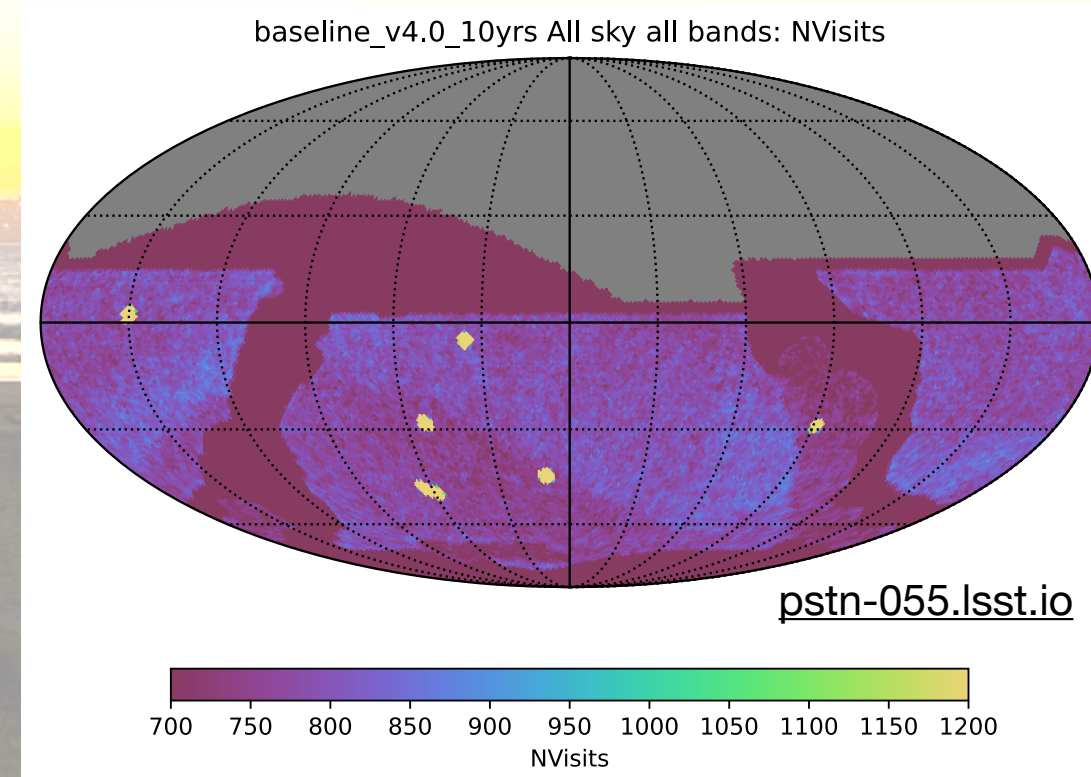
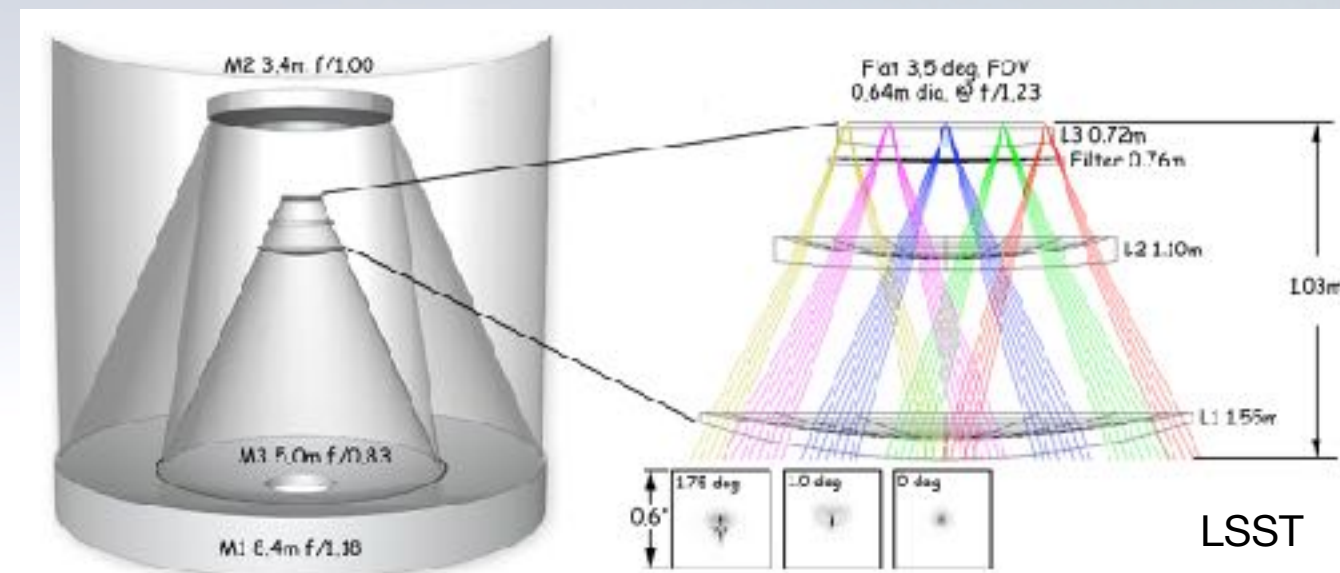


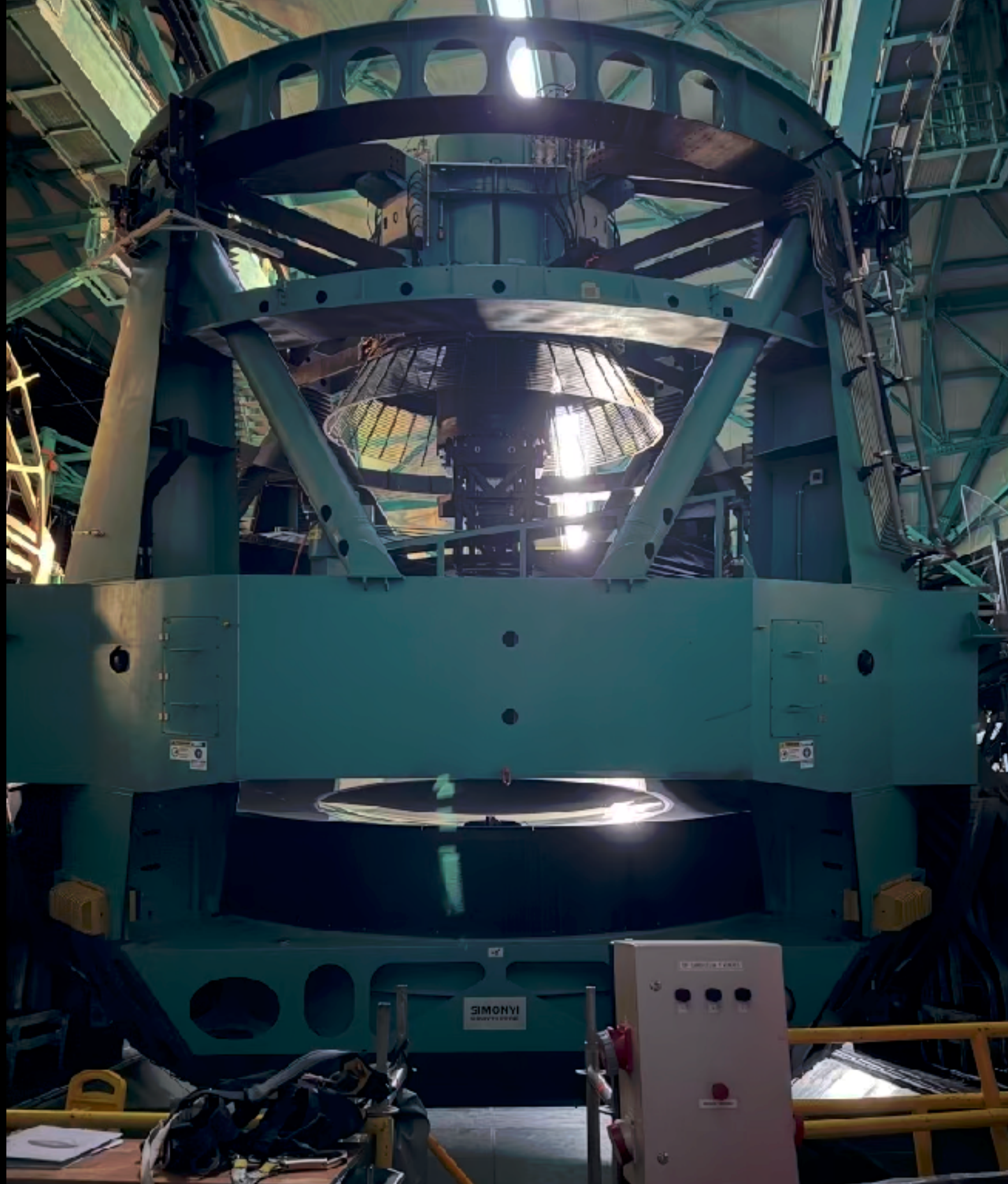
LSST updates

Yousuke Utsumi (NAOJ ATC based at Chile / Vera C. Rubin Observatory)

Vera C. Rubin Observatory's LSST survey

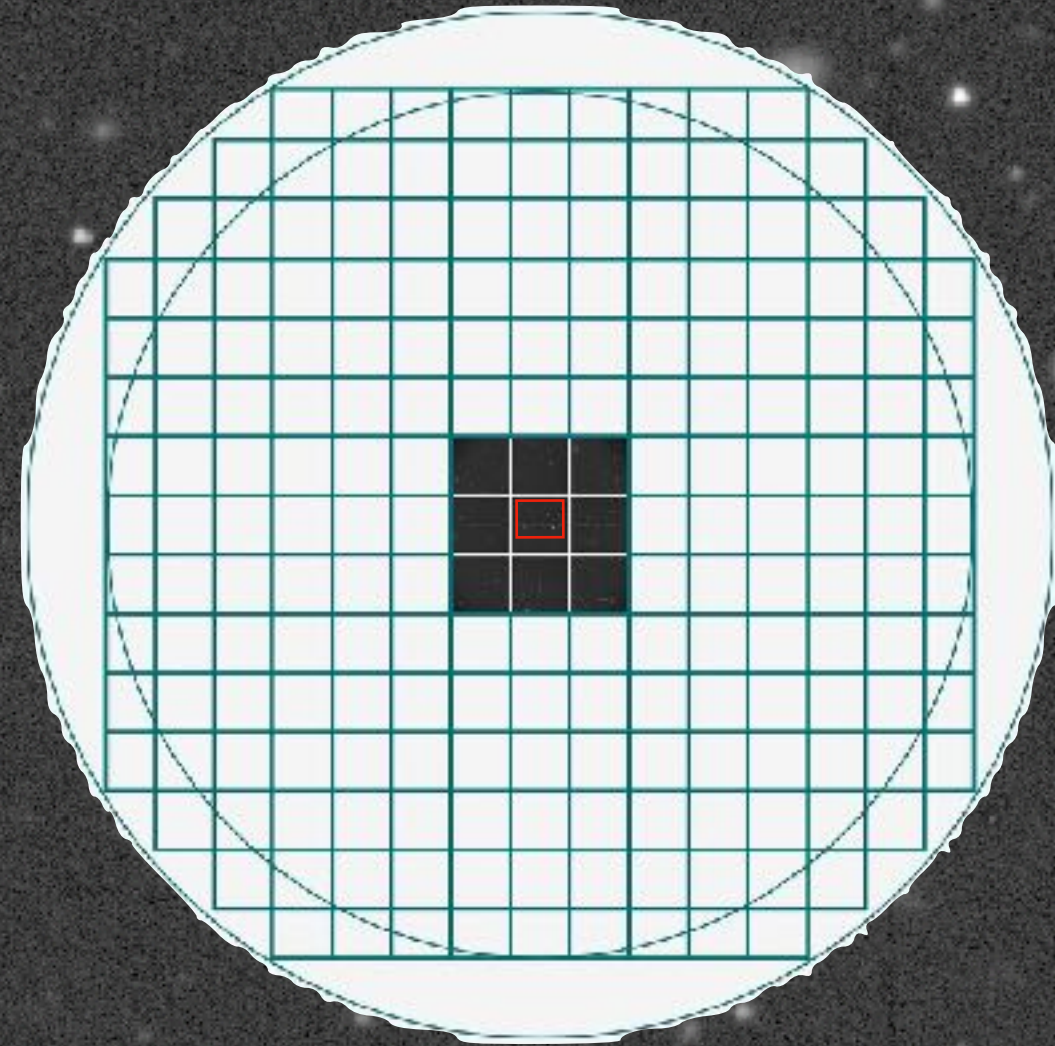
- 8.4m dedicated telescope in Chile
 - Charles Simonyi Telescope
 - 3 Mirror systems (F/0.83)
 - 3.5deg in diameter
- LSST Camera
 - 3 lenses
 - ugrizy “curved” filter
 - 1.2 arcmin
 - ~2 sec
- “Legacy Survey of Space and Time”
 - 10 years southern sky survey
 - Deep ~ 26.8 mag
 - Wide ~ 20000deg²
 - Fast ~ 800 visits per field
 - “Well-understood source catalog of stars and galaxies”







2024/10/24 ComCam First Photon ✨



- End-to-end testing
- 7 weeks of observations
- Rehearsed the full system commissioning
- **Achieved 0.66" in z in ~2 wks after First Photon**

OBSERVATORY EN

LSST Camera completed



06:14

5G 99

Camera Arrived

NORTH
AMERICA

SAN FRANCISCO (SFO)

North
Pacific
Ocean

South
Pacific
Ocean

SANTIAGO (SCL)

5Y8447

Apple Maps Legal

Wed, May 15, 2024 08:03 UTC



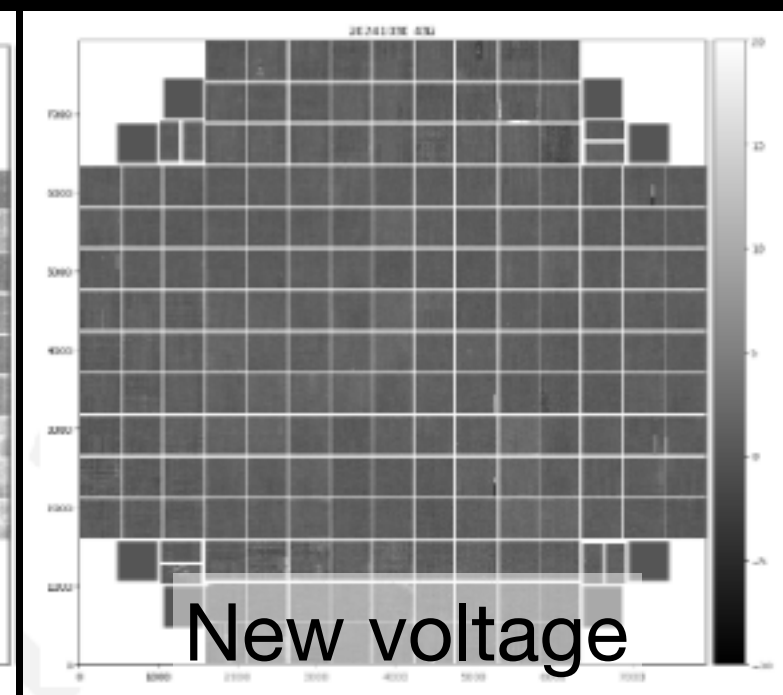
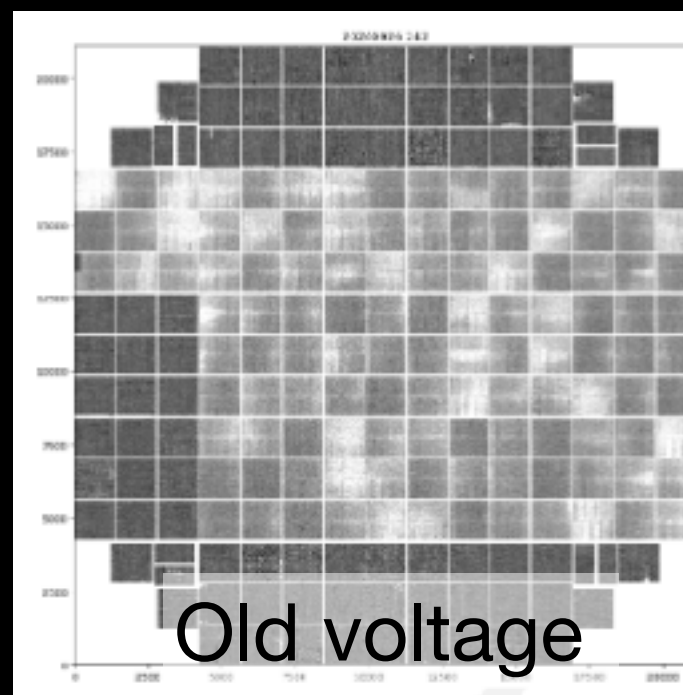
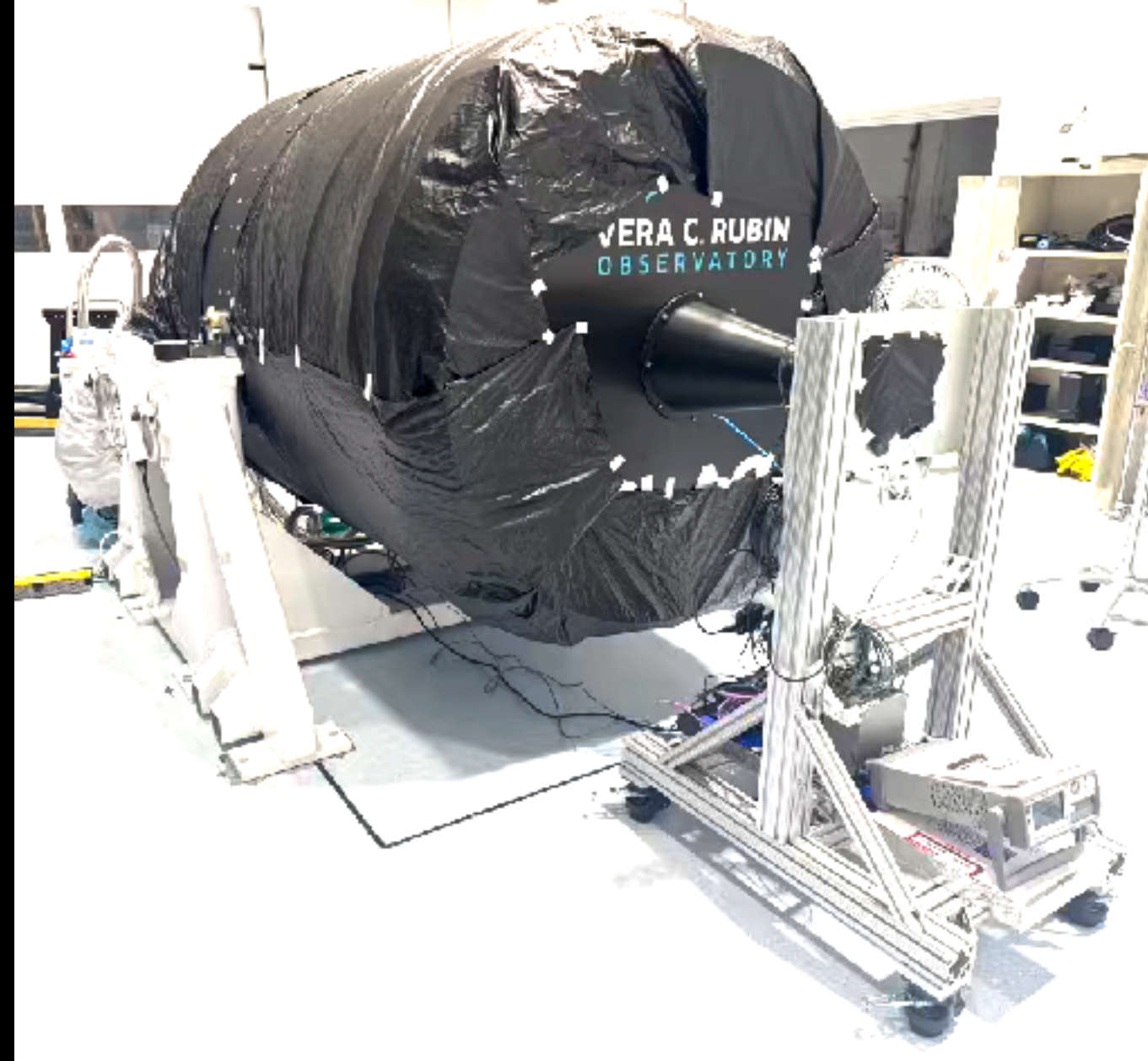
2024/5/16 at Cerro Pachon



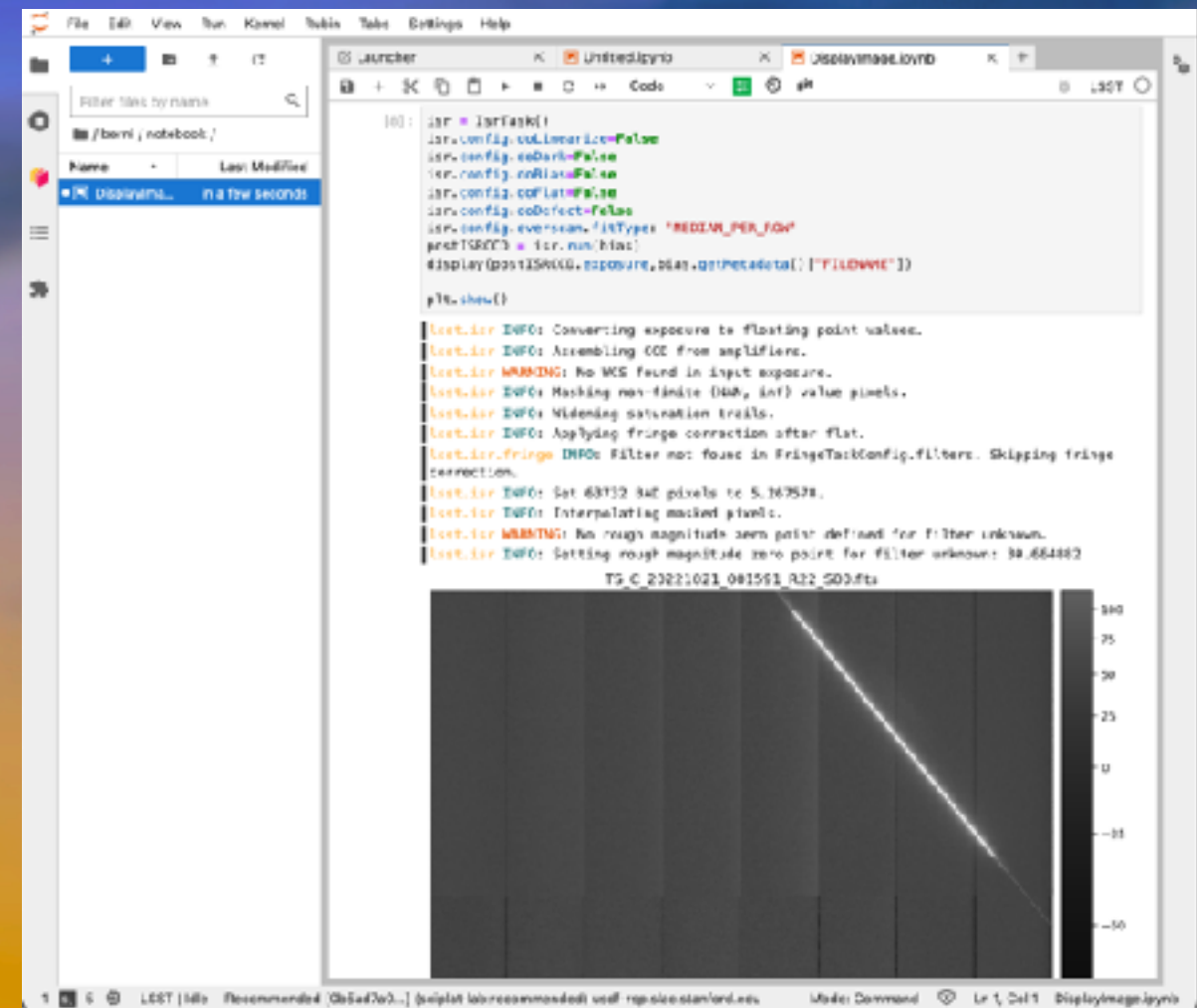
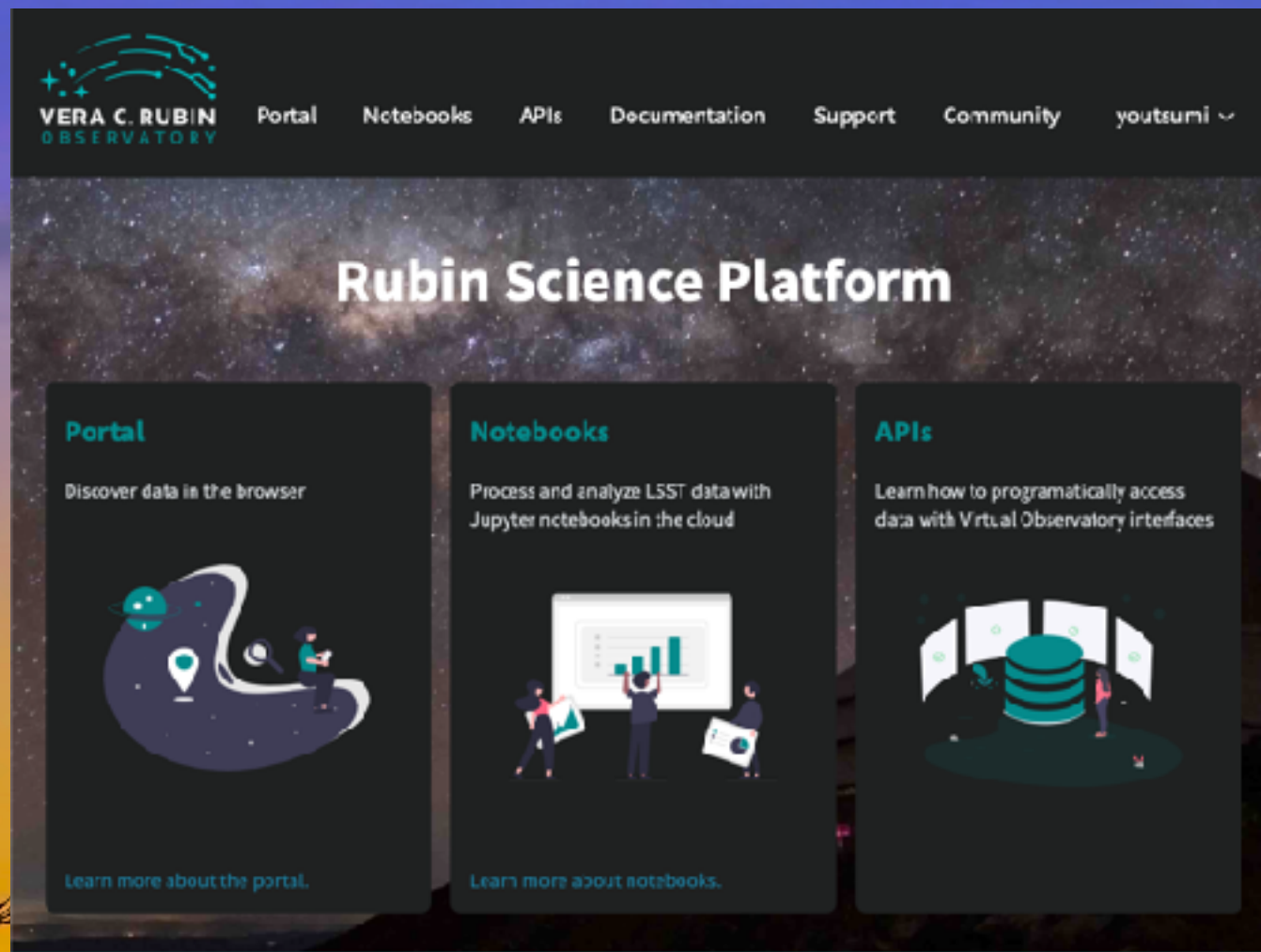
2024/5/20 at the Vera C. Rubin Observatory

Camera Testing

- Sep. 2024 — Dec. 2024; 56k exposures
- **Revivification**
 - Does Camera perform still?
- **Optimization**
 - Mitigated Persistence!
 - Improvement of clear
- **Characterization**
 - Treering, defects behaviors, Phosphorescence
- Draft is in progress... <http://sitcomtn-148.lsst.io>
- Camera will be on TMA in Feb, 2025
- FP is expected to be on April 15, 2025
- FL is expected to be on July 4, 2025.



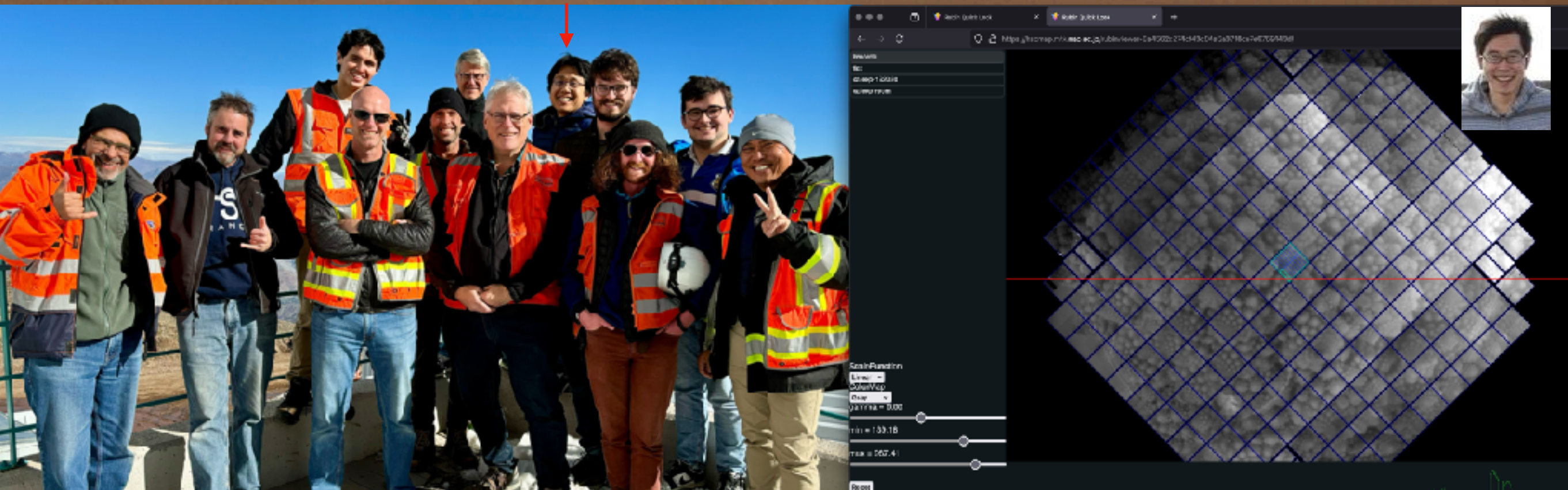
How to access data - Data Rights



- Raw data: 60PB; Catalog 20PB; Processed image: ~several hundreds PB
- Rubin will provide for DRH (Data Right Holders) access data from pixels to catalogs through the **Rubin Science Platform** on Google Cloud (VO, Jupyter notebook, APIs...)
- Transient alert stream will be made public through **alert brokers**; however alert database will be restricted
- Data will be public after 2 years, however no concrete plan yet, limited service?

JP In-kind contribution programs

- 50 Subaru nights over 10 years: “guarantee HSC/PFS time in exchange for premium weight factor (10 PI → 20 PI)” UM 2022 SAC chair report
- Workforce (commissioning, software development, community scientist, science collaboration)
- Computing resources
- PFS data products (transient follow-up, photo-z training set from a filler and SSP)
- Majority of DRH based on NAOJ’s resources will be provided through an open call



DRH based on JP's in-kind contribution

- Japanese community will receive 37~52 (PIs+ 4 JAs) slots in return for in-kind contribution.
- 16 PIs / 41 JAs based on JP open call are listed in May '24.
- In total, 27 PIs / 48 JAs / 1 Builder are listed.
- Establishing legal contract is underway...



Summary

- The Observatory is in good shape.
- Comprehensive end-to-end test
- The LSST Camera is ready
- In-kind contribution is underway
- The community has gained data rights

