

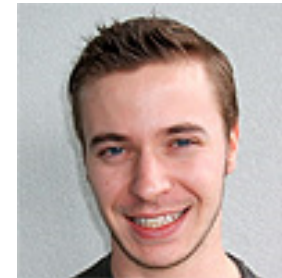
Instrument Status Report

Subaru Users' Meeting 2015

Takashi Hattori
(Instrument Division)

Instrument Division

- new members
 - Takashi Hattori
 - from June 2014
 - Sr. Instrument/Research Specialist
 - Christophe Clergeon
 - from August 2014
 - Instrument/Research Specialist
 - Maximilian Fabricius
 - from January 2015
 - Sr. Instrument Engineer



Summary 2015

Prime Focus

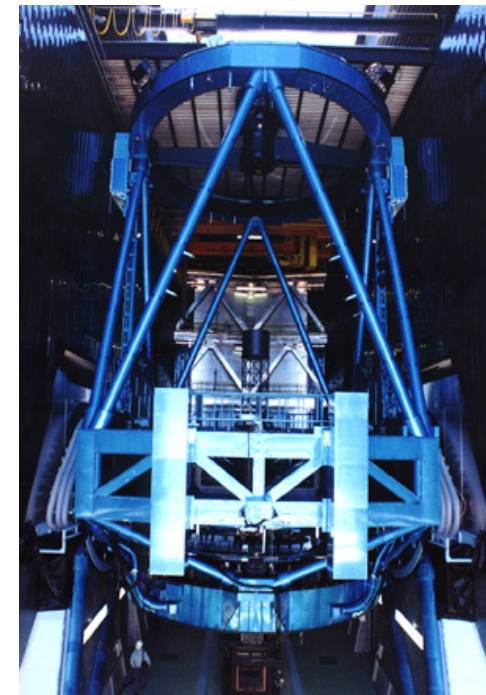
FMOS	IRS2 troubles, planning for decommission (from May 2015)
HSC	FEU maintenance, handover
SpCam	filter exchanger trouble

Nasmyth

AO188	new DM, TBAD, LGS trouble
IRCS	polarimetry mode open from S15B, filer-wheel 3 trouble
HDS	no major trouble, fiber-MOS unit progress

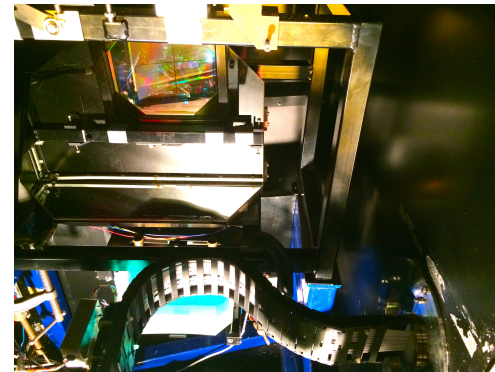
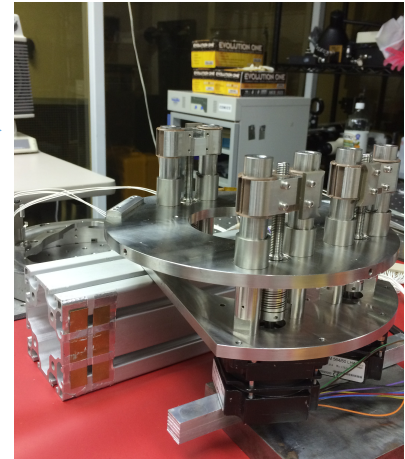
Cassegrain

COMICS	window damage, polarimetry mode status
FOCAS	readout electronics and MOS troubles, IFU status
MOIRCS	detector upgrade



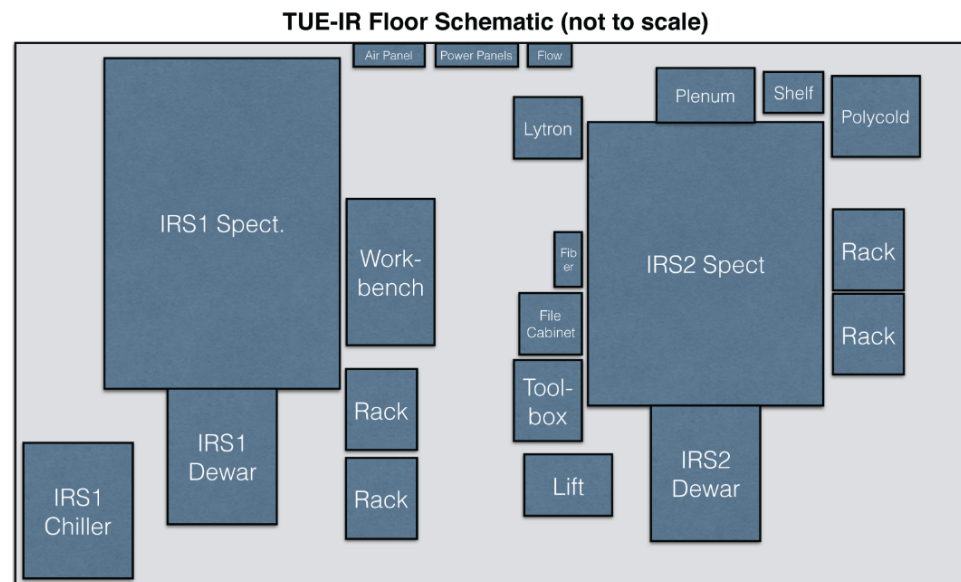
FMOS

- IRS2 troubles
 - detector focusing mechanism (2014-2015) → replaced a broken nut block for one of the lead screws
 - slit focusing mechanism stuck at rear hard-stop
 - grating-unit misalignment → the whole unit was rotated by ~ 1.5 degree
realigned but still not perfect
- IRS2 is now back in operation
- increased number of hot pixels (under investigation)



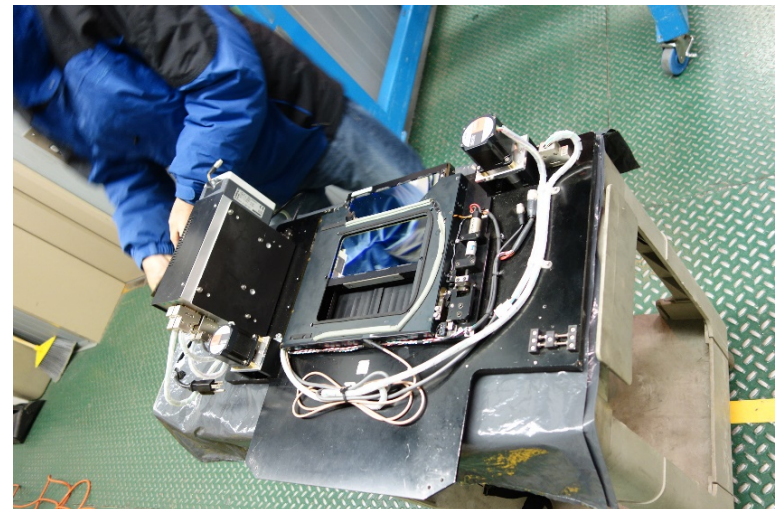
FMOS

- decommission (after Apr. 2016)
 - started planning for IRS1/2 removal work
 - 6-7 weeks from 4/25
 - keep detectors, (most of) electronics, and optical components usable
 - preparation for containers etc.



Suprime-Cam

- Filter exchanger trouble on 9/10/2015
 - motor failure in the shutter unit
 - observation canceled on 9/10
 - recovery work on 9/11
 - removal from the telescope, POpt, and Suprime-Cam
 - replacement of the failed motor
 - reinstallation
- observation recovered on 9/11



LGS/AO188

- upgrades
 - new DM, spare DM, TBAD, etc.
 - Please see the poster by Chris Clergeon (P12)
- LGS trouble
 - earthquake caused misalignment to the fiber injection system
 - also we had damage to the fiber which relays laser light to LLT
 - forced switching to NGS from LGS observation in September (1 open-use night)
 - recovered during observing-run in September
 - now LGS is back in operation
 - we expect improvements in 2016 to obtain the best (original) performance (including discussion with RIKEN)

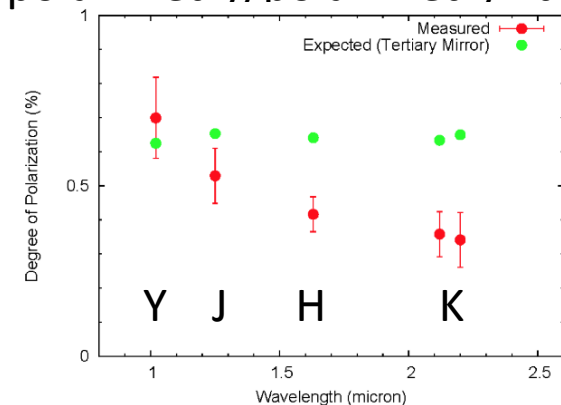
IRCS

- polarimetry-mode was opened in S15B
 - JHKK' imaging, zJH/HK grism spectroscopy

- characterization

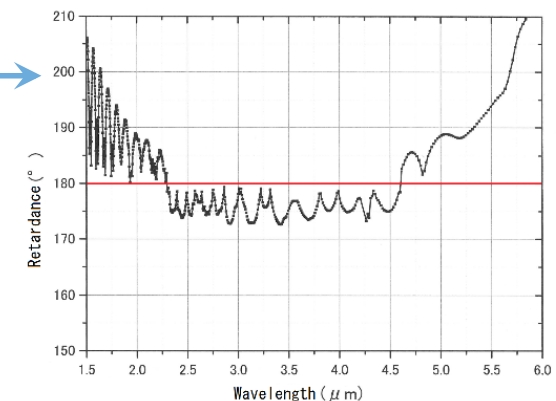
<http://www.naoj.org/Observing/Instruments/IRCS/polarimetry/polarimetry.html>

- instrument polarization →
- polarization efficiency



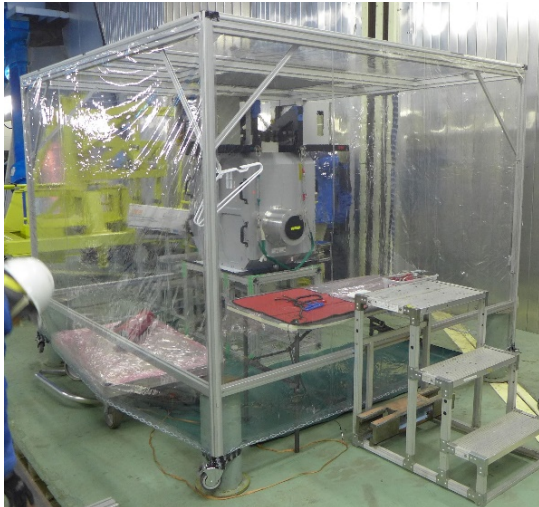
- future

- better characterization
 - stability, more accurate calibration, etc.
- half-waveplate for 2-5um (PI: Honda) →
- installation and test in 2016




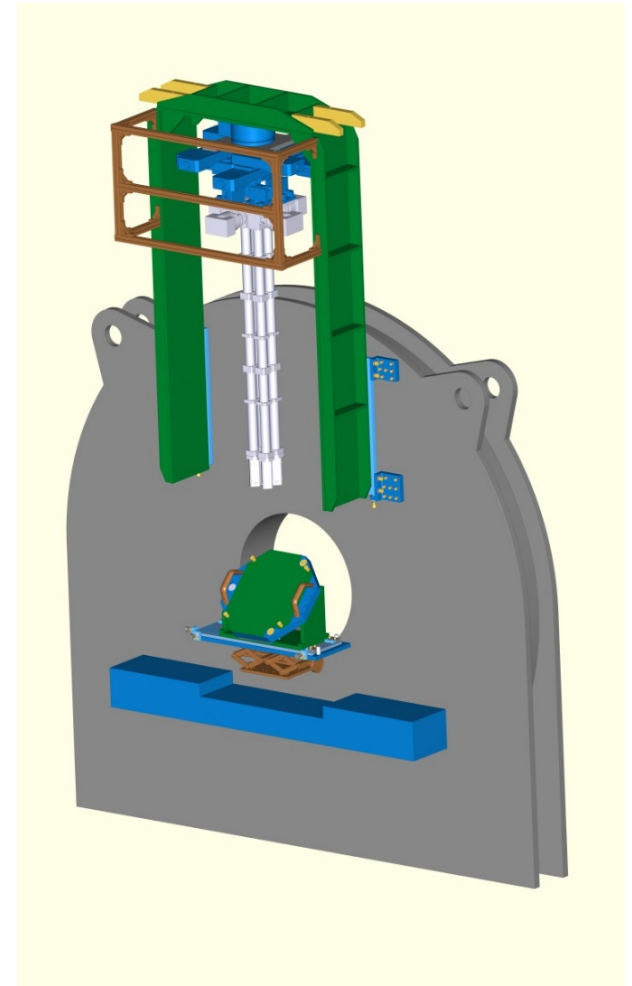
IRCS

- trouble with the filter-wheel 3 (CW3)
 - found to be stuck after cold-head replacement (10/21/2015)
 - disassembled the unit but couldn't find any apparent problem
 - smaller resistance to rotate after reassemble
 - no problem in test at the room temperature
 - now it is operational
 - sometimes it got stuck during homing procedure
 - normal filter exchange is ok
- planning to do full repair this summer



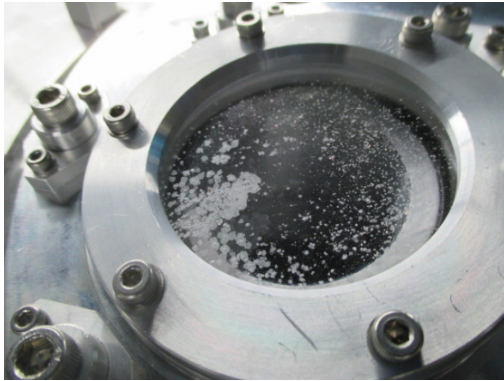
HDS

- No major trouble
- fiber-MOS unit (PI: Wako Aoki)
 - supporting structure and folding-mirror are now in Hawaii
 - design for mechanical interface 
 - fiber/camera units will be delivered within this FY

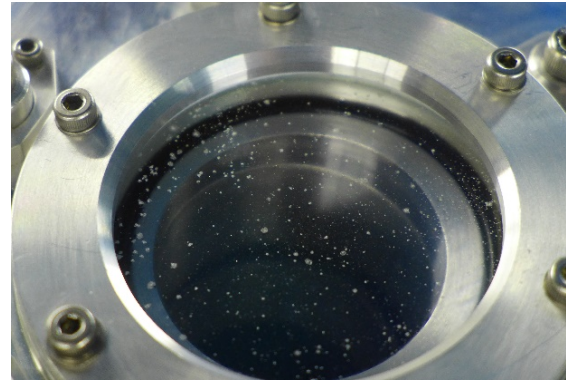


COMICS

- damages to COMICS window

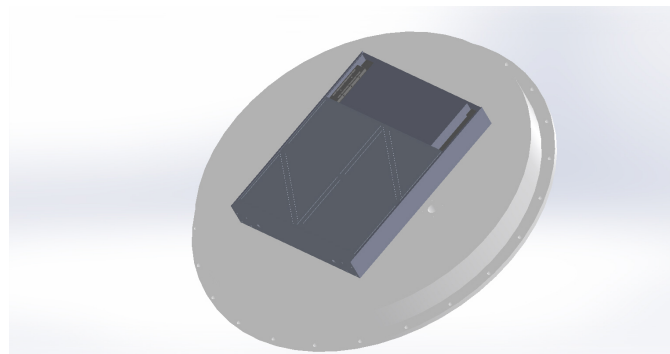


8/12/2015
after removal from Cs
waterdrop?



9/21/2015
irregular background pattern
probably condensation
observation on 9/22 was cancelled

planning to make a cover
in case of high humidity
at Cassegrain focus

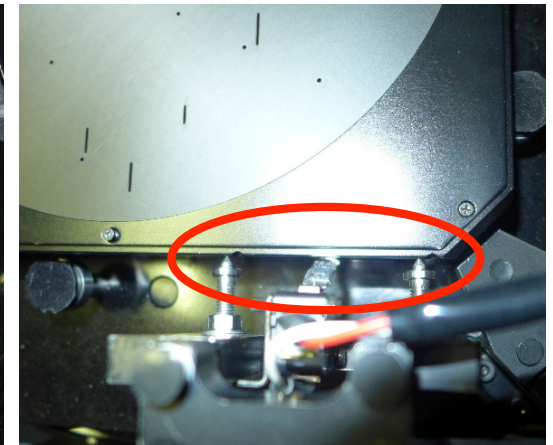
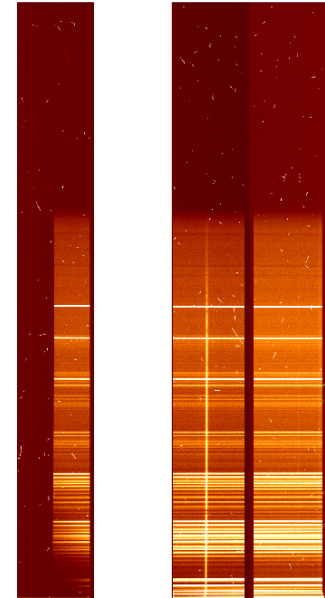


COMICS

- polarimetry mode status
 - damage to the repaired half-wave plate
 - probably during transportation
 - replacement is being fabricated
 - will be delivered in this FY
 - hopefully install and test in 2016

FOCAS

- CCD readout problem
 - Ch2 of CCD Chip2
 - occurred on 9/6/2015 and recovered on 9/20
 - replaced MF2_ADC2A board (circuit to adjust offset voltage)
 - no effect to the observations because of single targets
- MOS exchanger trouble
 - occurred in the morning on 6/22
 - found a loose screw
 - the screw caused failure to return the mask to stacker
 - next mask move resulted in mechanical damage to the system
 - cancelled 4 observing nights



FOCAS

- FOCAS MOS masks from HSC image
 - poster presentation by Chien-Hsiu Lee (P07)
- FOCAS Integral Field Unit
 - poster presentation by Shinobu Ozaki (P20)

MOIRCS

- detector upgrade
 - has been in Hilo since May 2015
 - hardware : detector unit
 - **software : completely new system (in house)**
 - alpha-particle issue → delay to the schedule
 - details in Max's presentation