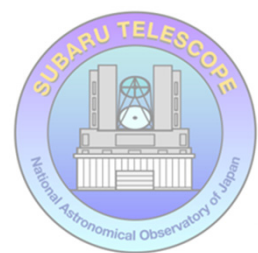


Instrument Status

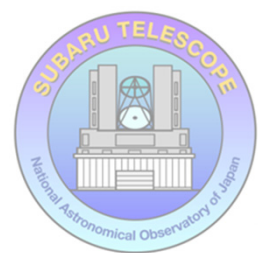
Takashi Hattori (Instrument Engineering Division, Subaru Telescope)

Subaru UM2026



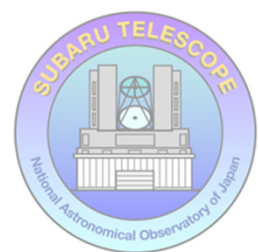
PFS

- ▶ PFS session (6/19 10:24–11:39)
 - Commissioning status report by Koshida-san
 - Posters
 - P17 Current status of DRP development for PFS (Yabe)
 - P34 Current Status of Science Operations for PFS (Arai)



HSC

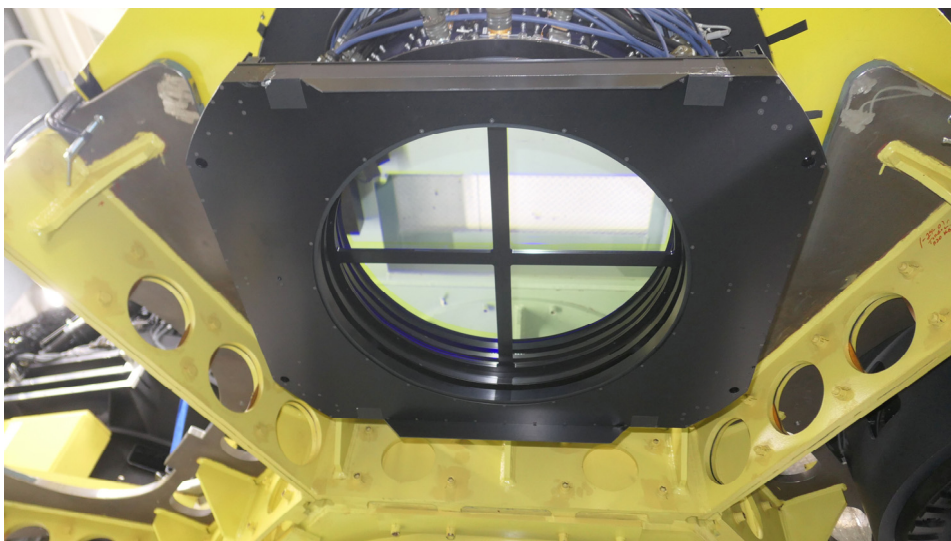
- ▶ HSC in 2026
 - New filter MBQ1 opened from S26A
 - SHAG camera noise issue
 - FEU grinding noise issue



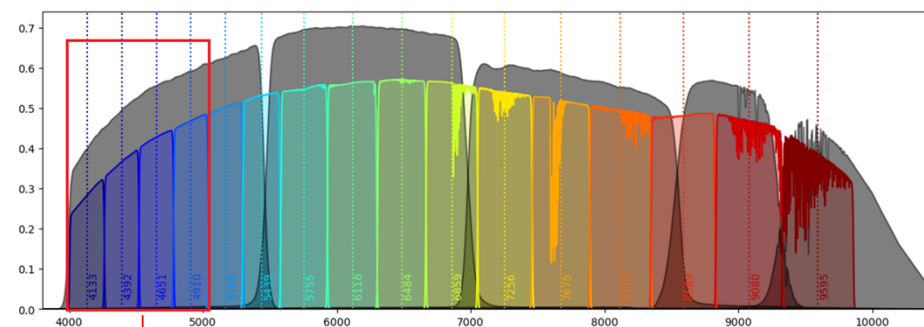
HSC

▶ HSC in 2026

- New filter MBQ1 (PI: Dr. Nishizawa) opened from S26A



MBQ1 filter in HSC Camera Unit



MBQ1

"The HSC Niji survey"

Oral presentations on 6/19

- The HSC-Niji survey — Overview and the current status— Atsushi Nishizawa
- The HSC-Niji survey — Cosmology and Proto-Cluster science— Hironao Miyatake
- The HSC-Niji survey — Galaxy Evolution and AGN science— Federica Tarsitano

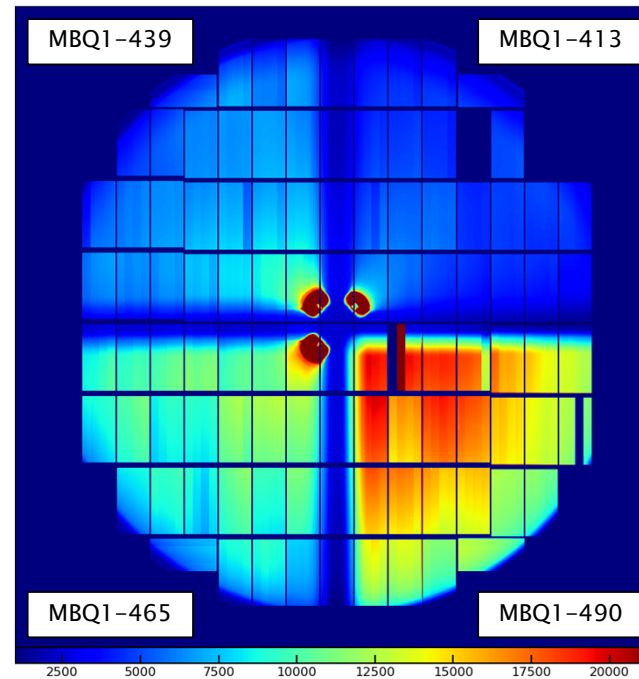
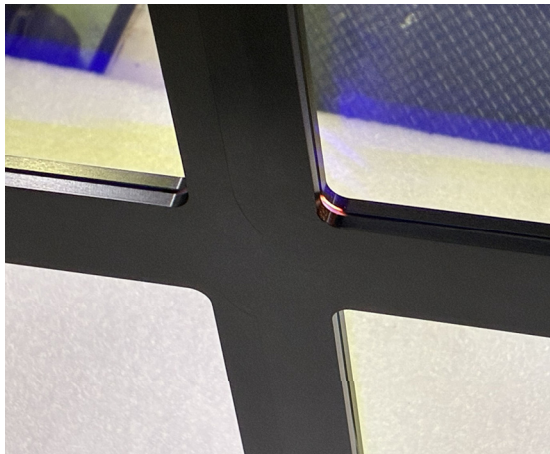


HSC

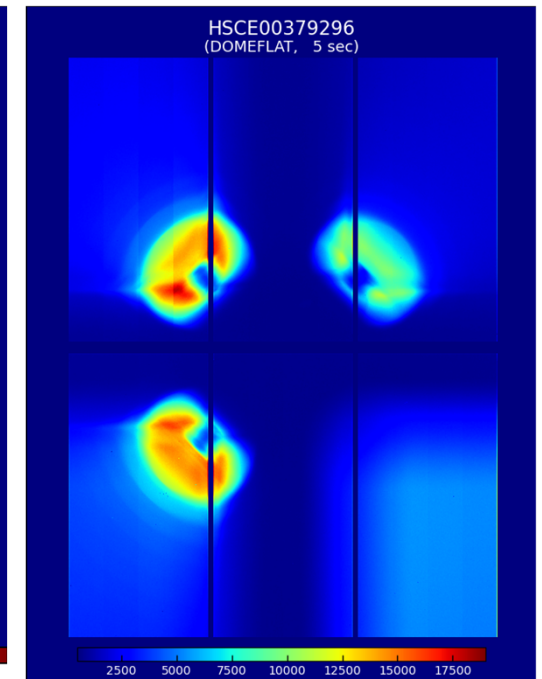
▶ HSC in 2026

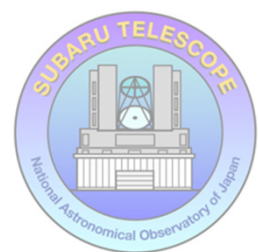
◦ New filter MBQ1 opened from S26A

- First light in Feb. 2026
- Bright spots near the center of the FoV.
- Inspection revealed light leak at the corner



domeflat

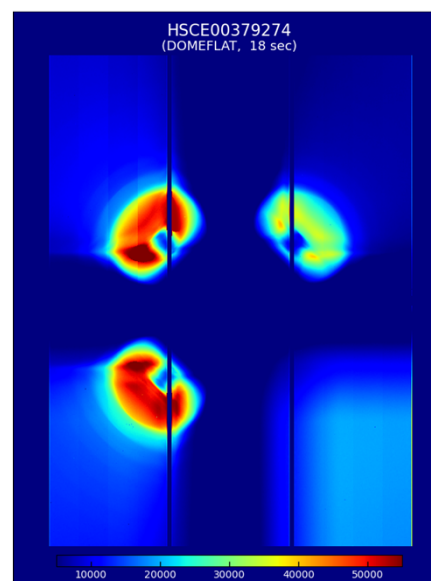




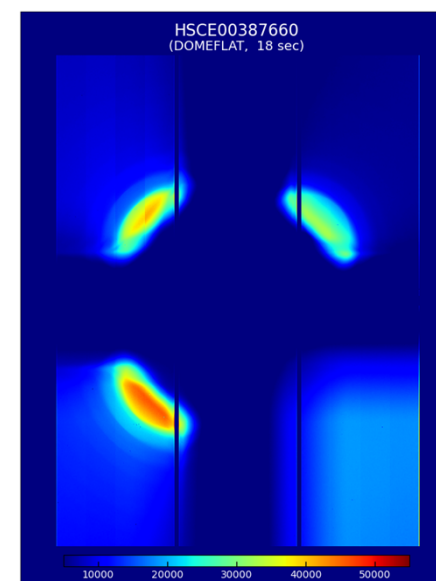
HSC

▶ HSC in 2026

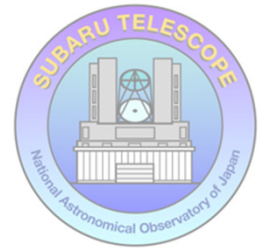
- New filter MBQ1 opened from S26A
 - Tried to cover the leak with soft material (EPDM)
 - Improved, but not as effective as we hoped
 - Still under discussion
 - Countermeasure for MBQ2, 3, 4 necessary



Feb. 2026

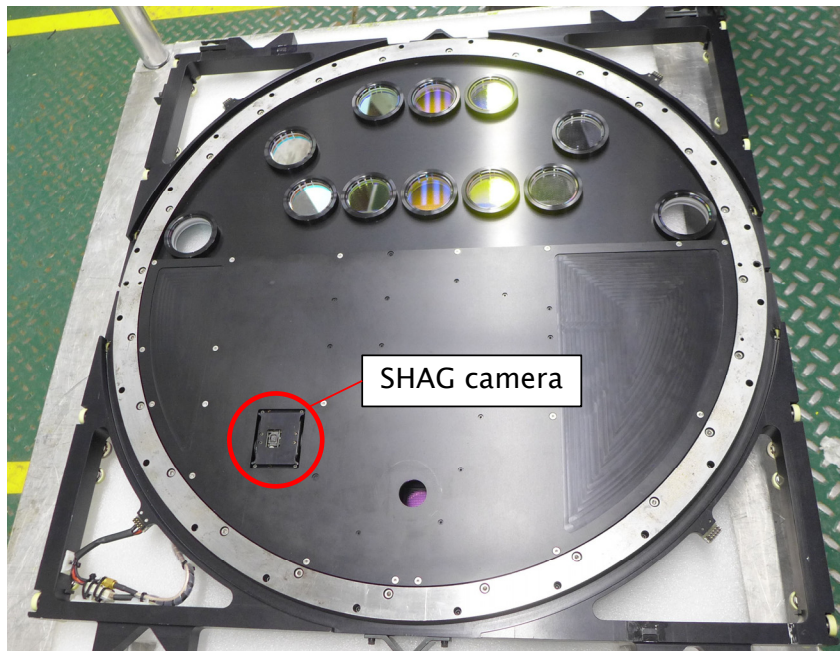


June 2026

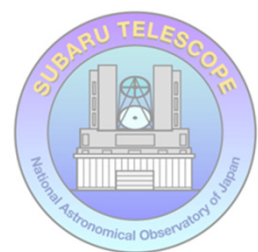


HSC

- ▶ HSC in 2026
 - SHAG camera noise issue
 - SHAG camera is for POpt2 Pointing Analysis (PA) and guiding for Mirror Analysis



SH (Shack-Hartmann) filter



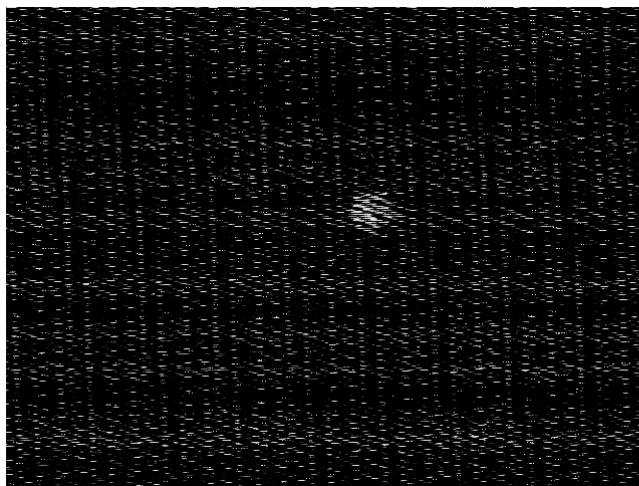
HSC

▶ HSC in 2026

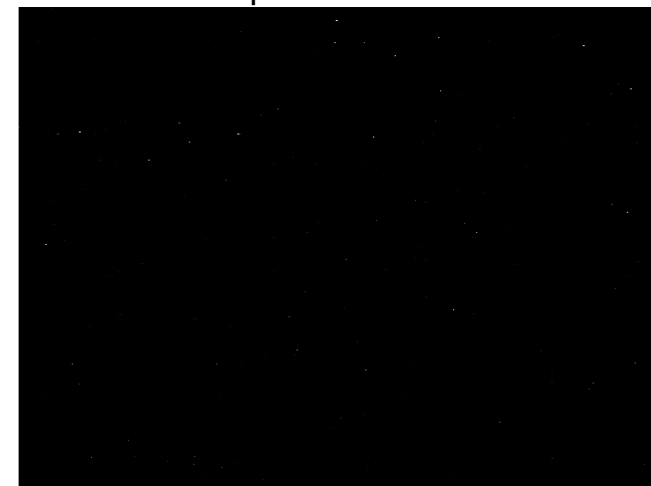
◦ SHAG camera noise issue

- Had to cancel PA on 2/23 due to noisy pattern on the SHAG camera
- It disappeared after disconnecting from and reconnecting to the power supply
- Retrying PA on 6/22
 - It will allow us to use the new compensation data of the telescope and improve the tracking/pointing both for HSC and PFS

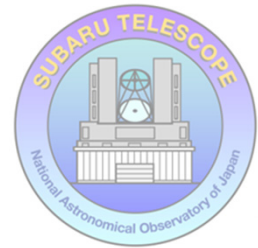
SHAG camera image on the telescope



2/23/2026



6/15/2026

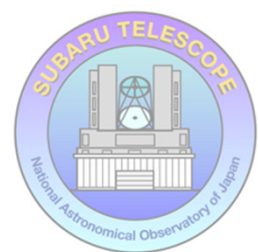


HSC

▶ HSC in 2026

◦ FEU grinding noise issue

- We always monitor sound from HSC during observation.
- Started hearing grinding sound/noise occasionally since Feb. 2026 when installing a filter to the Camera Unit
 - 2/12 (twice during 2/11–2/24 run)
 - 4/14–4/20 (during 4/14–4/21 run)
 - 6/9 (twice during 6/9–6/24 run)
 - no grinding sound/noise when not on the telescope
- Still under investigation

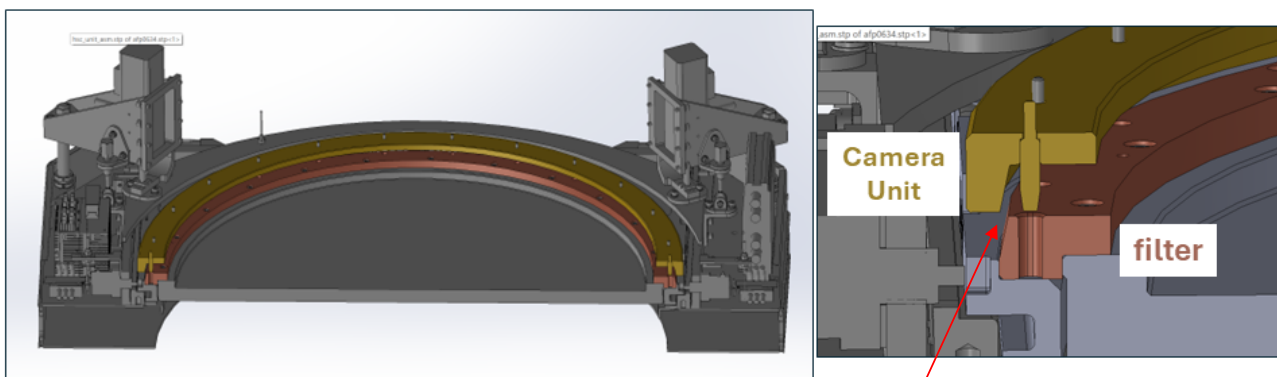


HSC

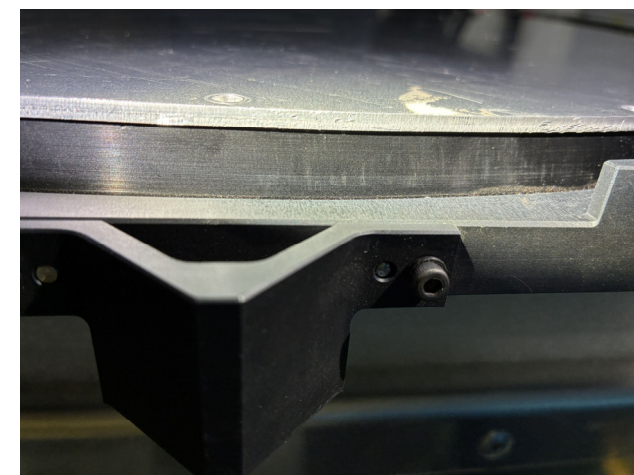
▶ HSC in 2026

◦ FEU grinding noise issue

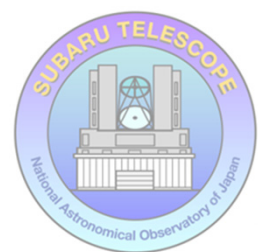
- Caused by friction when engaging a filter to the Camera Unit
 - From the conical coupling surface



conical coupling

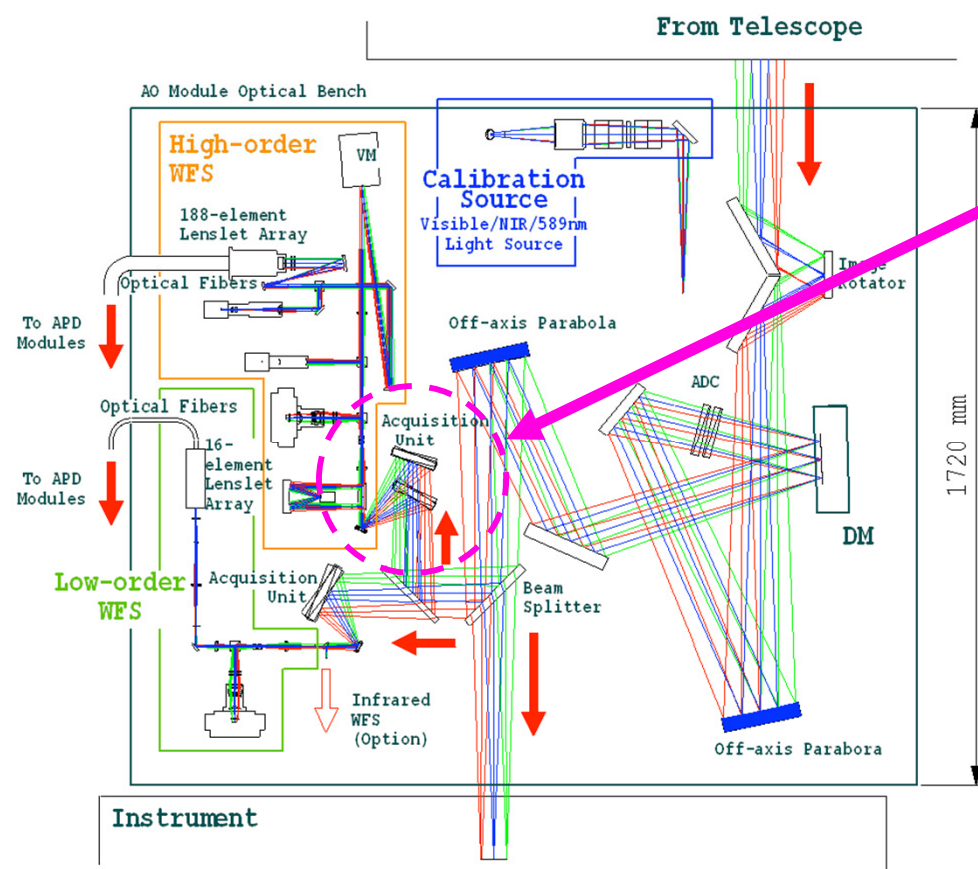


scratch on the conical surface of filter frame



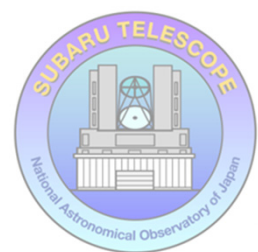
Facility AO system

► AU1 actuator trouble



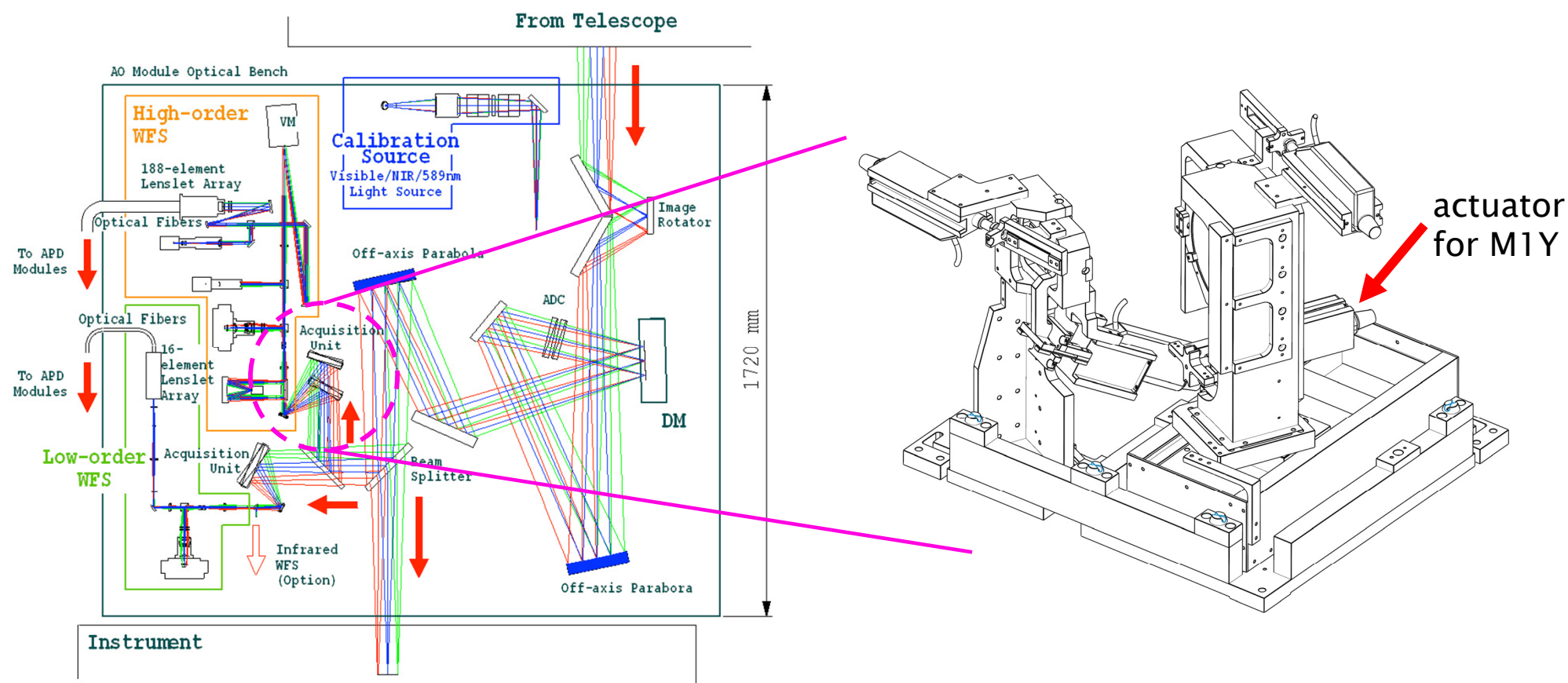
Acquisition Unit 1 (AU1)

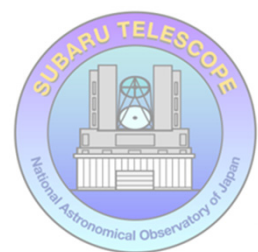
- Composed of 2 mirrors that can tip and tilt
- Used for position adjustment and focusing the guide star for the 188-element High-Order WaveFront Sensor (HOWFS)
- Used for NGS and LGS mode
- Acquisition camera, high-resolution camera, and pupil camera are in the downstream of AU1



Facility AO system

▶ AU1 actuator trouble





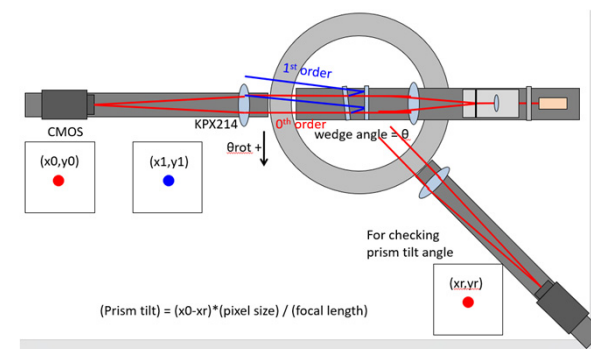
Facility AO system

▶ AU1 actuator trouble

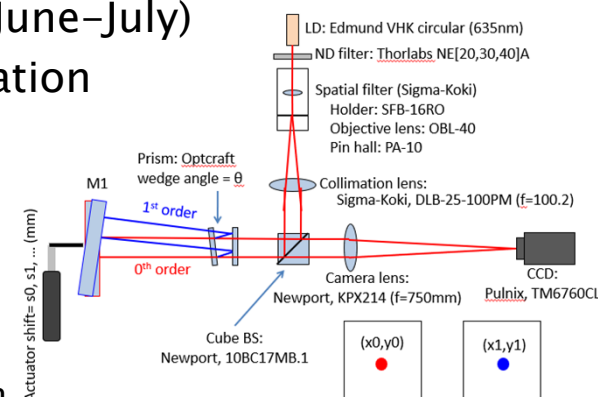
○ Timeline

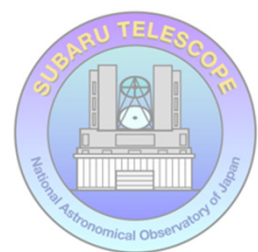
- Trouble found on 4/23/2026
- May
 - Operation test and determination of the cause
 - Actuator for MIY was found to be broken
- June–July
 - Prepare for tools, calibration set up, and spare parts
 - Set up the calibration system and measure the prism angle (June–July)
 - The prism is for the actuator motion and mirror angle calibration
- August–September
 - AU1 remove, actuator replace, calibration, AU1 reinstall
 - It will take a few weeks

prism angle calibration setup



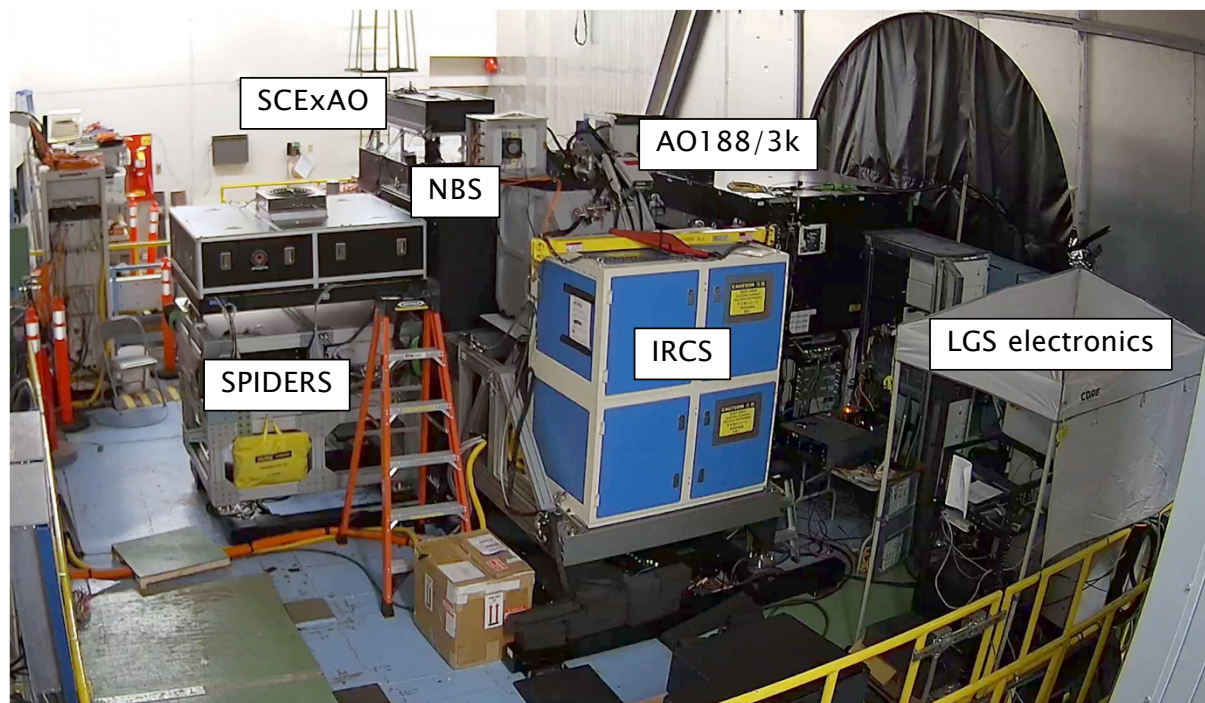
M1 calibration





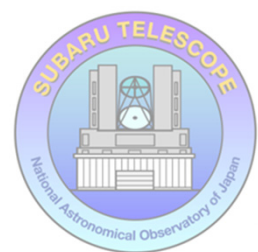
NsIR instruments

- ▶ Nasmyth Beam Switcher (NBS)
 - Successfully installed in summer 2025
- ▶ LTAO-WFS and NIRWFSv2
- ▶ SPIDERS
 - Dec. 2025 to June 2026
- ▶ NINJA
 - Installation July–Aug. 2026



see P07 Naoyuki Tamura

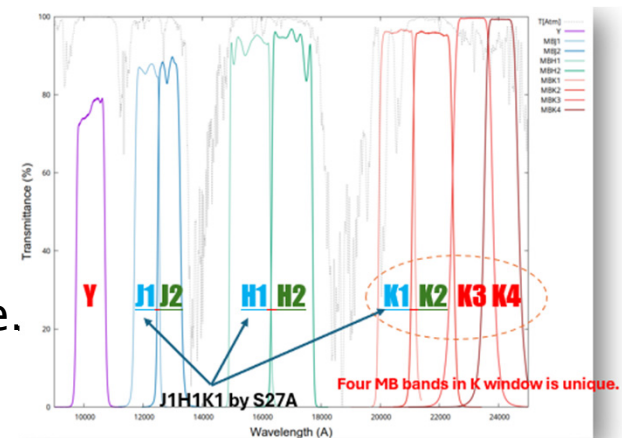
NsIR floor web camera (6/6/2026)



MOIRCS

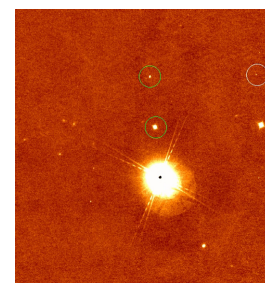
▶ New Filters

- MOIRCS Medium-band Filters: All 9-band filters will be ready by S27A!
 - Fabrication of the J1H1K1 Triple-medium-band filter has started (PI: Dr. Yusei Koyama).
 - Ghosts in MBJ2, MBH2, MBK2.
 - Be careful when using these filters
 - Maintenance in July–August 2026
- ✓ Some MBs: First contact the PI on submitting proposals or on use.
- ✓ Give acknowledgement to PIs on publishing these filters.

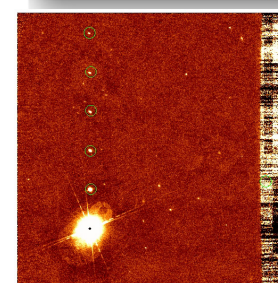


see P20 Ichi Tanaka

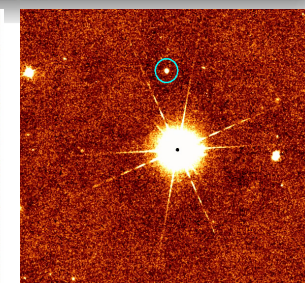
製作にあたっては、ULTIMATE-Subaru Project、科研費国際先導研究(PI: 宮崎聡)、
科研費基盤A(PI: 小山祐世)とハワイ観測所のお世話になりました。



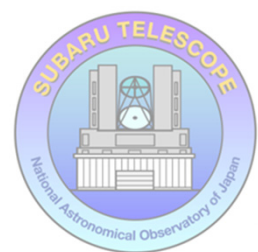
MBJ2



MBH2

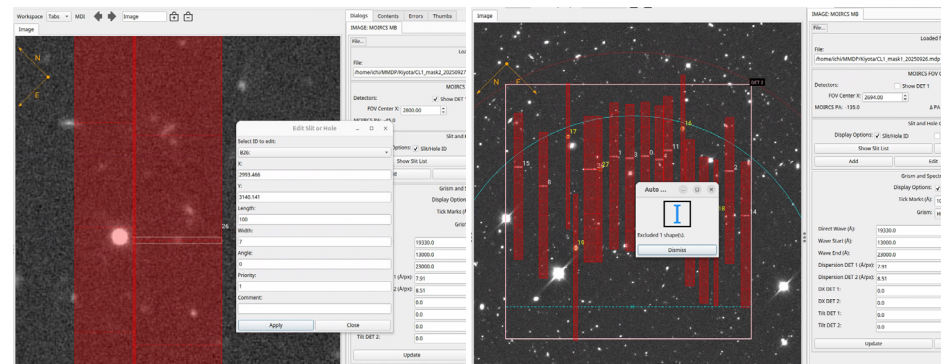
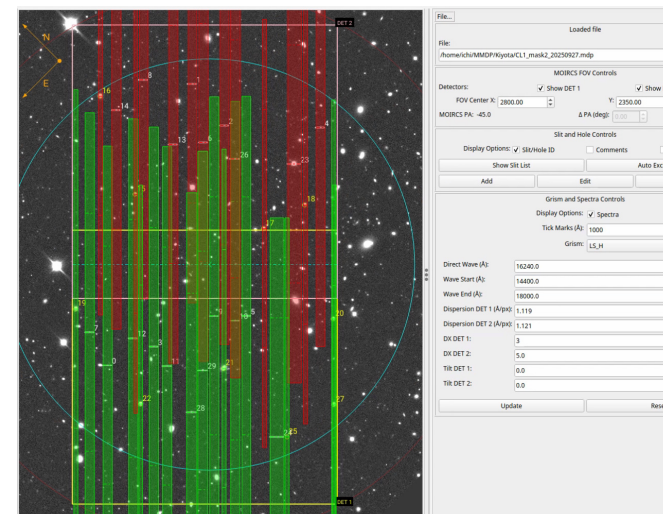


MBK2



MOIRCS

- ▶ The new MOS mask design software
 - MOIRCS Mask Builder “MMDP” is now available!
- ▶ Features:
 - Stable!!
 - Ch1 /Ch2 independent Design/view.
 - Flexible Zooming/Unzooming.
 - Automatic slit overlap check/ deletion.
 - ECSV file input/output support for full data record.
 - The WCS input/GAIA star selection will be added in future.



The MMDP (Minkyong’s MDP) works as a plugin of the “GINGA” FITS viewer (by E. Jesche).



Other Instruments

- ▶ FOCAS, HDS, IRCS
 - No major issue
 - IRCS high background issue (since 2024) still continues and is under investigation
- ▶ PI instruments/devices
 - Including the ones under development/commissioning
 - Please see the posters