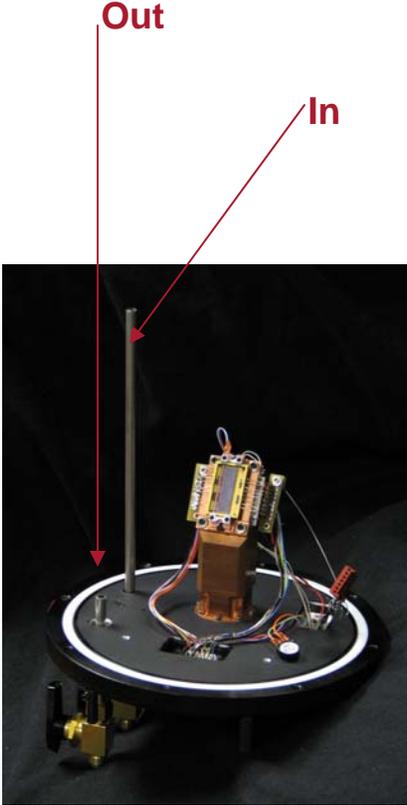


4. Out of RSS

3. To RSS

2. Pressure regulator

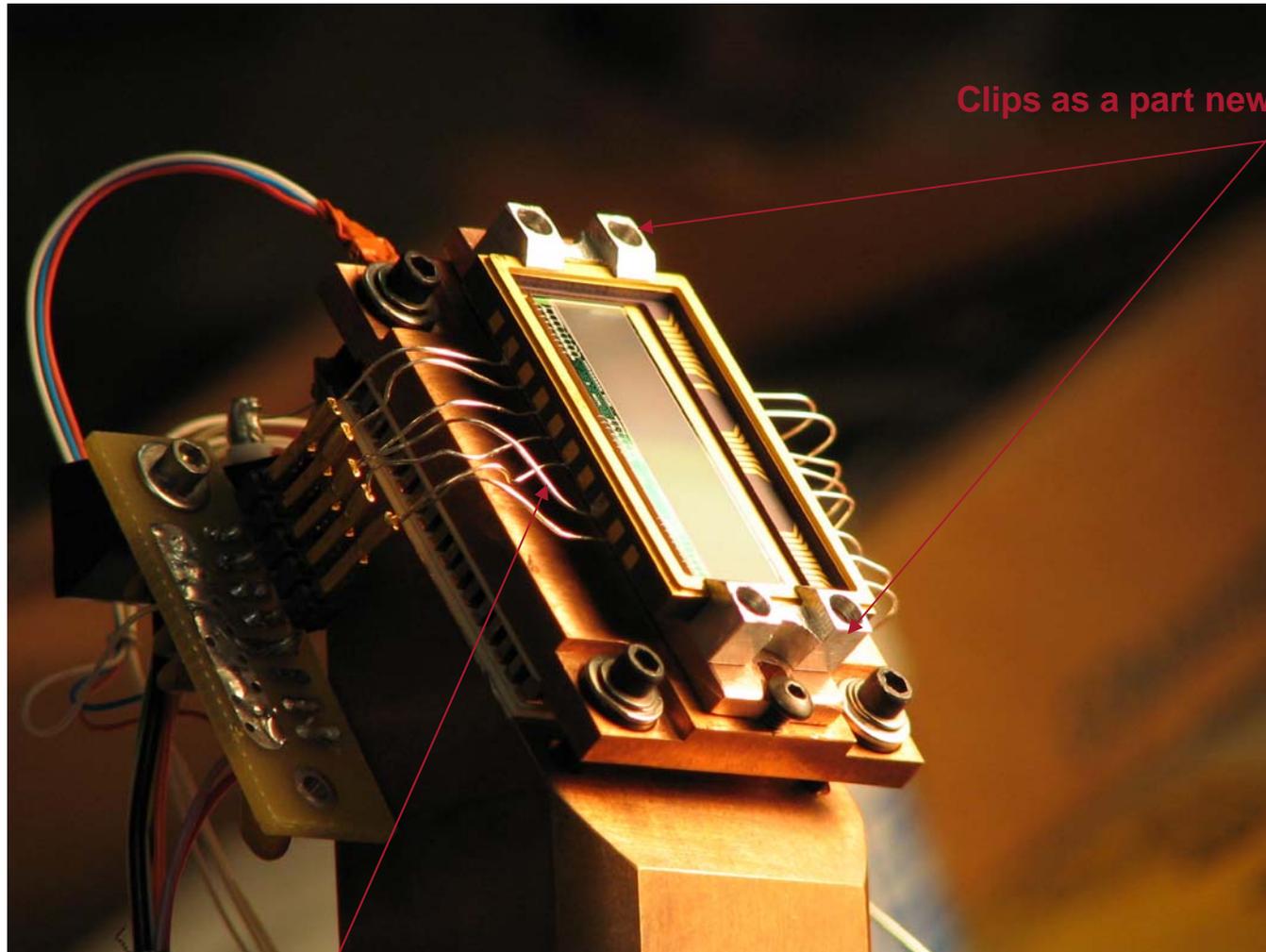
1. Dry Air in from outside



Out

In

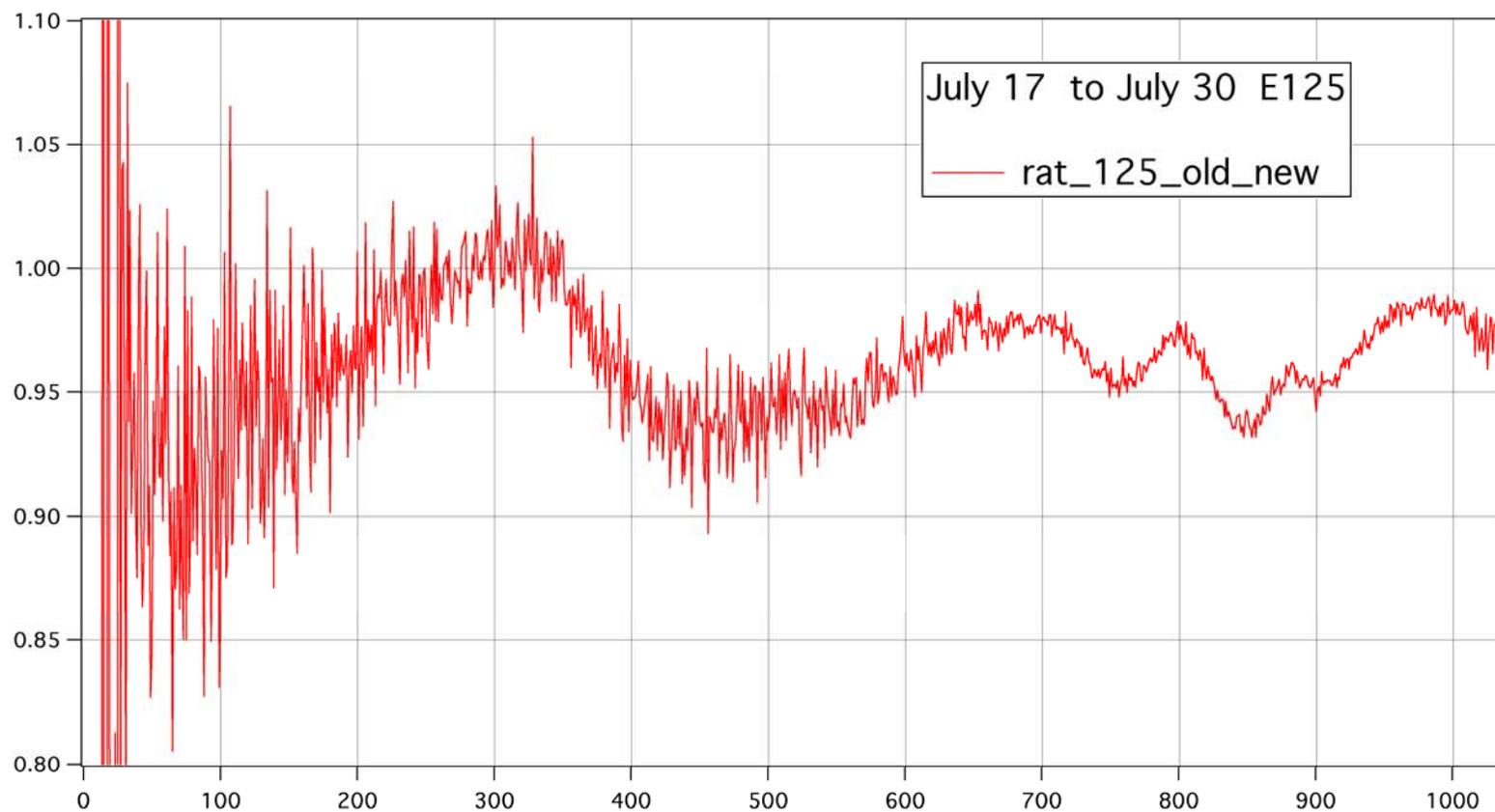
New mounting of CCD



Clips as a part new design

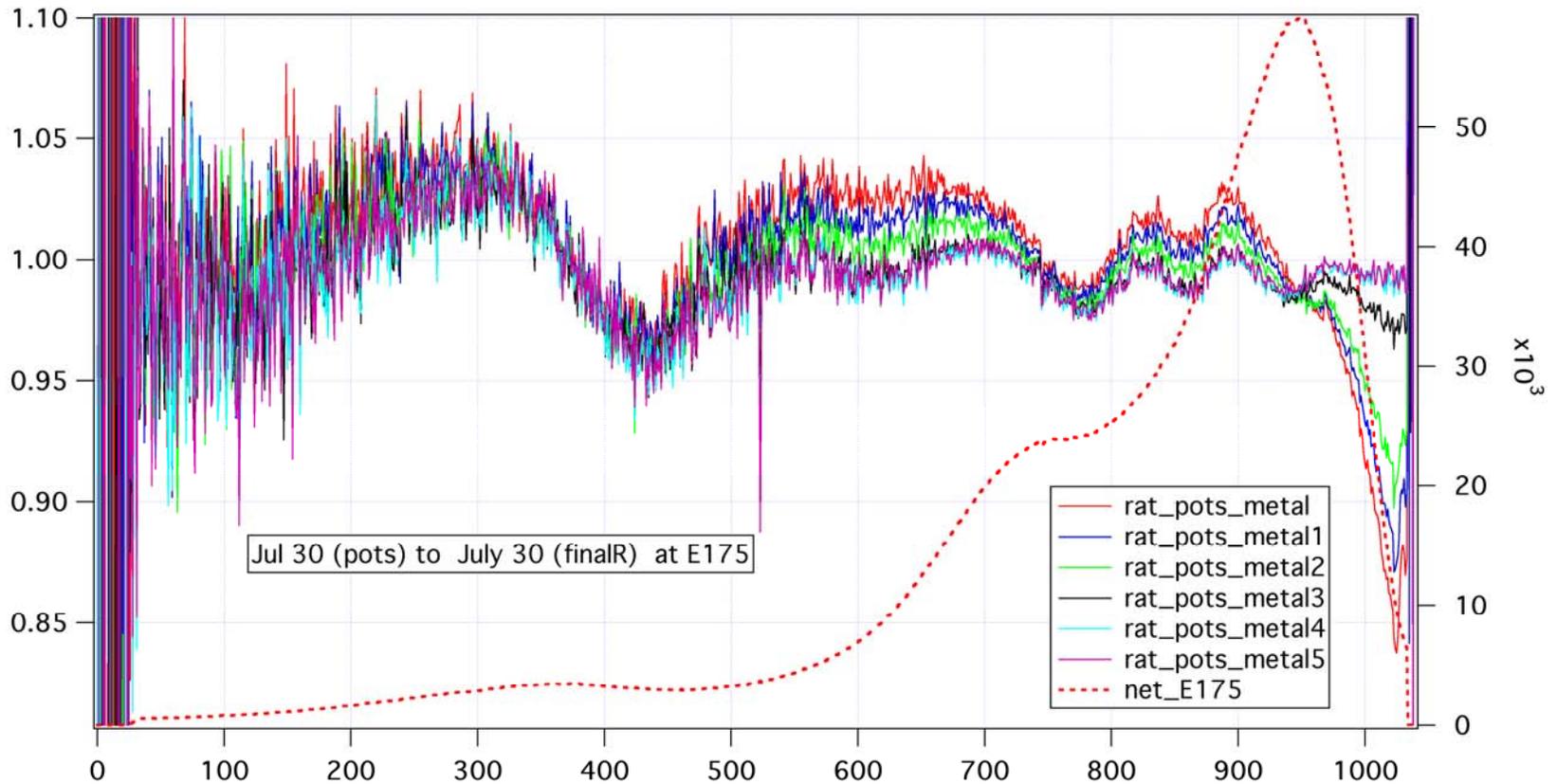
Indium foil between CCD and copper plate
(instead of silver epoxy)

Instability in cleaned CCD



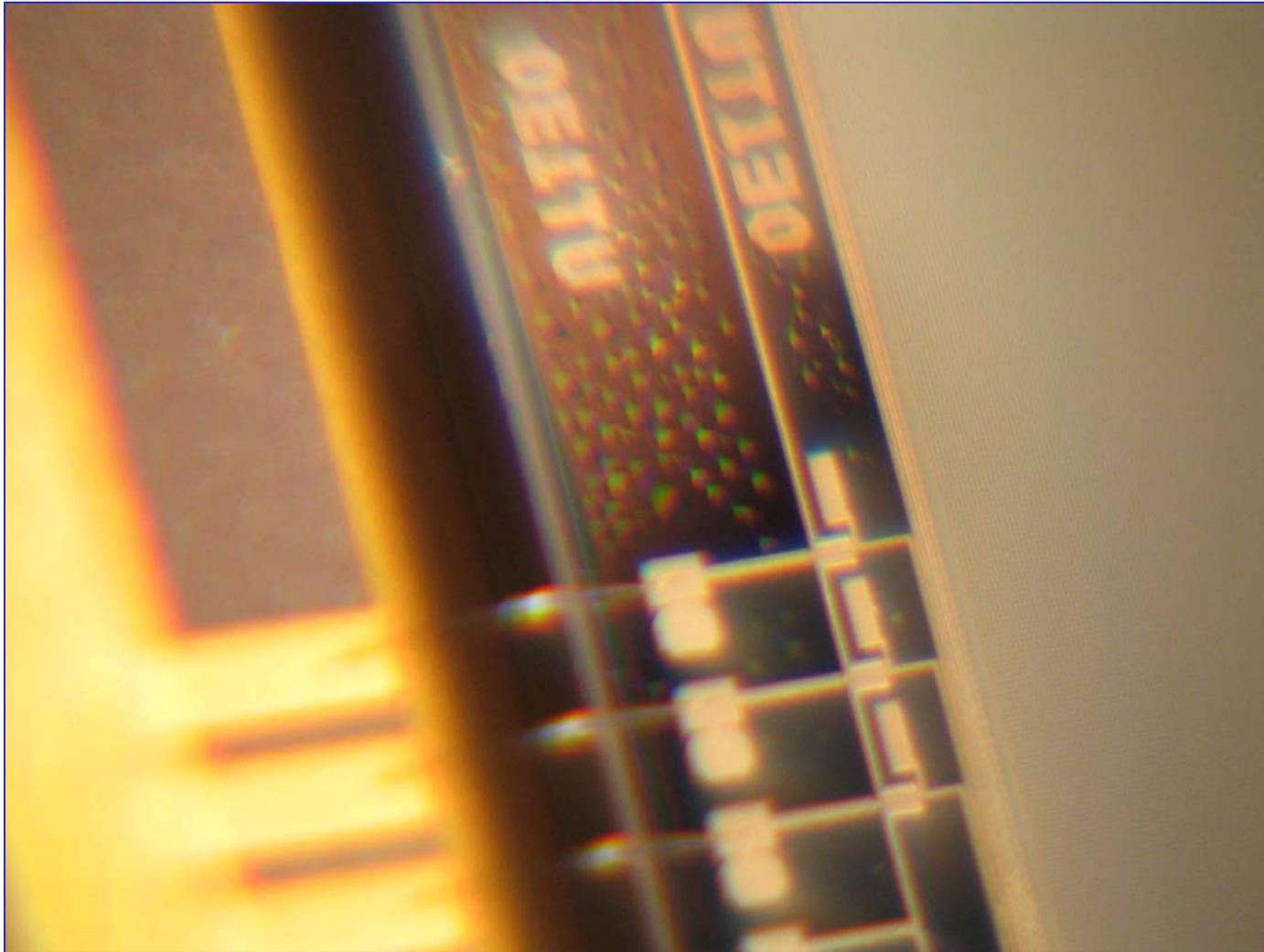
Significant responsivity change in 14 days with strong periodic wavelength dependence

Instability in cleaned CCD



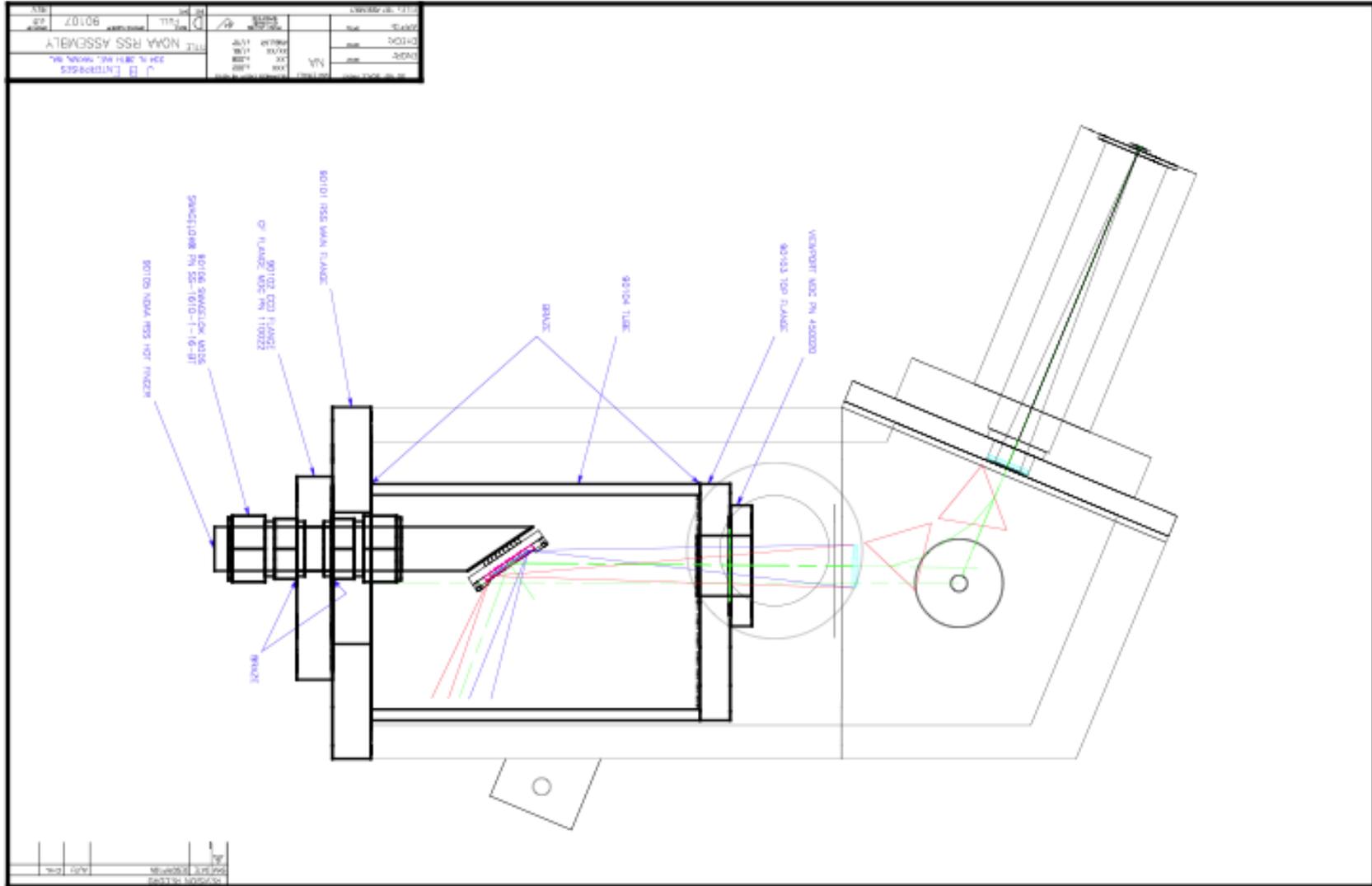
Responsivity change in less than 2 hours after turning CCD and TEC off to replace trim pots with metal strip resistor after nonlinearity tune-up and then turning system on.

CCD removed after tests with purging system



No oily substance found on optically active part of CCD but we noticed small droplets on the side. They were not there before as the CCD was washed with alcohol before its second mounting.

New design: CCD chamber



New design: CCD chamber

