



Observatory Report: Instruments

~ Status & upgrade plan ~

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Instrument Line-up

~ S04

AO
CISCO/OHS
COMICS
FOCAS
HDS
IRCS
Suprime Cam
--
CIAO



S05

AO
CISCO/OHS
COMICS
FOCAS
HDS
IRCS
MOIRCS (Imaging)
Suprime Cam
--
CIAO



S05 Instrument Line-up

AO : *Until the next AO system coming*

CISCO/OHS (OHS decommissioned on Sep, 2005)

COMICS

FOCAS

HDS

IRCS : *Upgrade for the next AO system*

MOIRCS (Imaging) : *2 nights in January*

Suprime Cam : *Ready for upgrade (new CCD)*

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CIAO : - $0''.1$ mask + $1''.2$, $2''.5$ mask, CH₄ (K) filter



Trouble shootings

CISCO

- Slit trouble
Guide rail destroyed → Replaced.
- Filter trouble
Incorrect movement of filter turret
→ Replaced motor driver.

FOCAS

- MOS trouble (2005 spring)
Jun. 02: Adjust the MOS mechanism w/ new parts
later: No crash using more strict interlock
- CCD noise (around 2005 spring)
Jul. 19: Found loose cable, and fixed it.



Trouble shootings (con.)

AO

- Cable misconnection

Install automatic connector on Dec. 2005.



Ongoing & Future Upgrades

AO

- Auto parameter tuning
Accumulating wave-front data in open use observation since 2005 summer.

FOCAS

- Efficient procedure for acquisition in MOS mode
5-10min reduced.
- Nod-and-shuffle
Will be tested in FY2006.

COMICS

- Polarization function
under preparation.



Suprime-Cam Upgrade

At some point after 2006 summer,,

1. Hamamatsu CCD
better sensitivity in longer wavelength (QE>60% @ 1um)
2. M-Front2
faster readout (60s → 15s)
3. Pulse-tube Cooler
→ Maintenance-free system

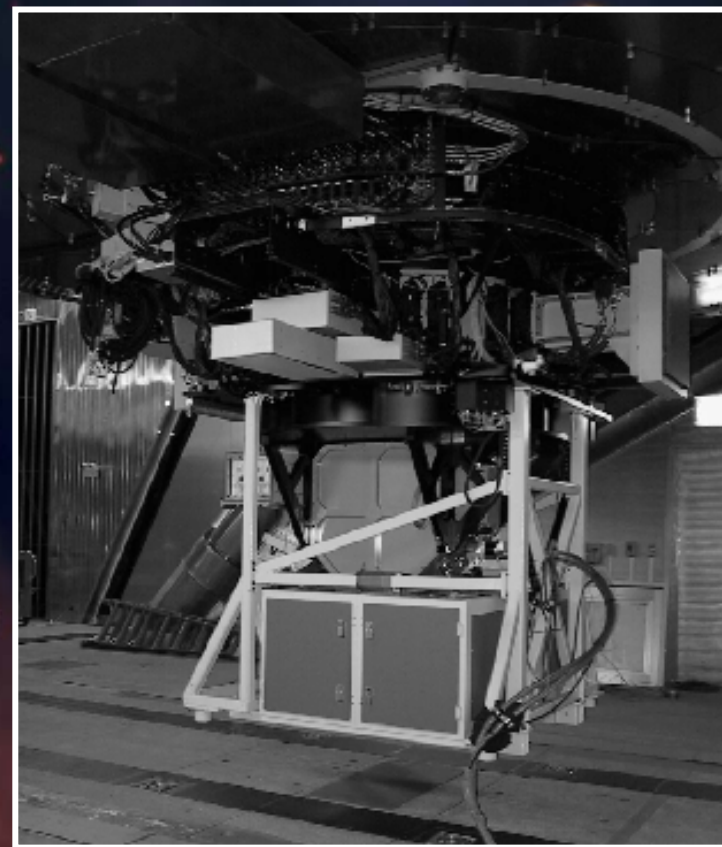
Please see [Furusawa-san's poster](#) and
give any comments to him.



Nasmyth IRCS Upgrade

Cassegrain IRCS:

- Last run on Jun. 27, 2005
 - Down from Jul., 2005
 - Upgrade completed in middle of Dec. 2005
- New structure for cryostat support
New baffling around focal plane
New pupil stop

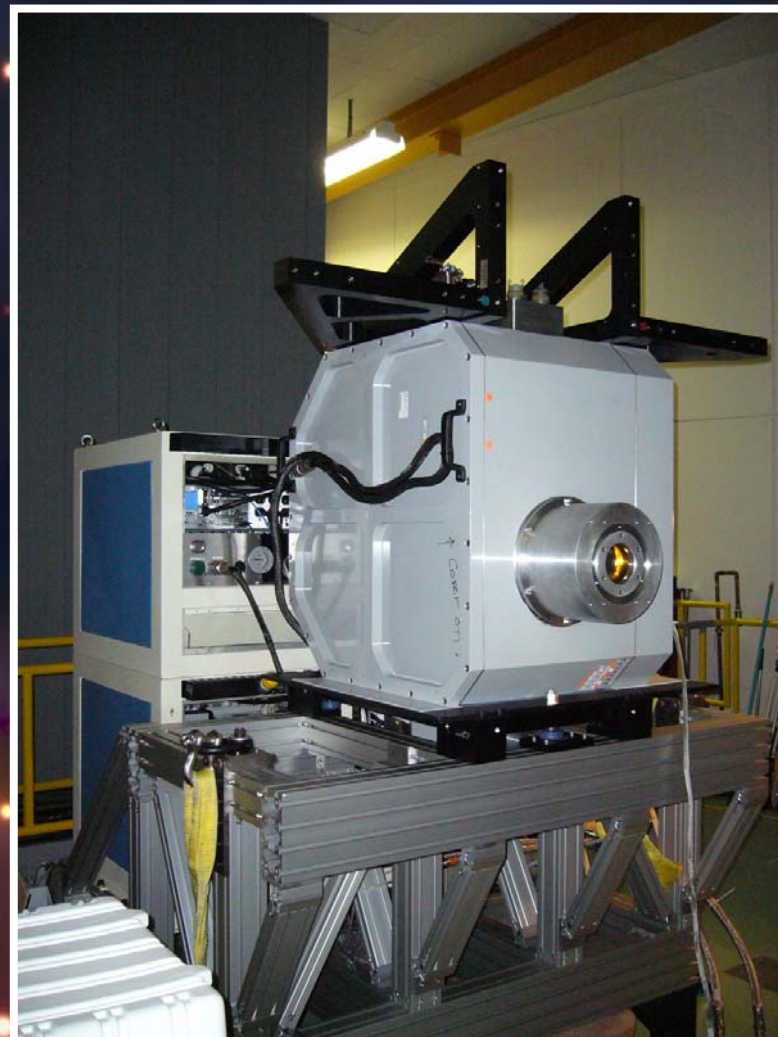




Nasmyth IRCS Upgrade

Nasmyth IRCS:

- Installed on NsIR floor on Dec. 20, 2005 (yesterday)
- Test observation w/o AO on Jan. 13--, 2006
- Will be open from May 2006 w/o AO mode
- S07: will be open w/ AO system

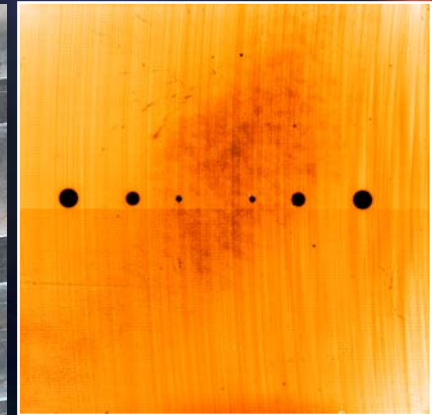




Nasmyth IRCS Upgrade

New functions

- HK low-resolution grism
- KL low-resolution prism
- Coronagraph mask
- New reflective slits



Future upgrade

- Polarization function
wire-grid polarizer installed
HiCIAO team will install wave plate at NsIR
- **Si immersion grating**
spectral resolution 20,000 → **>70,000**



Instrument Near Future Line-up

S05

AO

CISCO/OHS

COMICS

FOCAS

HDS

IRCS

MOIRCS (Imaging)

Suprime Cam

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CIAO



S06

AO → 188 AO

CISCO

COMICS

FOCAS

HDS

IRCS

MOIRCS

Suprime Cam

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CIAO → HiCIAO