Telescope status report

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Subaru UM FY 2014
Tomono, the chief of the telescope engineering division for nearly 9 years, has left NAOJ. We thank for his long-term great contributions to Subaru Telescope!
Summary

• We are continuing to *maintain and upgrade* the telescope sub systems
• We are troubleshooting *different kinds of failures* because of aging of parts
MAINTENANCE AND UPGRADES
Recoating of tertiary mirrors

- Tertiary mirrors for visible light and infrared were recoated with aluminum and silver.
- Cause of the trouble in inserting and extracting visible tertiary mirror was spotted and fixed.
Upgrade of top unit exchanger

- Tape switches were added to detect unexpected collisions of moving parts
- Slow slew buttons were added for easier adjustments of positions
Upgrade of dome barcode

- Barcode is used to detect dome angle
- Discontinued barcode readers were replaced with current readers
- Checksum algorithm was discovered and implemented. This made dome drive control smoother.
Upgrade of local control units

- ADCU  Atmospheric Dispersion Control Unit
- CTCU  Cable Twister Control Unit
- FRCU  Field Rotation Control Unit
- MCU   Mount Control Unit
- SMCU  Secondary Mirror Control Unit
- TTCU  Tip-tilt Control Unit
- CVCU  Cover Control Unit
Commissioning of HSC

- Handling of top unit and filter exchange units are becoming smoother and being transferred to day crews
- Weights were added onto COMICS to balance the telescope
- Drift of best focus position through the night is being investigated
Preparation for upgrade of TWS1/2

- Compaq Alpha computers need to be replaced
  - We had to replace a power supply
  - Faulty DAT prevents backups being created
- A new set of GUI is being prepared with Qt
Troubles on primary mirror covers

- Tension of wire on a door U-2B-I-B was adjusted
- Roller on lower cover L-B was replaced
- Additional close sensor on section U-3D is being installed
- Drive belt for cell cover was replaced
Monitor for hydrostatic pump

- Monitor computer for hydrostatic pump was replaced with a new computer and a newly designed set of interface.
Early morning check

- An automated check of status of the telescope is now executed every morning

07:35 TUE, JANUARY 6

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[NG:1] Early Morning check 1/6/2015
To whom this may concern,
Good morning everyone. This is TWS4 computer from summit.
Today's Early Morning Check Results are as follows:
*****01/06/2015 07:30:02*****
ANALOG Results ------------------...
DIFFERENT KINDS OF FAILURES
SH CCD shutter at POOpt

- Shutter is stuck half open and prevents mirror analysis
- We are still hunting for the cause
Crack under dome bogie rail

- Screeching sound while dome is rotating was found to be from cracks below dome bogie rail
- First trial to weld is done and the crack is being monitored
Faulty sensor on main shutter

- A faulty sensor on a main shutter prevented it from being closed
- The sensor was spotted and replaced
• We are continuing to maintain and upgrade the telescope sub systems
• We are troubleshooting different kinds of failures because of aging of parts, but ...
... we still alive with 2 new members!

- Okita is the replacement of Tomono (Division chief)
- Sato also joined

Hiroumi Okita  
Tatsuhiro Sato
the team is a good mixture of senior and (relatively) young, expert and novice members

Tomio, Kurakami
Yoshitake Nabeshima
Kazuhito Namikawa
Satoru Negishi
Hirofumi Okita
Tatsuhiro Sato
Koki Takiura
Seiichi Tazawa
Masami Yutani

and

two more members will join in FY2015