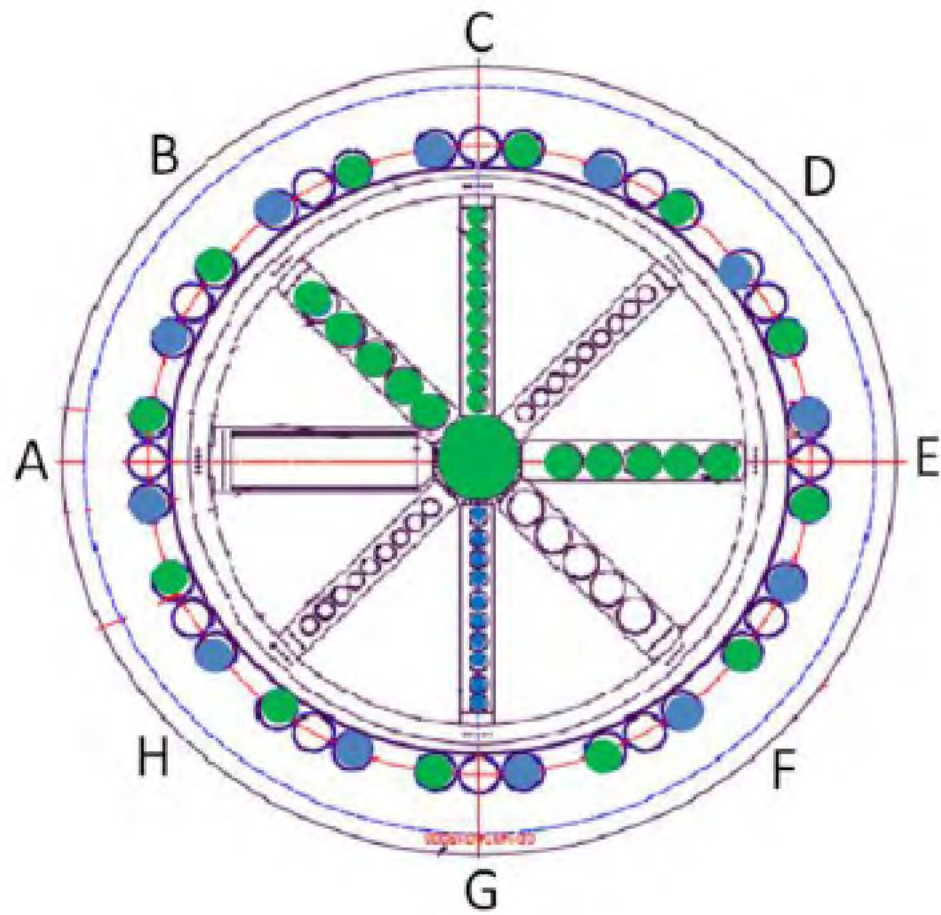


Aux Tel Status  
plus  
“Bonus Material”

dkg

25 MAY 2018

- 33 parts coated both sides
- 22 with side 1
- 22 with side 2



# AT Observing Strategy

## **Scheduler will be developed for the AT**

- Simplified clone of the LSST schedule
- Based on past and predicted future LSST positions

## **Spatial aerosol and water variation and their evolution timescale are not well bounded**

- Effects are band dependent

## **Full sky characterization versus focusing observations towards LSST positions to be explored**

## **Planning to advance AT science observations to late 2018/early2019**

- Also need to identify “standard” targets

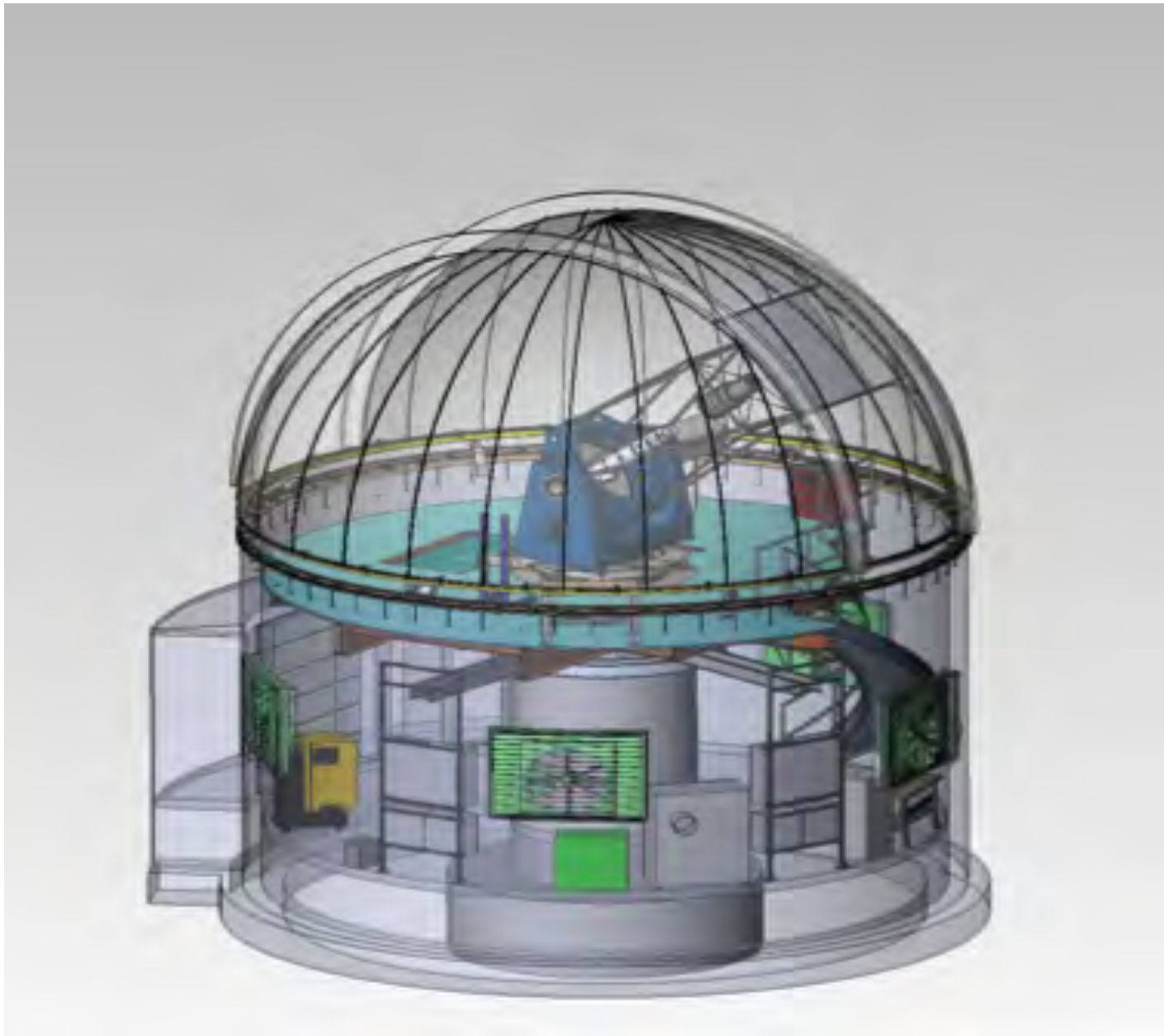
## **AT will be available for use throughout commissioning**

# Robotic Auxiliary Telescope System

- Edgar J. Smith Telescope (aka Calypso) donated to LSST
  - 1.2m diameter
  - f/18
  - Two instrument ports
- Currently undergoing integration by ACE, Inc
  - Maintaining compatibility with LSST systems
- Will retain LSST camera systems for ATS (RO/DAQ/CCS)
- Goal is to measure the atmospheric transmission during LSST observations

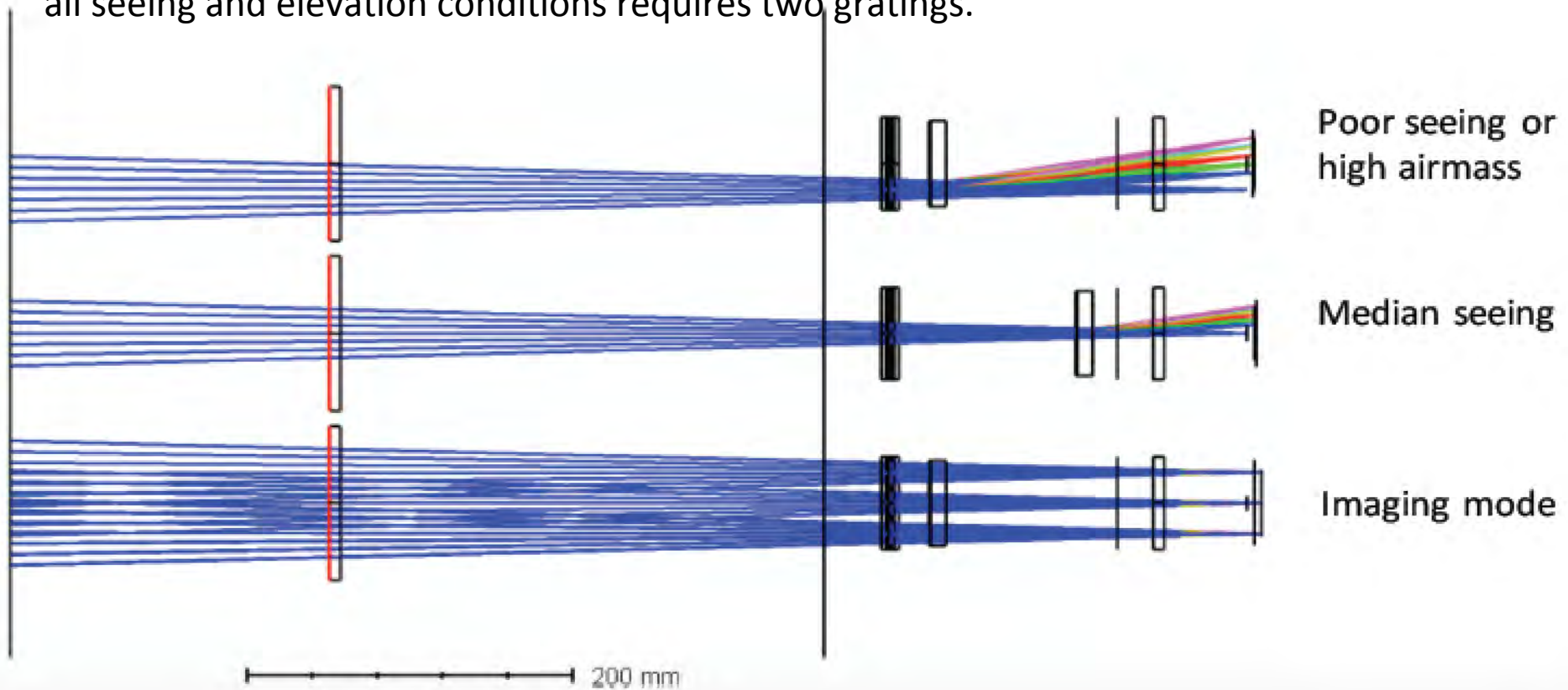


# LSST Auxiliary Telescope



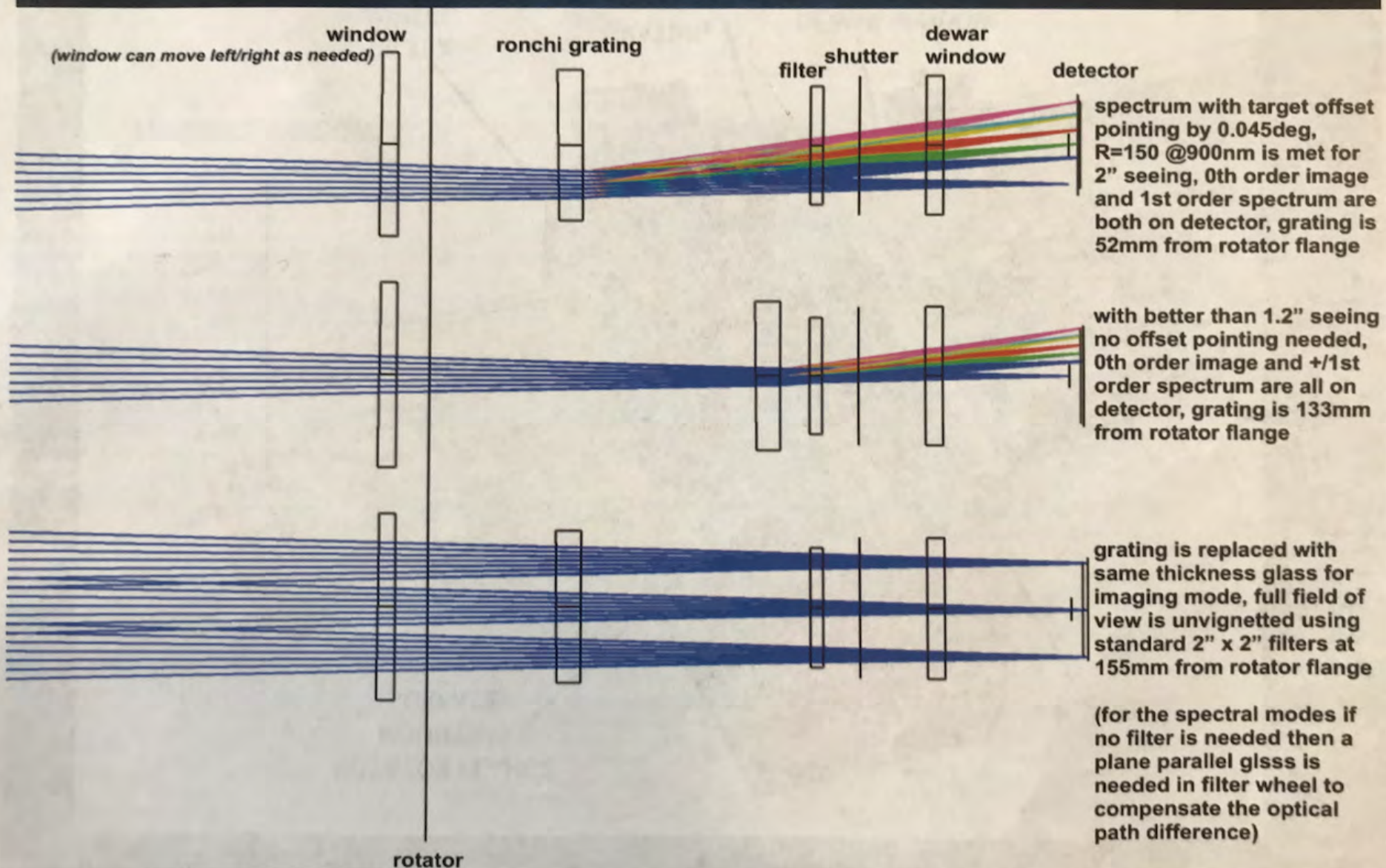
# Auxiliary Telescope Optical Model

Meeting the spectral resolution requirement ( $R \sim 150$  @ 900nm) and wavelength range requirement (350-1000nm in a single exposure for all seeing and elevation conditions) requires two gratings.

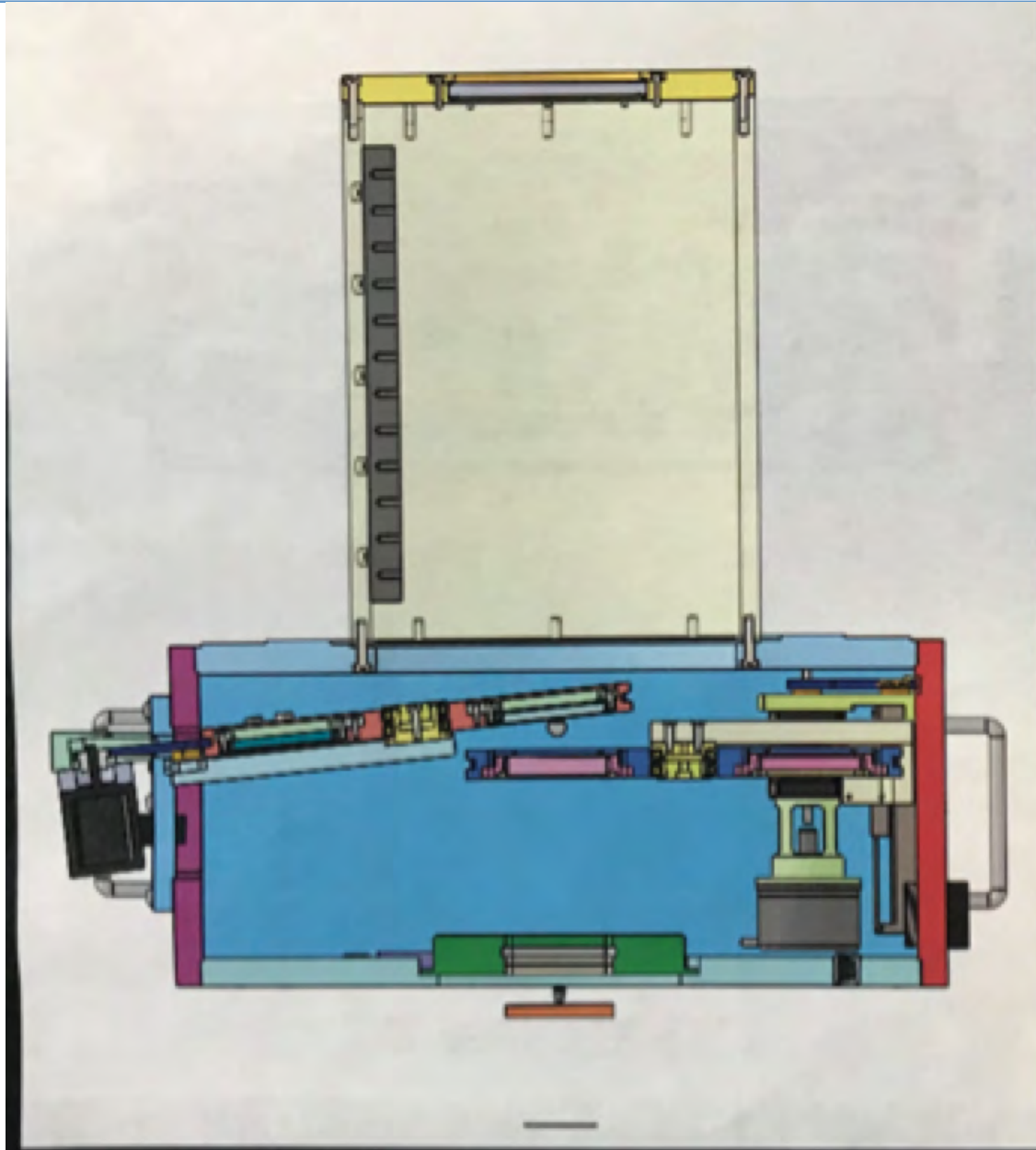




# OPTICAL DESIGN - RONCHI GRATINGS

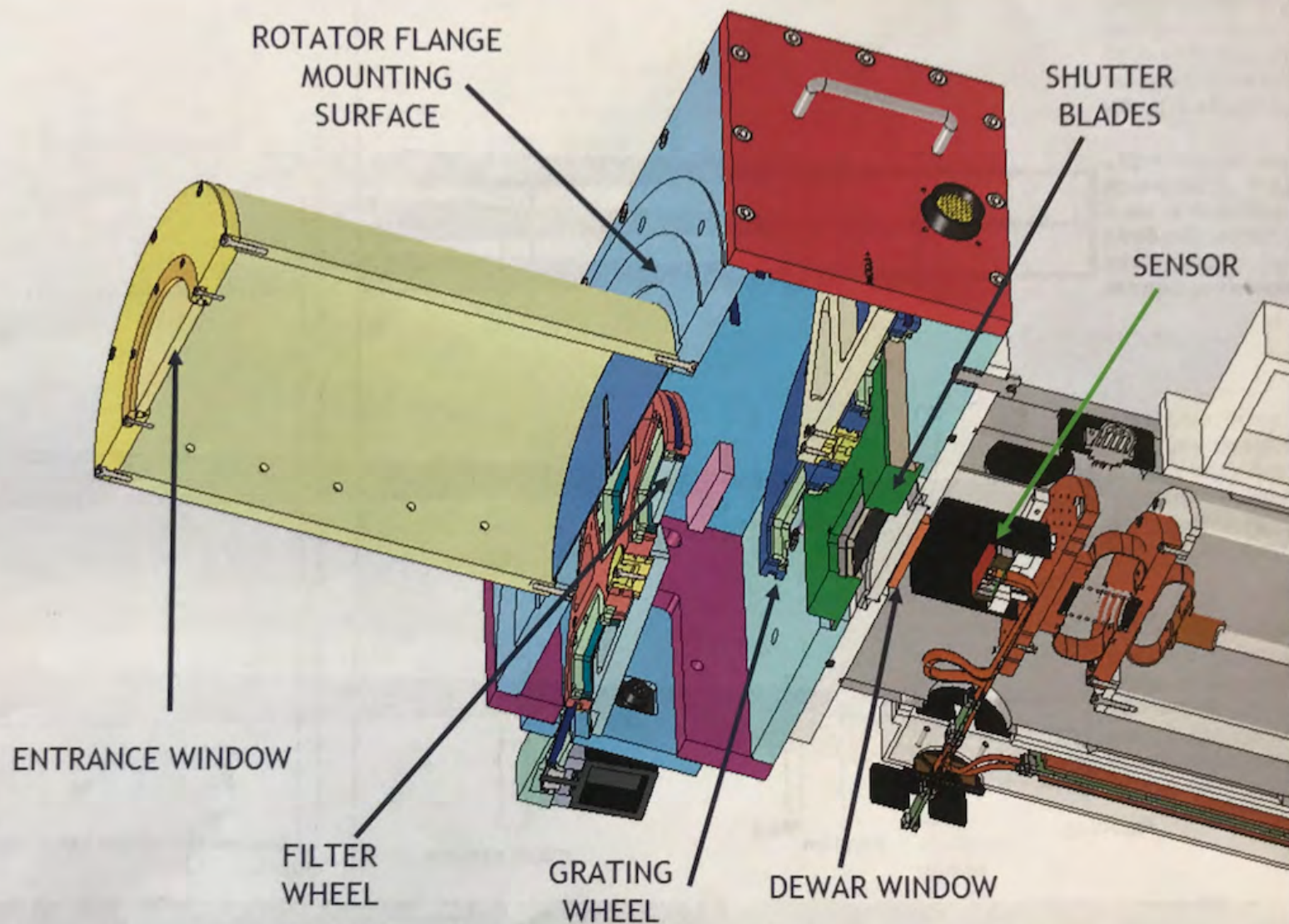


# Mechanical Design – Spectrograph Assembly





# OPTICAL DESIGN - RONCHI GRATINGS

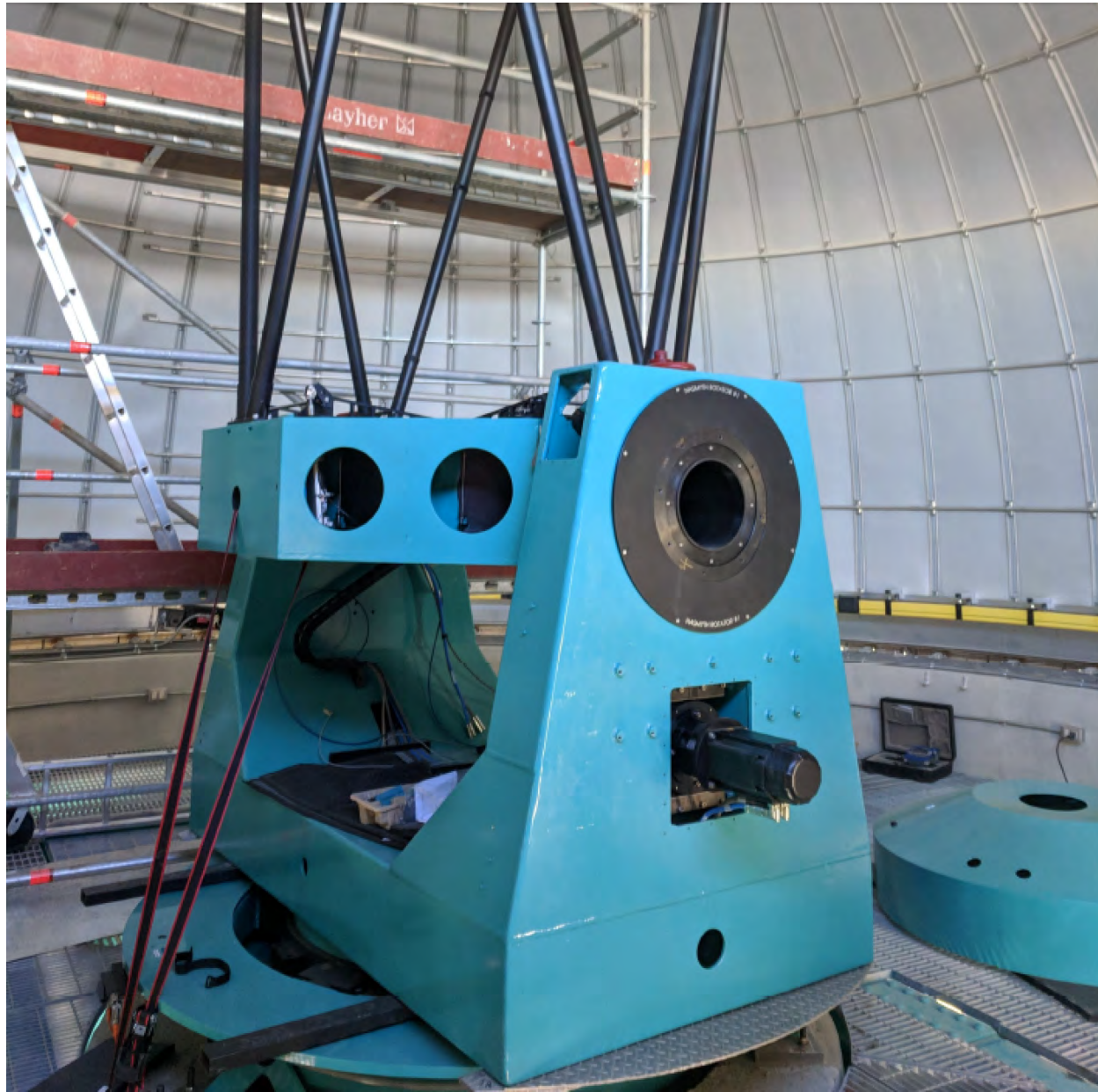


# Power to AT

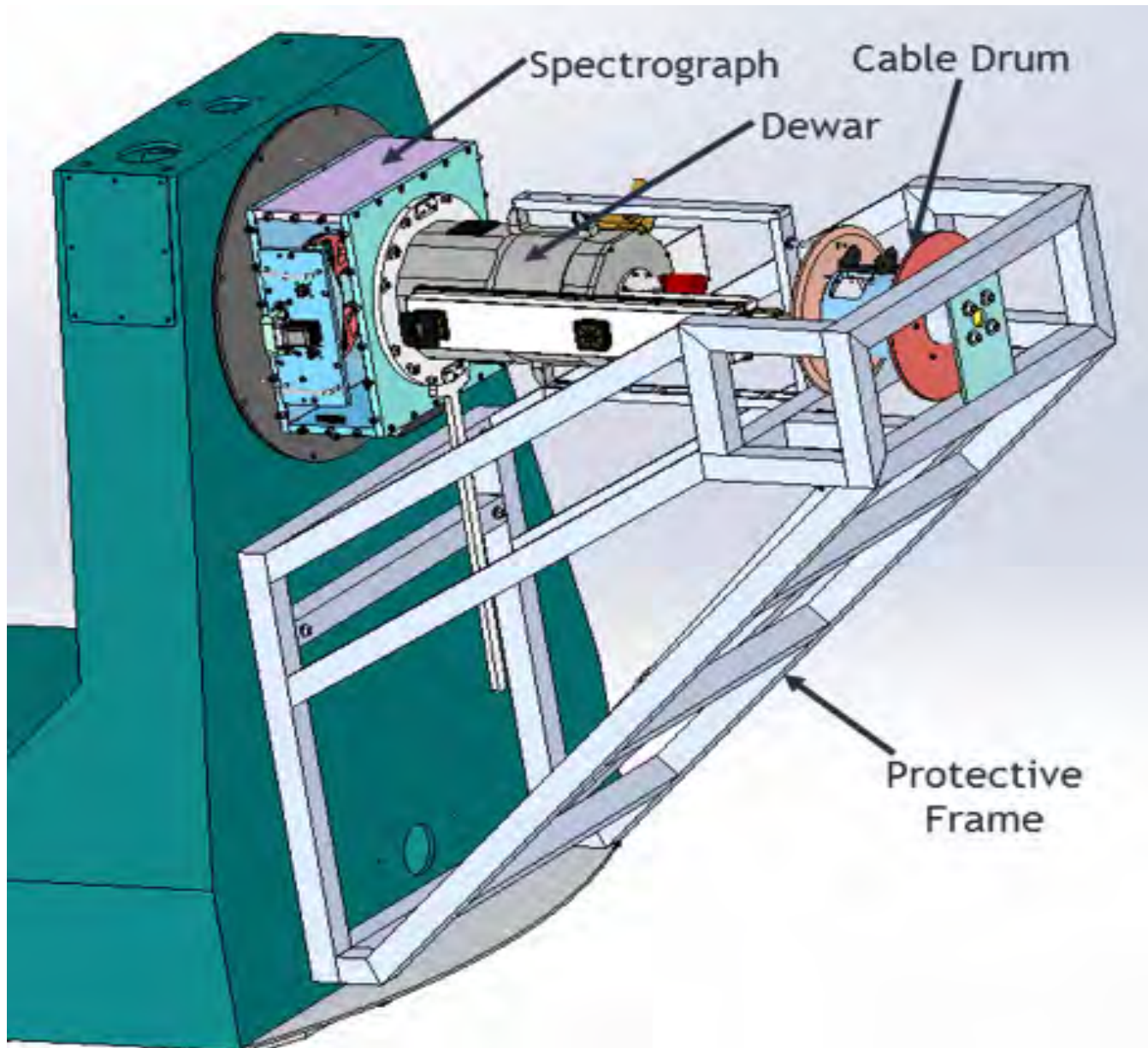




Aux Tel May 2018

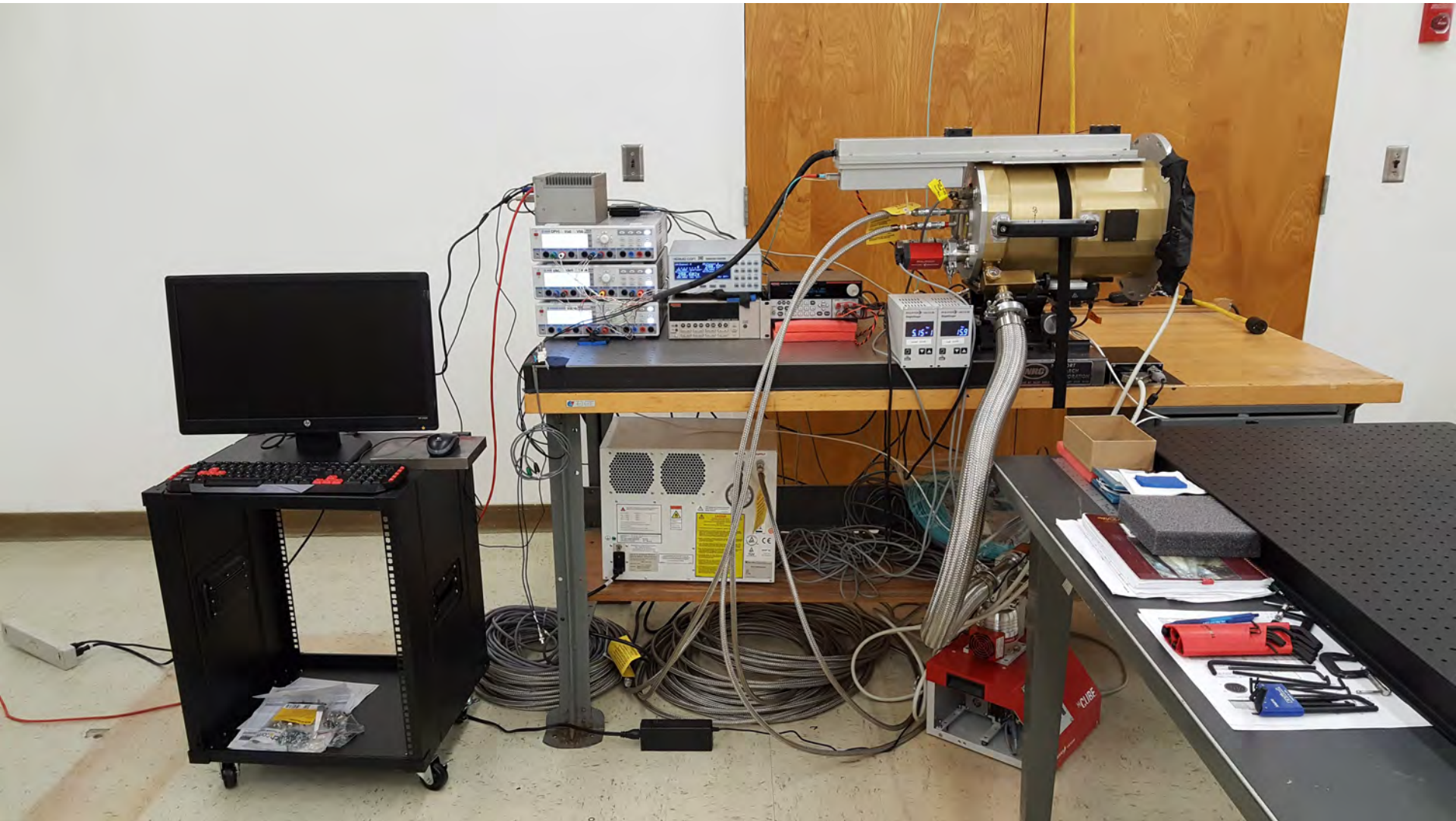


# AT Spectrograph and Camera



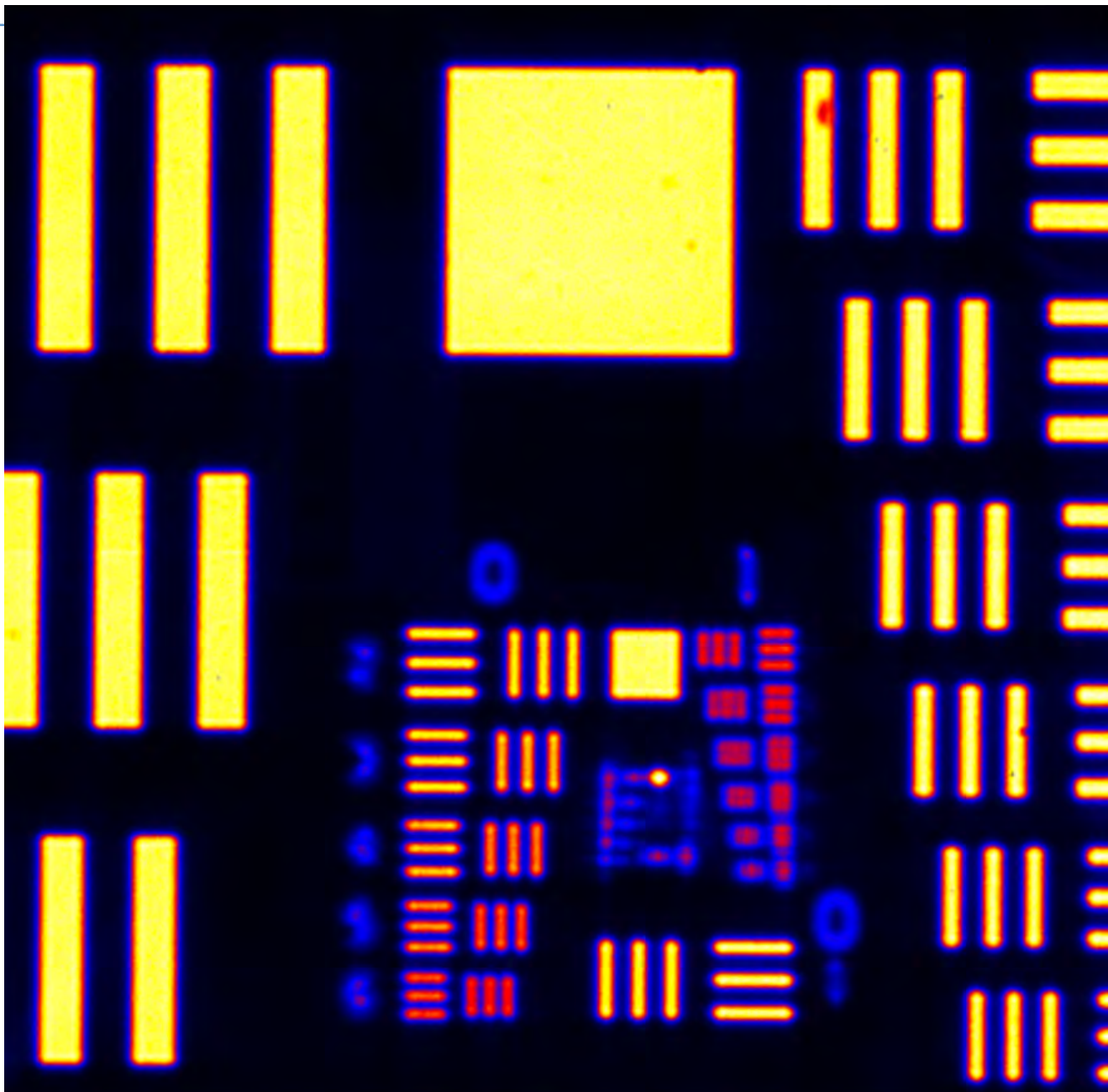


# ATS SRS in Tucson

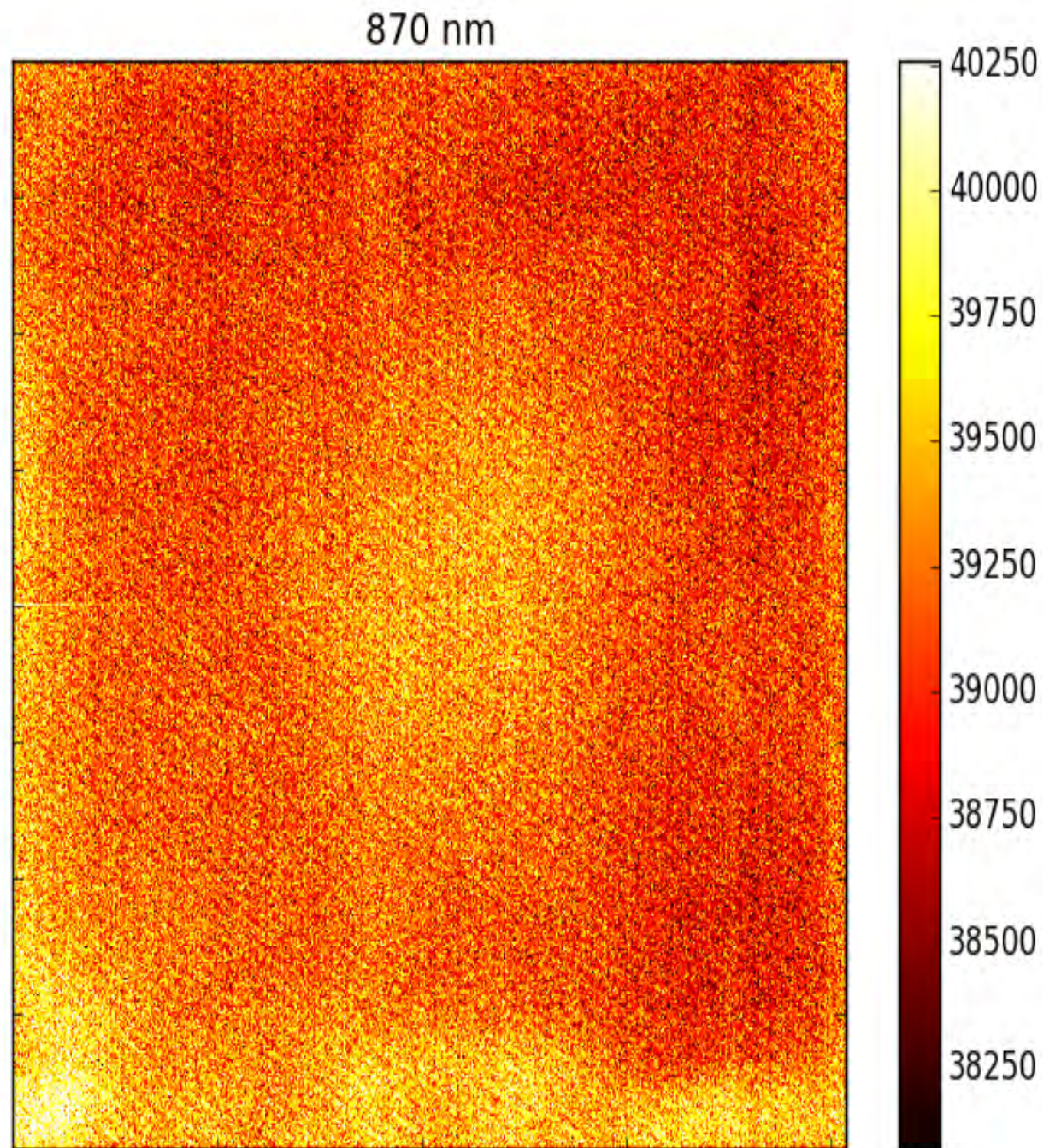




# Calibration Target in Tucson



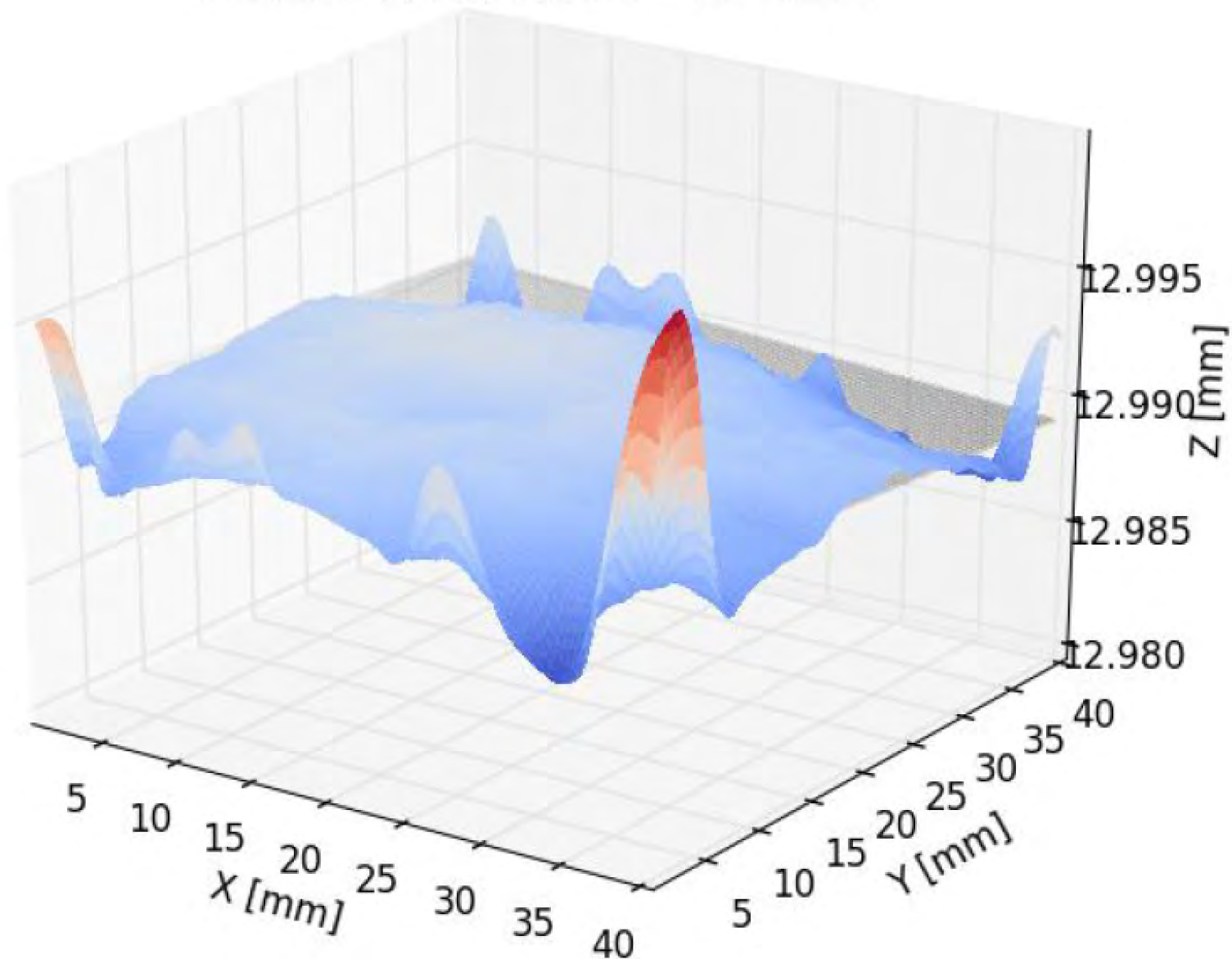
# CCD – ITL-098: 870nm Response





# Surface Plot with Best Fit Plane

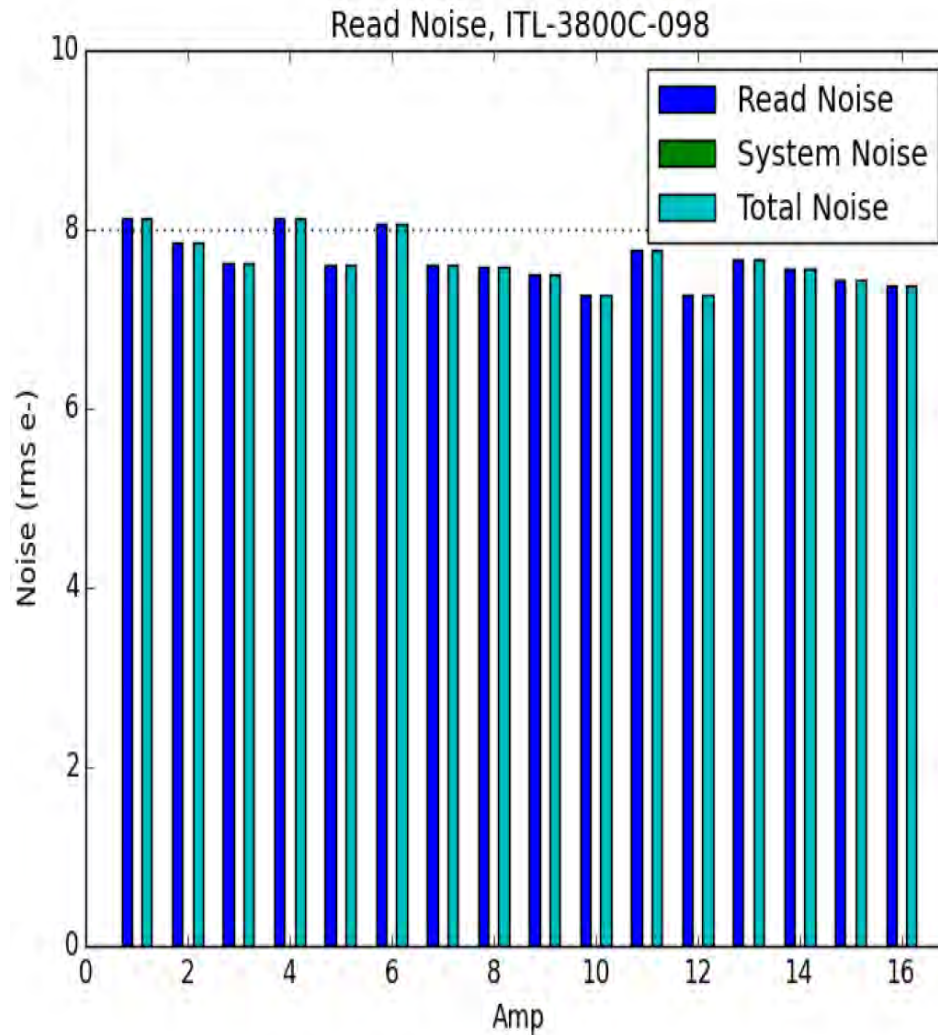
ITL 3800C-098



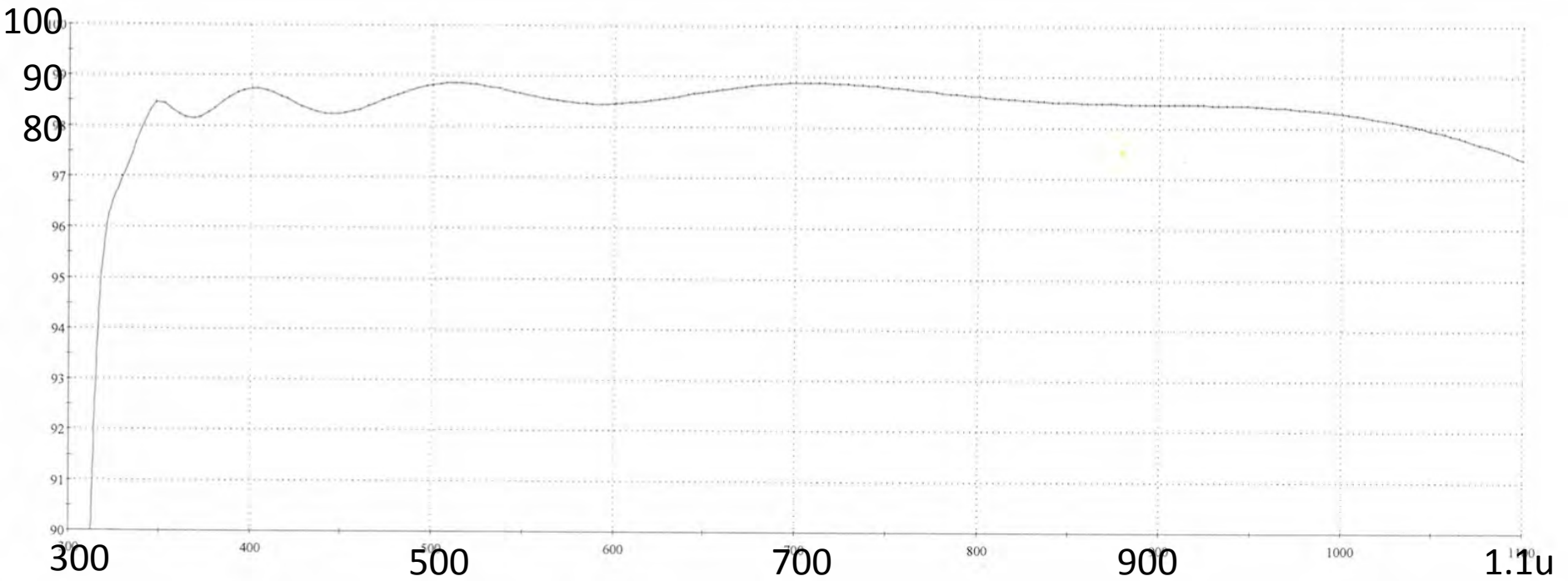
*Surface Plot.*

# CCD – ITL-098: Read Noise

Amplifiers 1,4, and  
6 fail read noise



# Camera Input Window BBAR Coating





# AT Spectrograph



# Spectrograph control

Control hardware will be a compact Rio. ACE will provide LabVIEW-based software to drive and communicate with the devices. The interface between ACE and LSST will be via TCP/IP/



# ATS SRS CCS/DAQ rack in LSST Server room

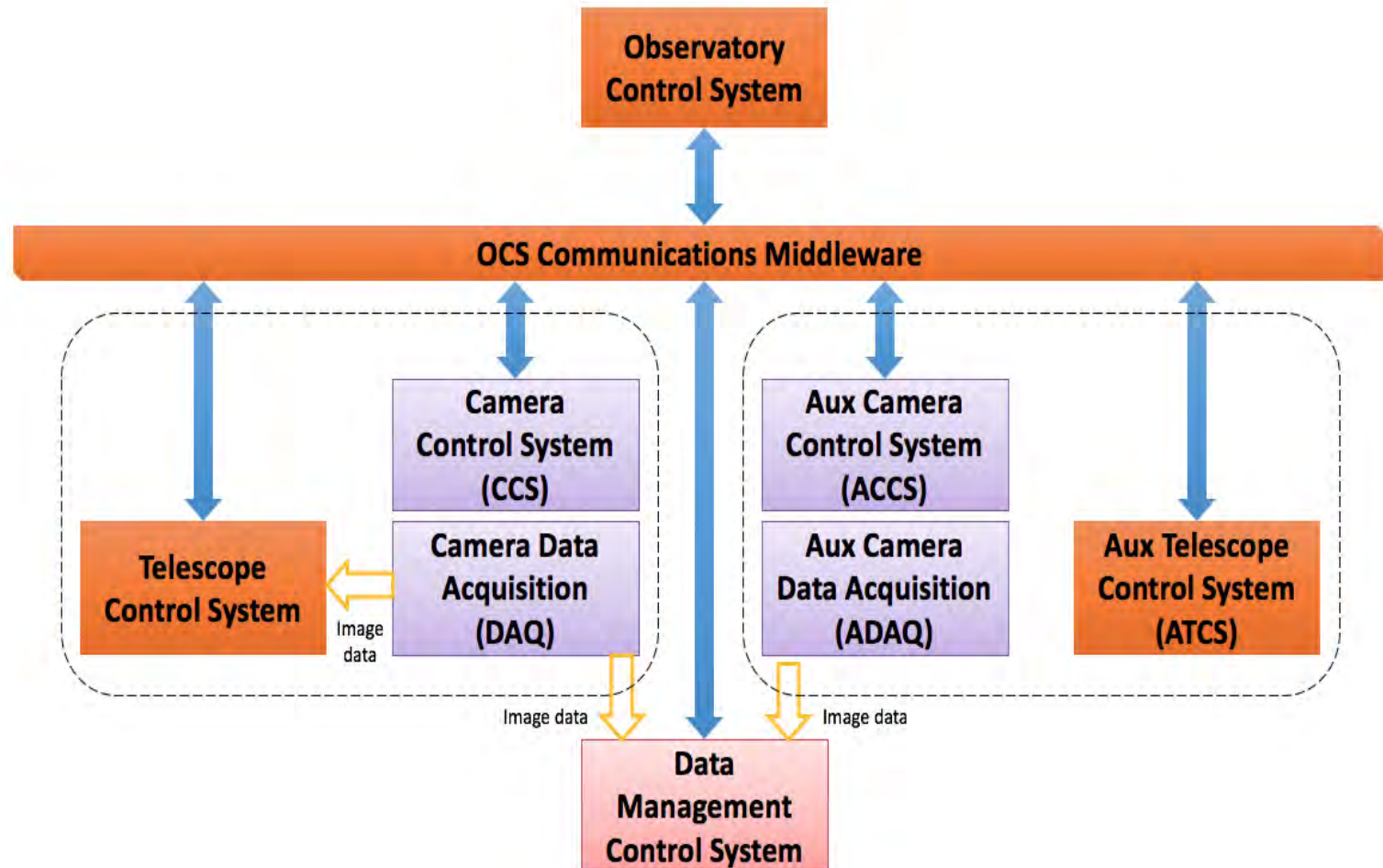


# LSST (Tucson) Server Room



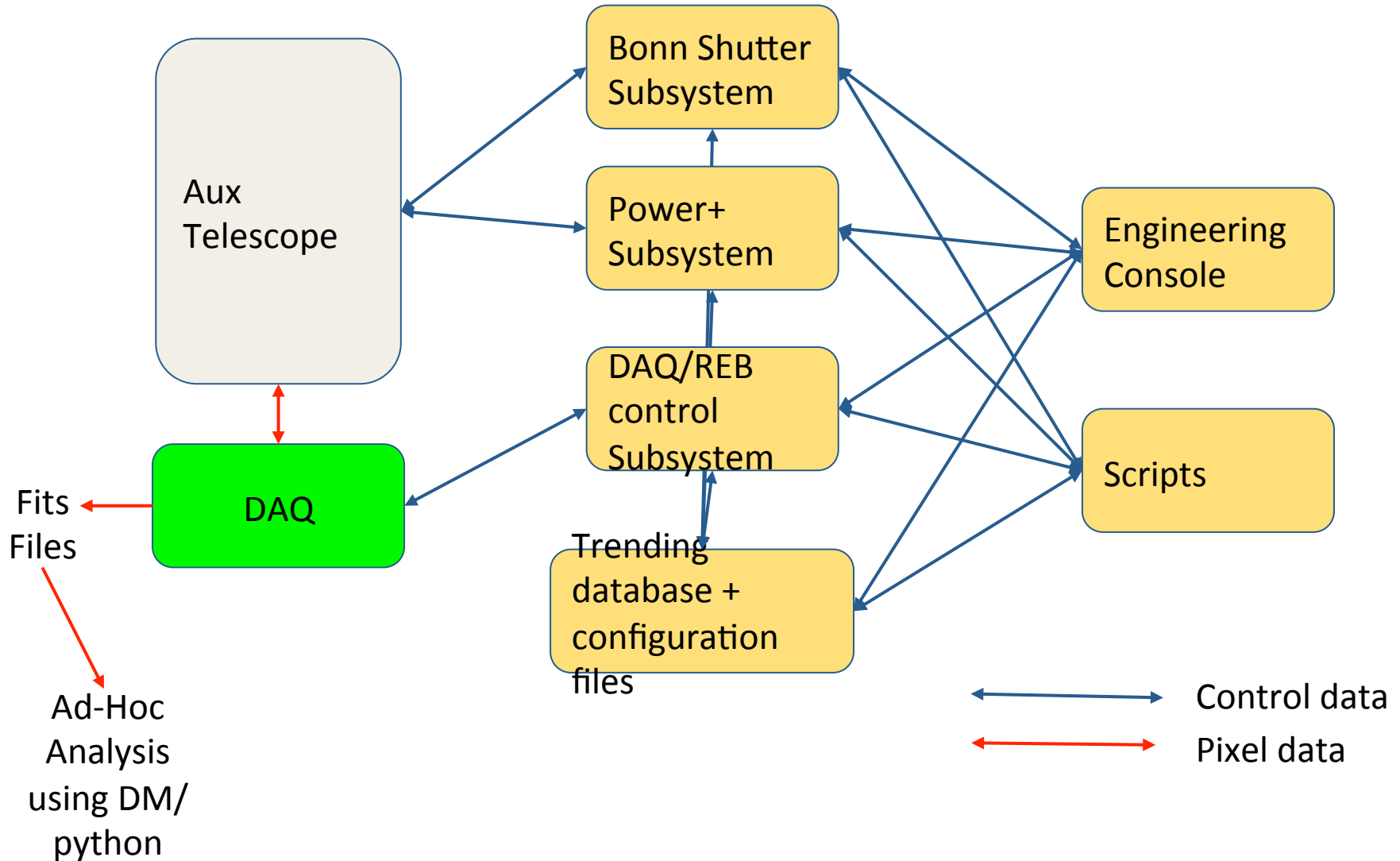


# AT Control Software Systems

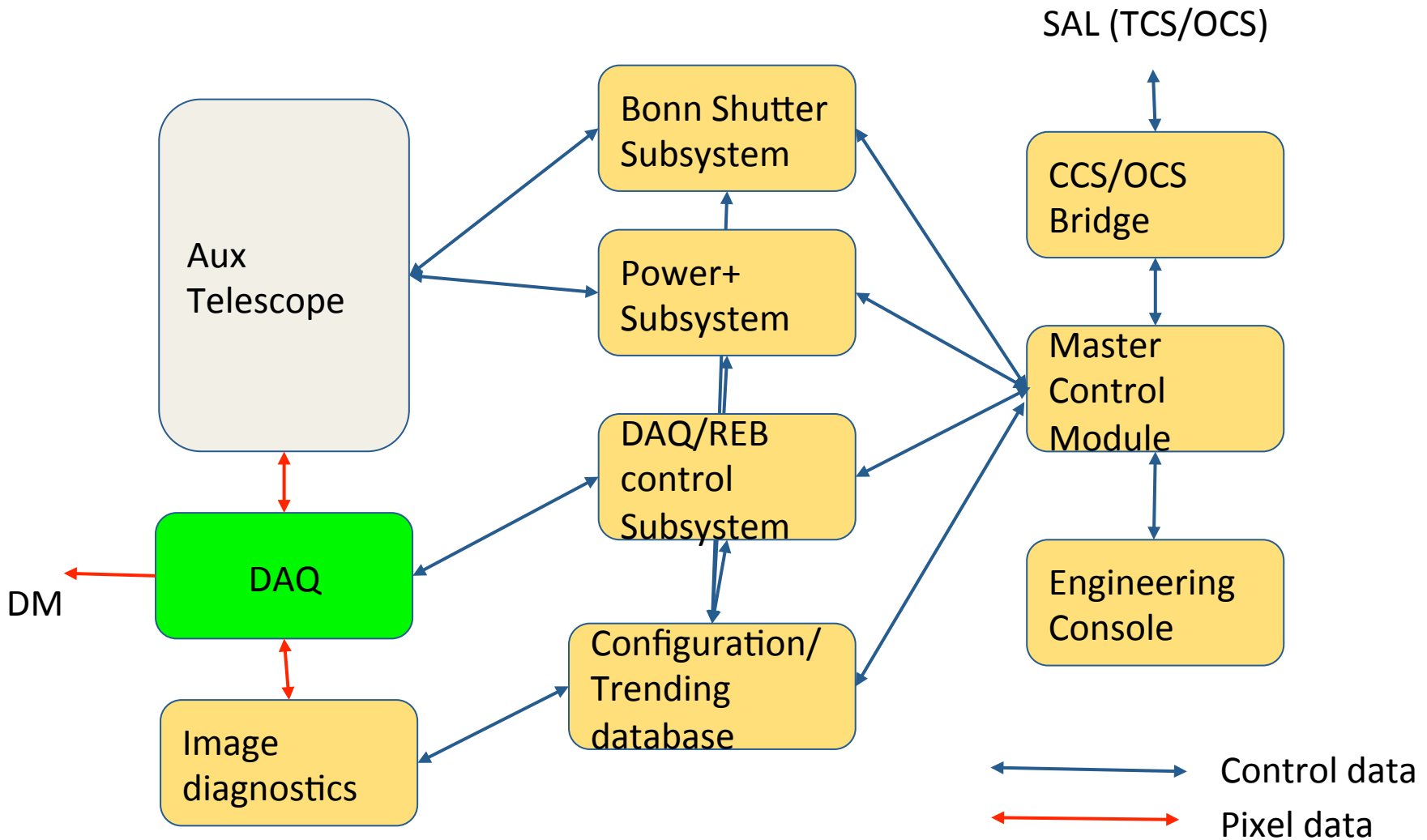




# Software for Aux Telescope (for Harvard)



# Software for Aux Telescope (for Tucson)



# Pathfinder Info

---

- Pathfinder exercises are being used to test interoperability of
  - Camera Control System (CCS)
  - Camera Data Acquisition System (DAQ)
  - Observatory Control System (OCS)
  - Telescope Control System (TCS)
  - Data Management (DM)
- Series of exercises
  - Starting with simulations
  - Moving to improved fidelity of simulations
  - Real data
    - Auxiliary Telescope (Spectrograph)
    - ComCam

# SLACK channel for ATS

LSSTC ▾

● Kirk Gilmore

Jump to...

All Unreads

All Threads

Channels

# announce-everyone

# cam

# cam-ats

# cam-ir2-ops

# desc

# desc-announce

# desc-monocam

# desc-pc

# desc-sawg

# general

# help-slack

# lsst-calibration

Direct Messages


♥ slackbot

● Kirk Gilmore (you)


#cam-ats

☆ 👤 20 📌 0 ✎ Add a topic


Wednesday, May 16th




If you turn it back on (if that state is safe) I can look more tonight. Iain did read off a bunch of non-zero currents on the non-OTM supplies, but I don't know what they're supposed to read.




**Tony Johnson** 18:11  
@gregg I have turned the WREB power back on. I am able to connect to the WREB from the ccs console now, so I think the OTM is indeed working. Will leave it on for you to do your testing




**Gregg Thayer** 18:12  
I concur. The link is up. I'll try taking some images in a bit.



**Kirk Gilmore** 20:06  
Gregg, the non OTM currents are correct if the DAC's and ASPIC have not been loaded. To me, there is still a mystery why the OTM was powered but showing 1ma and cycling power fixed that problem...



**Gregg Thayer** 20:09  
I agree with that, but as the system is up now, I'm going to proceed with debugging the problem we intended to work on. As for the DAC's and ASPIC, I don't need those for the WREB to produce data. The quality of that is immaterial to the transport.



**Kirk Gilmore** 20:13  
ok. Iain is going to check PS output and let us know in the morning. Is there possibly an issue with the OTM when the REB power either turned on or off that should be investigated? A rhetorical question at this point but, if so, we should have a strategy for testing

+ Message #cam-ats @ 😊

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Highlights

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20 Members

Heather Kelly 🇺🇸

Jim Chiang

Kirk Gilmore (you)

Michael Reuter 🇺🇸

Christopher Stubbs

Felipe Menanteau

Gregg Thayer

Homer Neal



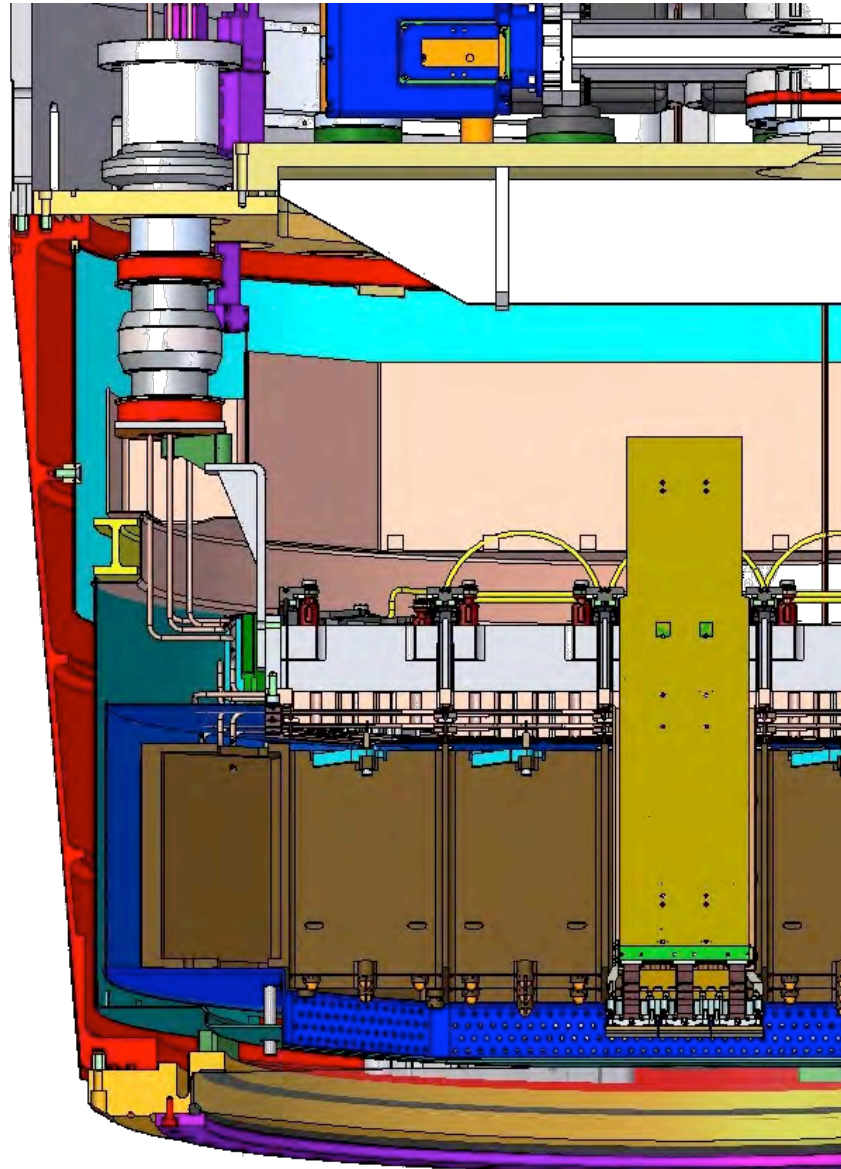




# LSST – May 17, 2018

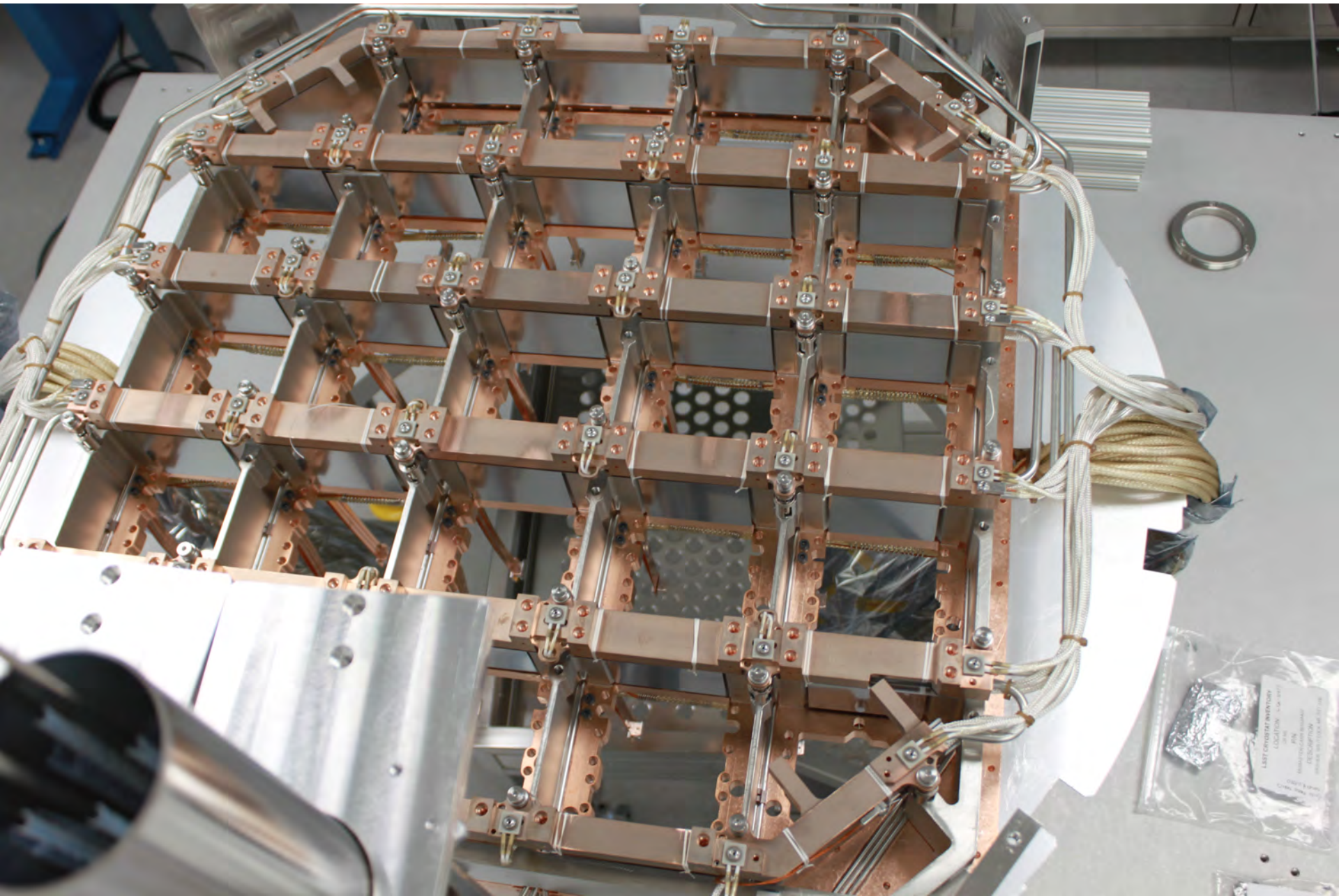


# Camera Assembly



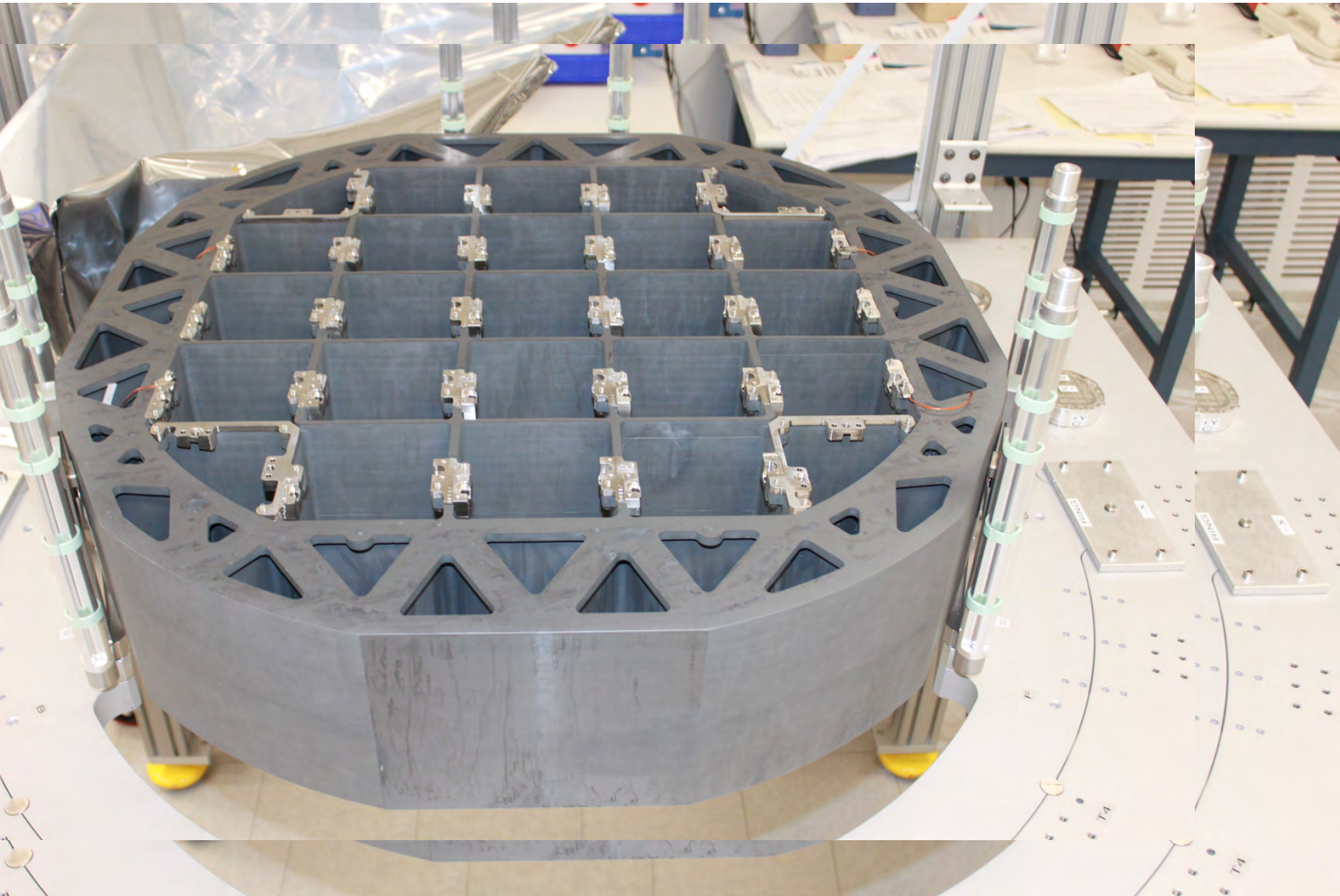


# LSST cold plate



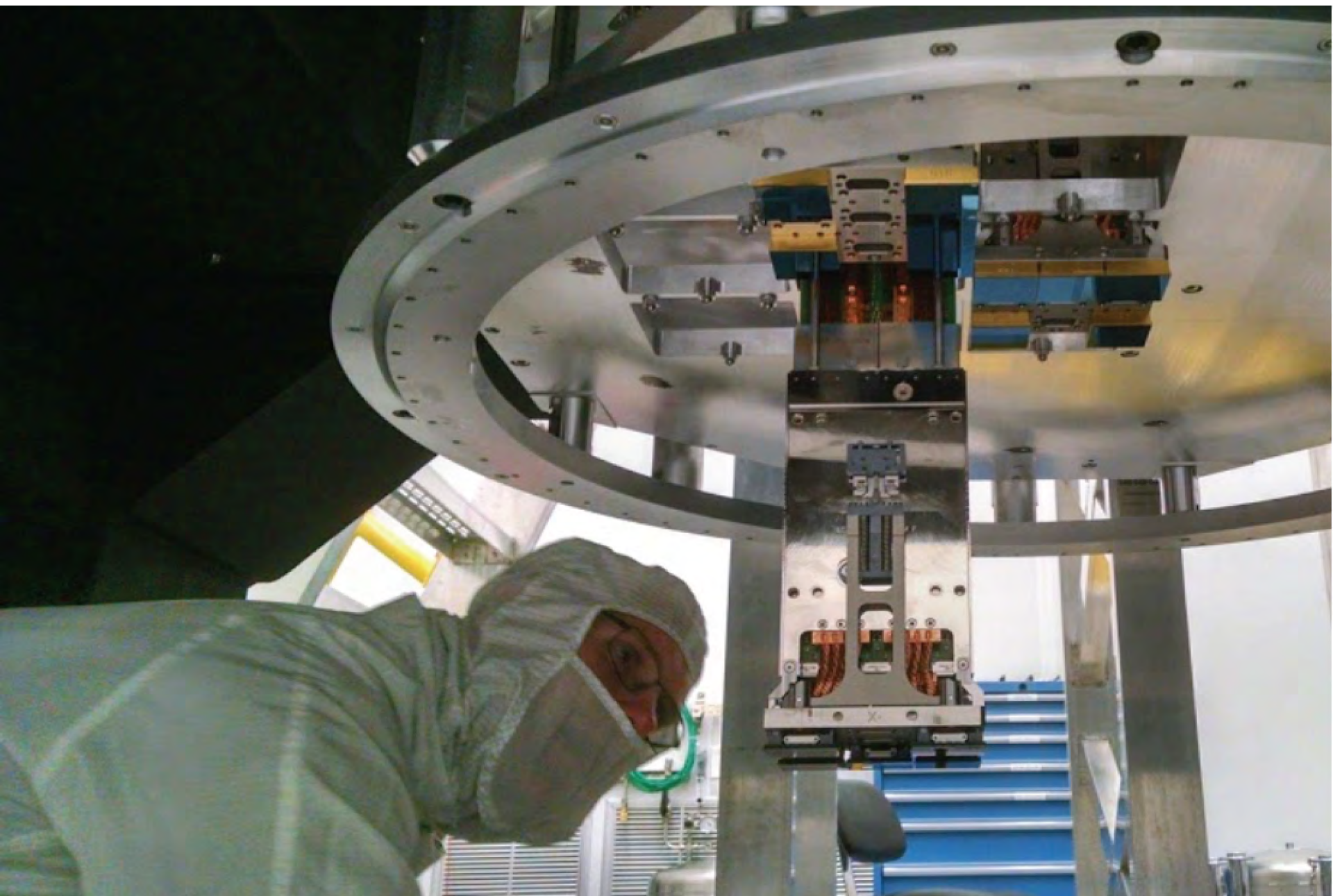


# LSST Grid

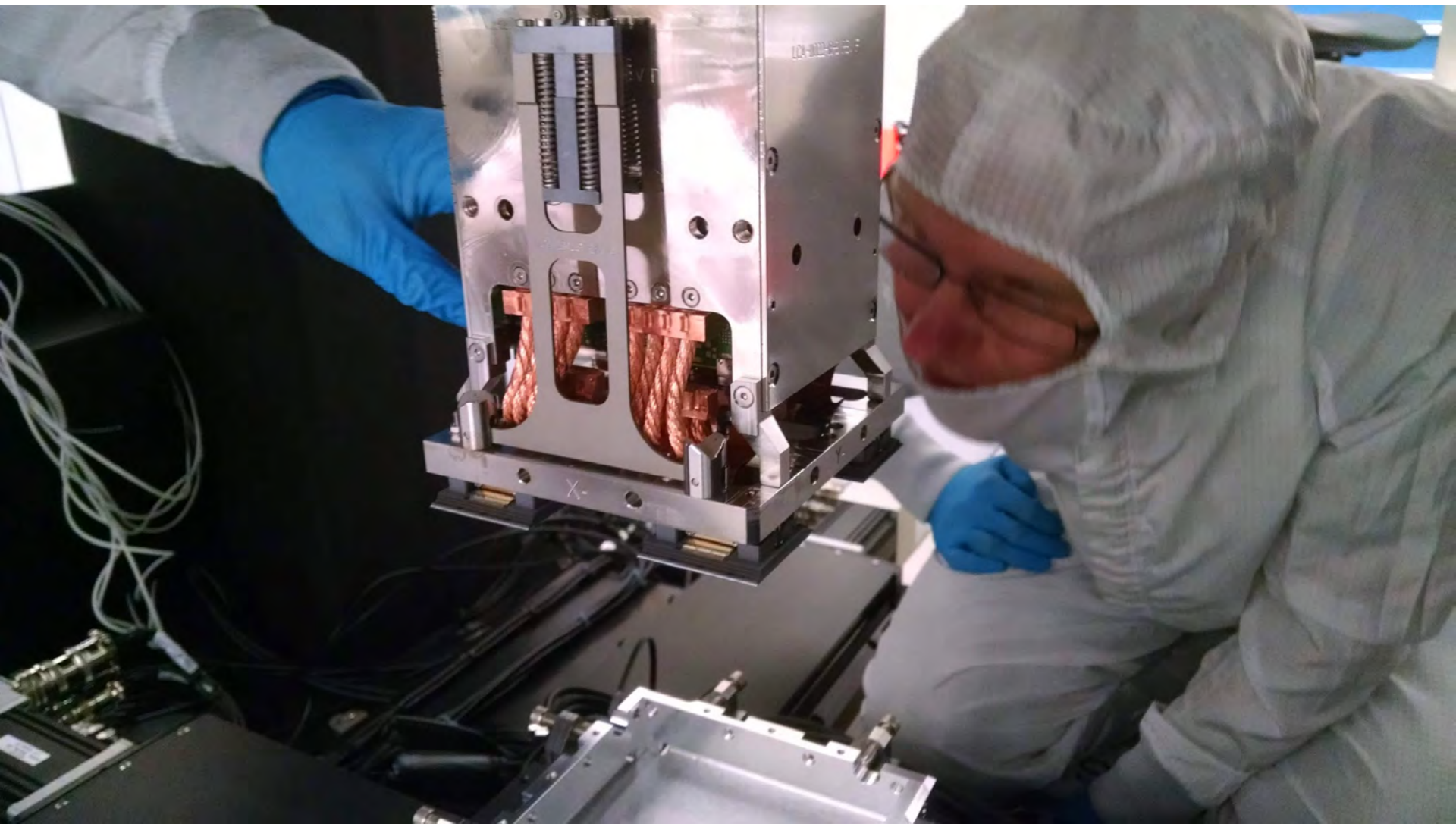




# RTM insertion



# RTM Insertion





# LSST Camera – back flange





# The I&T BOT – LSST cleanroom

LSSTCAM0 2018-05-18 13:47:13





# Shutter Blades



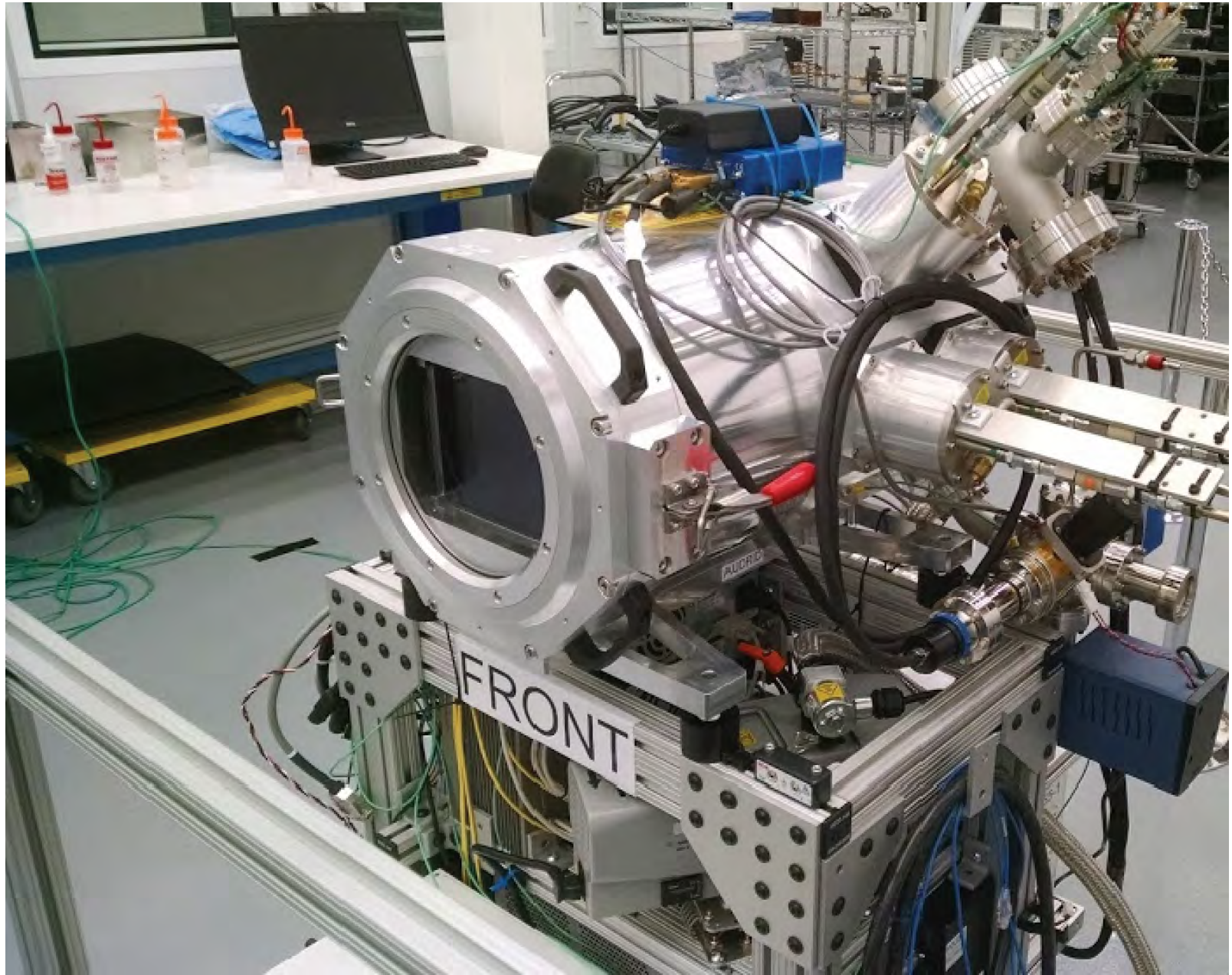


# Shutter Rails



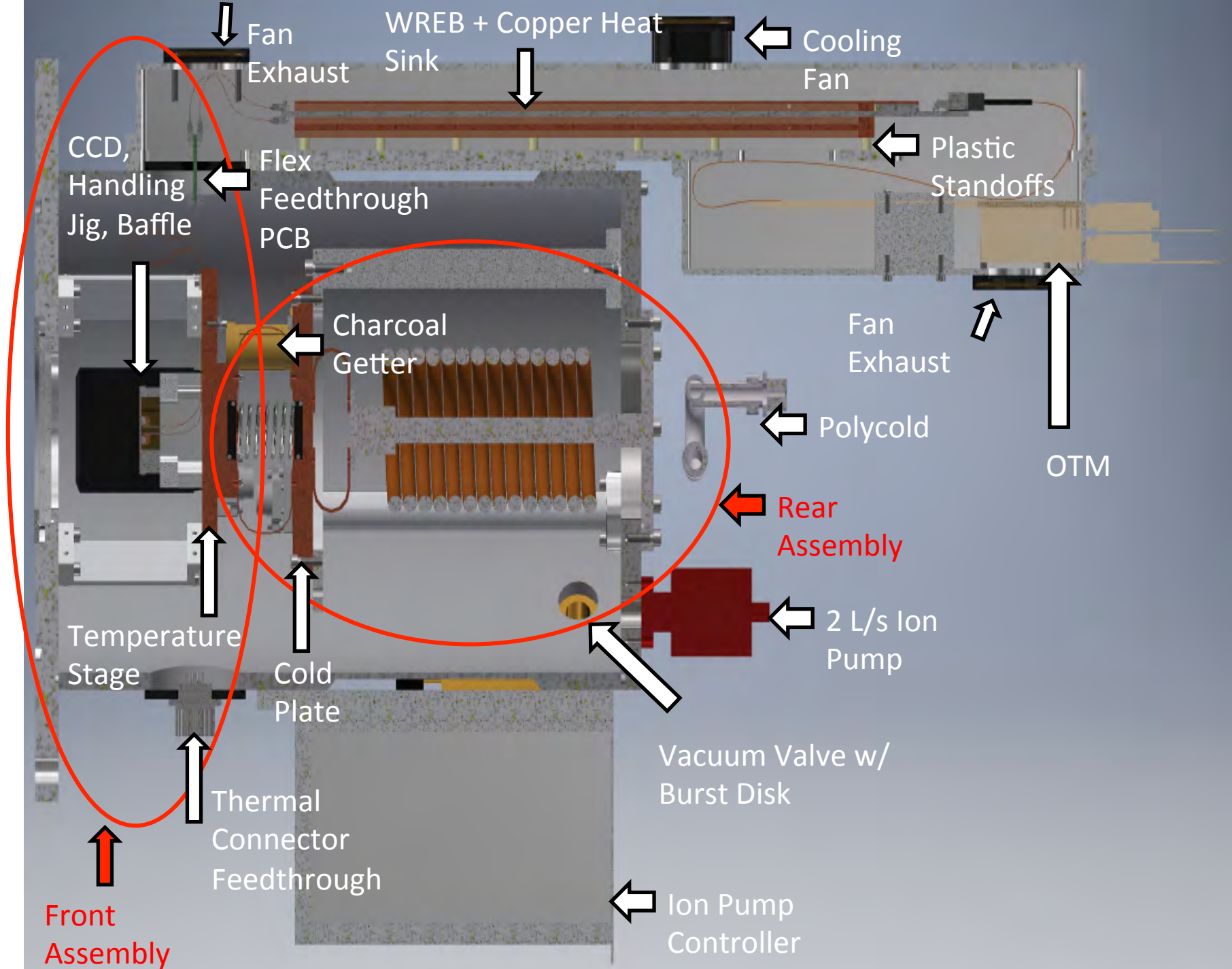


# Commissioning Camera (ComCam)



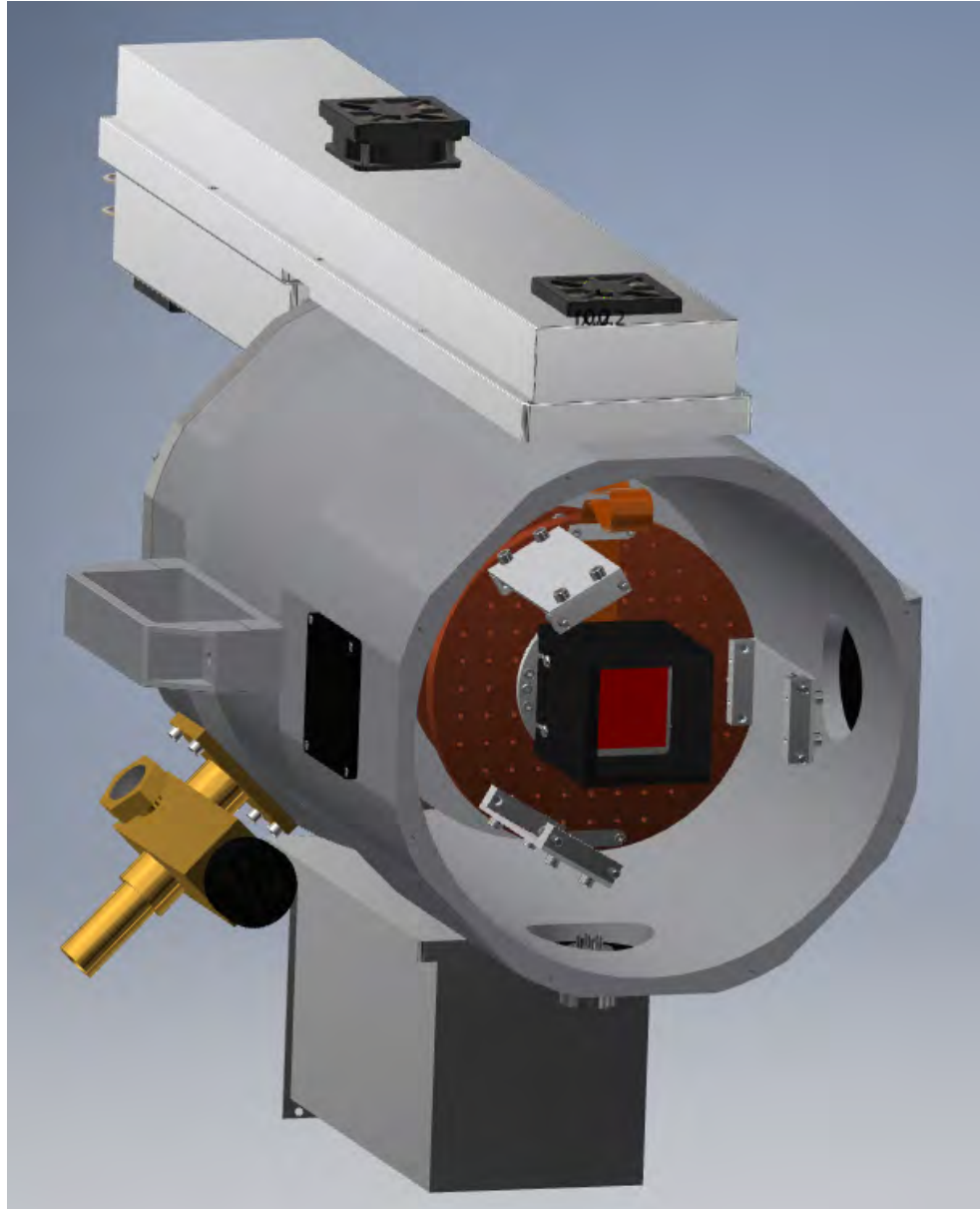
# Extra Slides

---





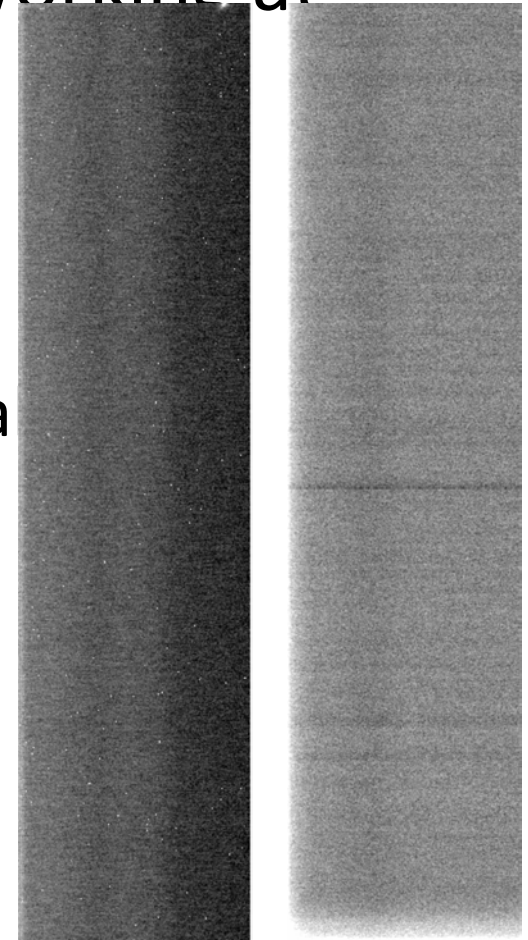
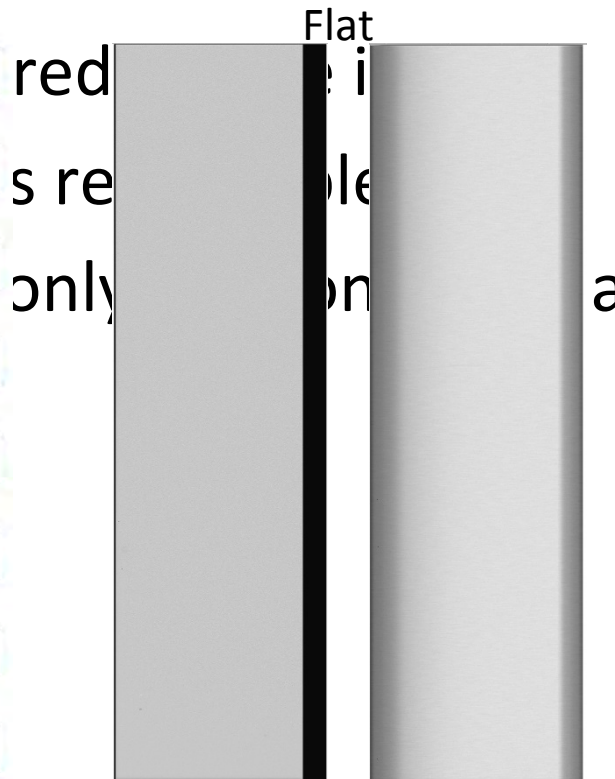
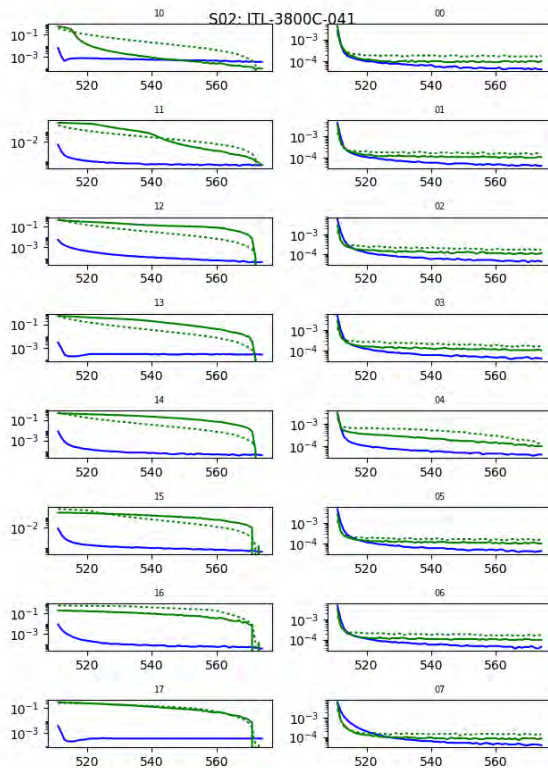
# Full Dewar – No Input Window Flange



# Changes in ETU#2

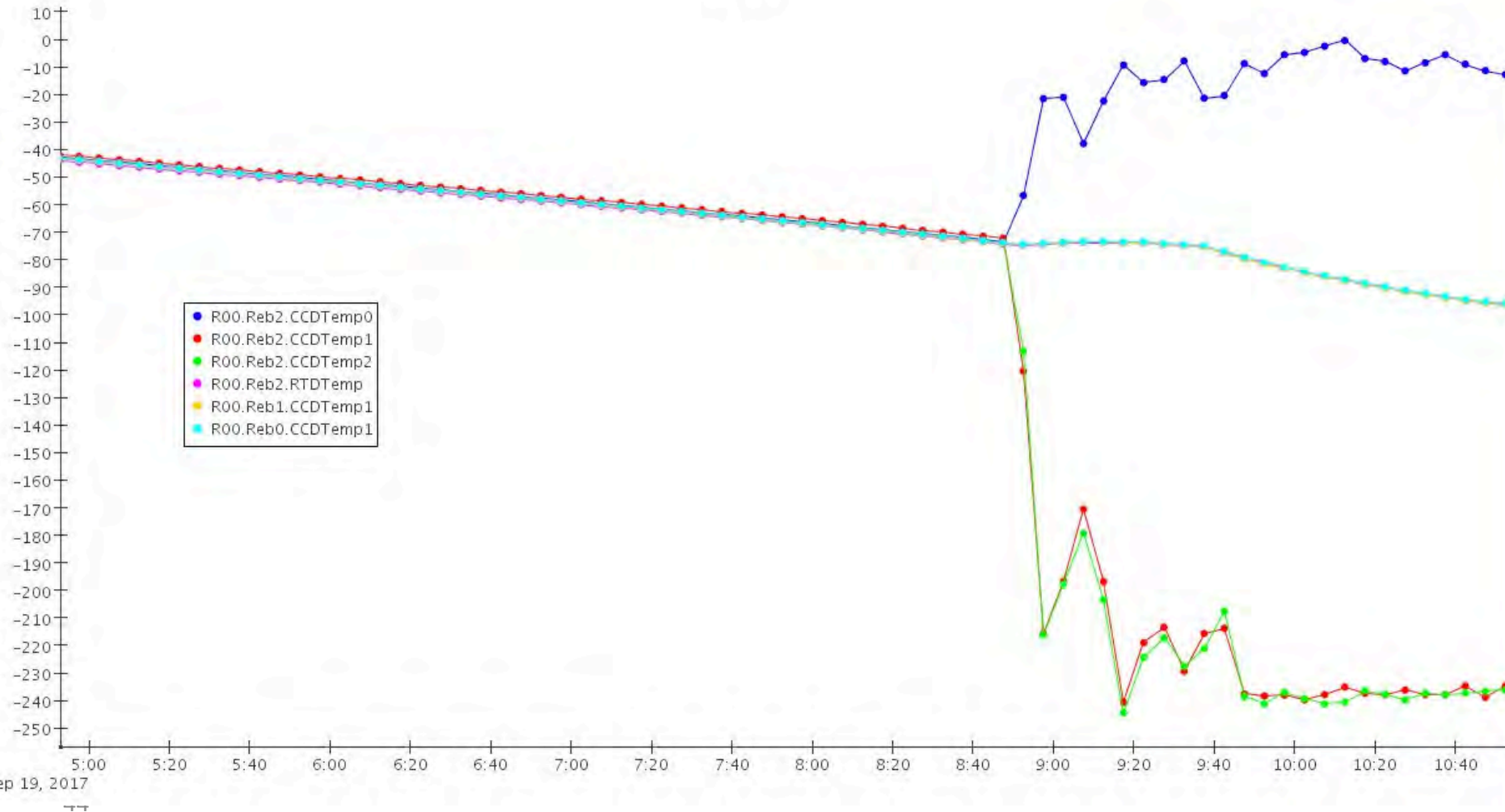
Likely a Serial Clock  
phase is missing:  
Flex Cable?

- ½ of S02 ITL-041 is broken, was working at BNL



# Changes in ETU#2

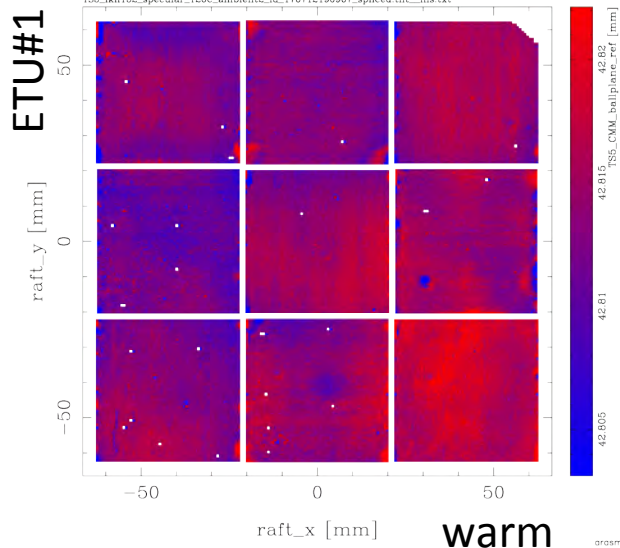
ts8-raft



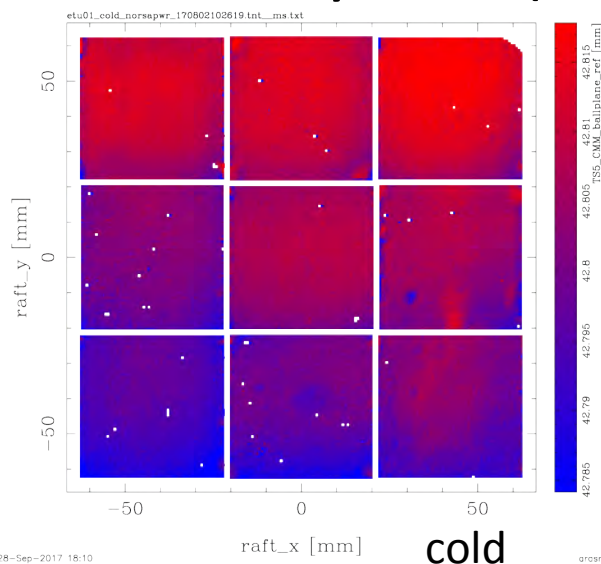


# ETU#1 & ETU#2, side-by-side (image height)

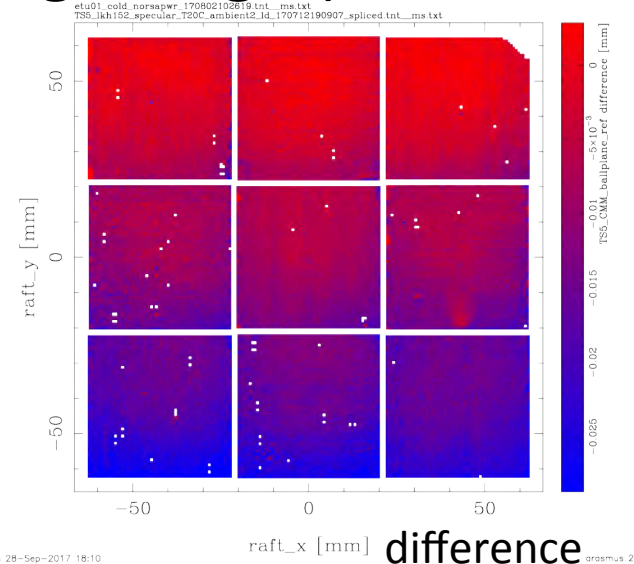
raft imageheight map (T=20C)



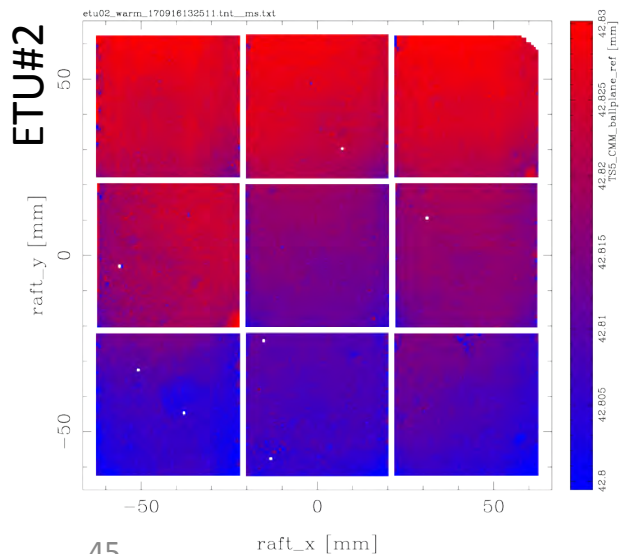
raft imageheight map (T=-95C)



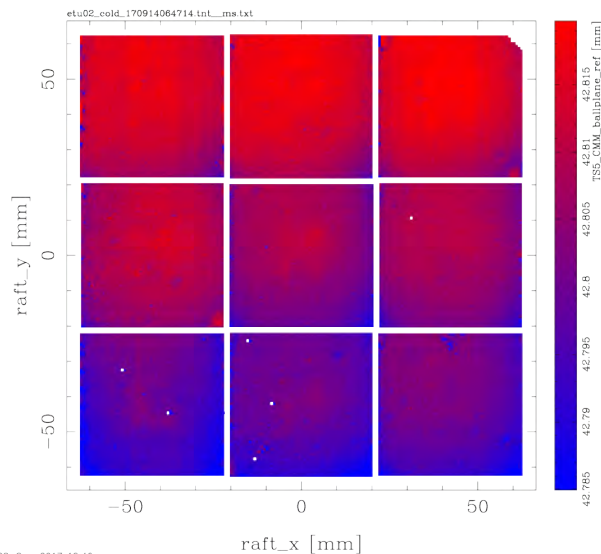
raft imageheight difference map (T: -95C vs. 20C)



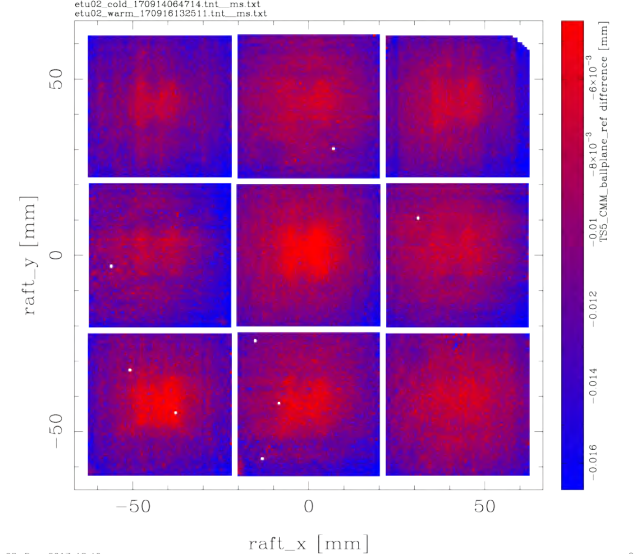
raft imageheight map (T=20C)



raft imageheight map (T=-100C)



raft imageheight difference map (T: -100C vs. 20C)



grasmus 28-Sep-2017 18:10

grasmus 28-Sep-2017 18:10

grasmus 28-Sep-2017 18:10

grasmus 28-Sep-2017 18:46

grasmus 28-Sep-2017 18:46

grasmus 28-Sep-2017 18:46

## MOUNTED ON NASMYTH PORT

