

INGRID At Cass
Instrument Change Checklist

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Revision History

0.1 First Draft

0.2 Notes after INGRID change on 02/10/00 by Maarten Blanken

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Preparation

1 Week Before Change

Vacuum
Cool down
Mechanisms check
Array
Helium Lines
INGRID Bracket mounting at Cass

1 Day Before Change

If schedules permits:
Place INGRID on trolley with the vacuum gauge on the inside. Use the plastic stops to prevent the gauge touching the back of the trolley.
Keep connected - cooling, vacuum check

Preparation Complete

Signed:
Date:

Instrument Change

Telescope Preparation

Check logbook for any restrictions
Make entry in the logbook and apply restrictions and permit locks
Turn on oil systems and Altitude & Azimuth power amps
Move telescope to zenith
Lock off telescope
Mount the locking cables on the telescope

Telescope preparation complete
Signed:
Date:

Instrument Preparation in Test Focal Area

Mount front plates from bracket on INGRID
Mount the top plate on INGRID
Mount the top bracket of the A&G box on this plate
Disconnect the electronic cabling from INGRID. Remove the SDSU controller.
Disconnect the CCC and Vacuum pump from INGRID immediately before moving.

Instrument preparation complete
Signed:
Date:

Instrument Mounting

If not already done, mount the rest of the INGRID bracket on to the A&G box
Bring trolley with INGRID up to observing floor
Mount the foreoptics on INGRID
Using the genie lift, raise INGRID and trolley up to the A&G box
Move into place and bolt on
Reconnect the CCC and turn on immediately
Secure loose cables

Instrument mounting complete

Signed:

Date:

Rack Mounting

Using the genie lift move the INGRID racks into place
Bolt onto the A&G box

Rack mounting complete

Signed:

Date:

Instrument Cabling

Connect SDSU controller
Connect Pressure gauge
Connect power supplies
Tidy up the loose cables

Instrument cabling complete

Signed:

Date:

Aligning

Clear the A&G port on the opposite side of INGRID (port F)
Mount the laser mount in the M6 hole
Place the alignment targets at the laser and at INGRID side of the A&G box
Important: move blanks into the beam of INGRID to ensure no laser light falls on the detector
Protect INGRID from direct laser light unless you are positive there are **dummy filters** in the filter wheel
Align the laser with the targets
Remove the targets from the A&G box
Remove cover from fore optics when you are sure there are **dummy filters** in the filter wheel
Adjust INGRID using the bolts it is mounted on

Adjust INGRID until the back-reflections are over each other and forming an interference pattern of minimal 2 complete sets of rings (see fig 3)
Fasten all INGRID bolts and look if alignment hasn't changed
Remove laser from telescope and close the A&G port used for the laser

Aligning complete

Signed:

Date:

Balance Telescope

Paper calculation on moments removed and added
Release telescope when you are sure it is near to balance but slightly bottom end heavy
Check top to bottom
Check across the cube
Check top to bottom

Telescope balance complete

Signed:

Date:

Final Checks

Start up the observing system
Check all mechanisms datum and move correctly
Check temperature
Check detector
Check focus

Final checks complete

Signed:

Date:

Instrument Change Completed

Signed:

Date:

Pictures as illustration

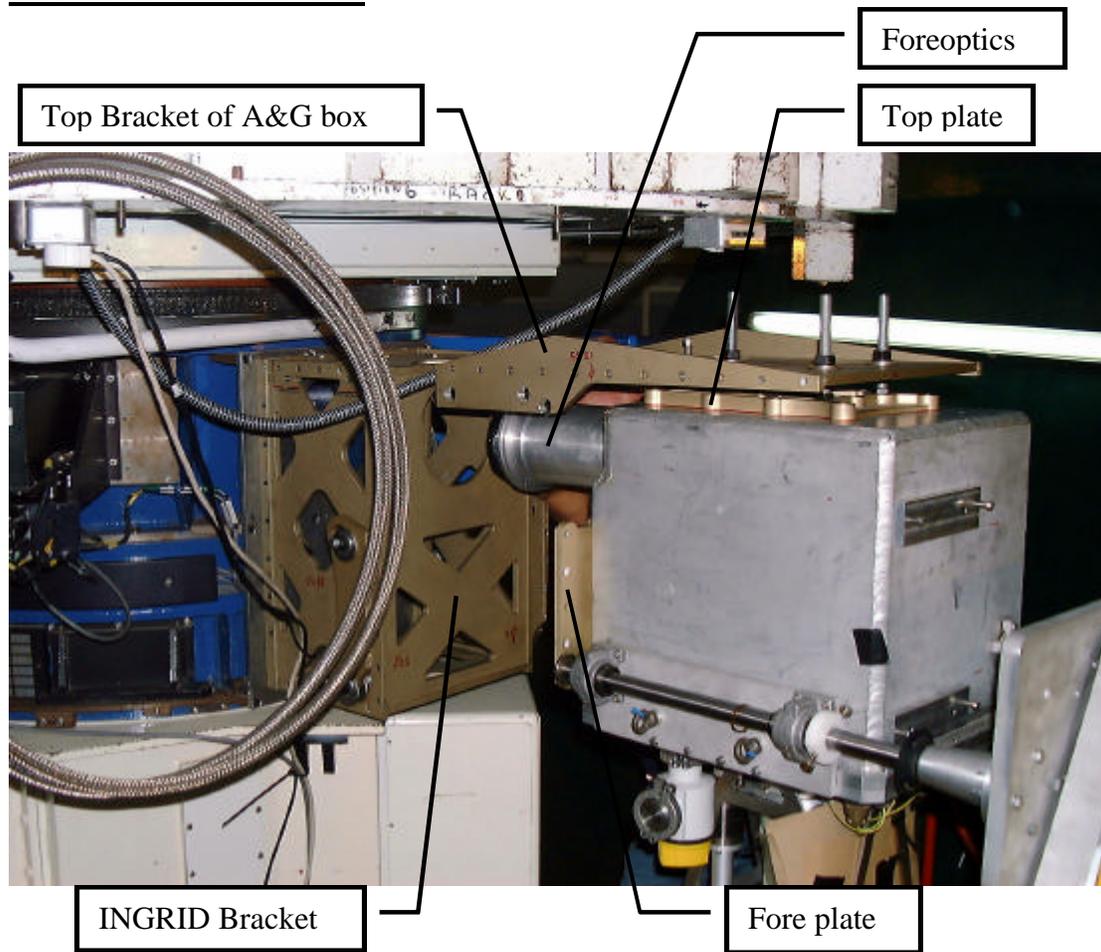
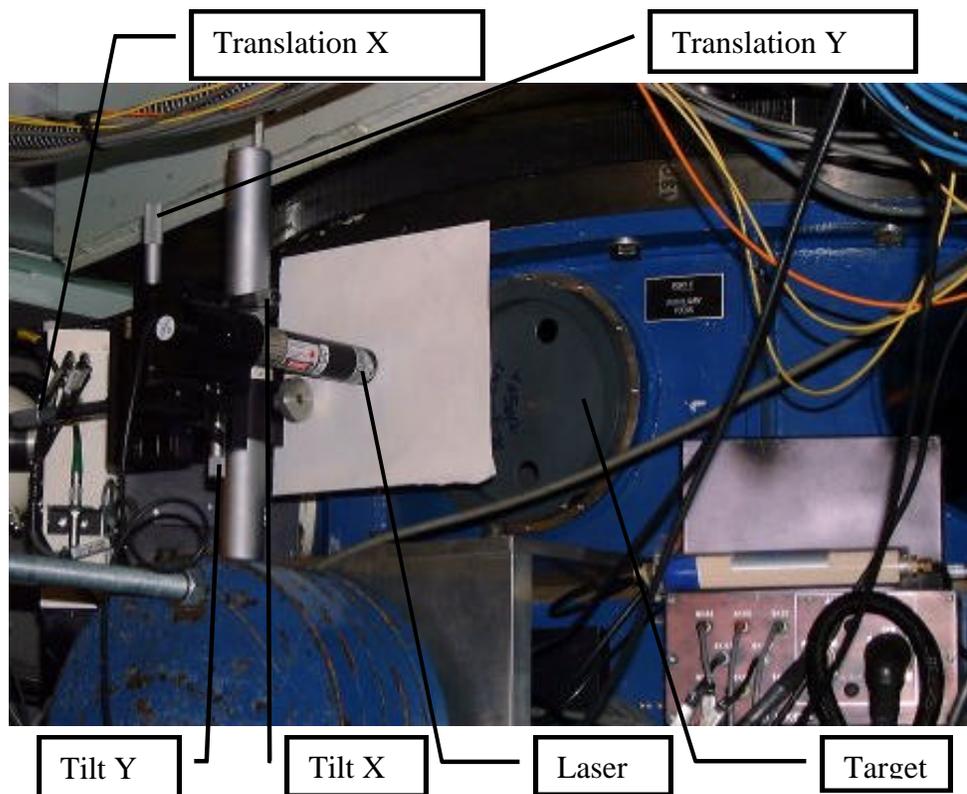


Figure 1 INGRID on Genie Lift being located on the telescope



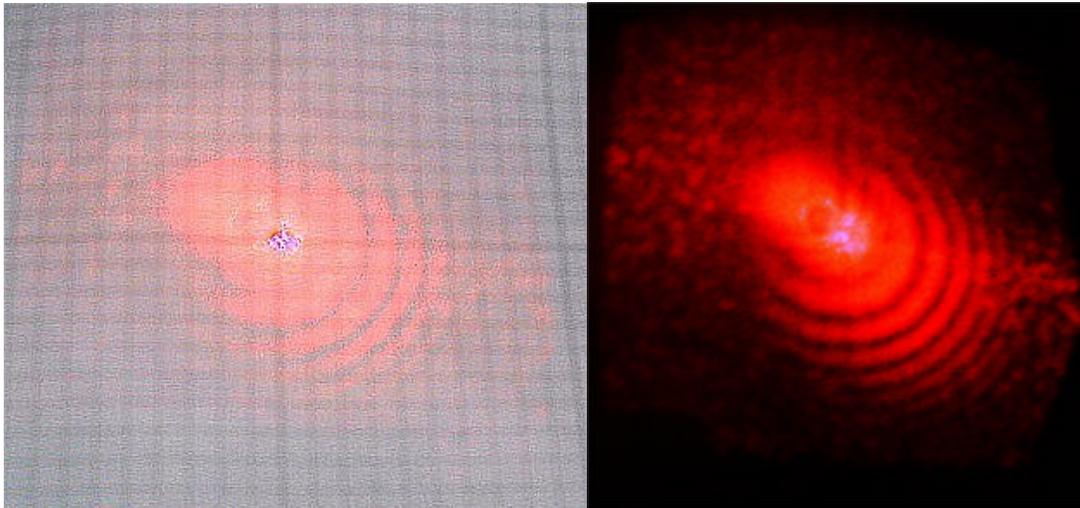
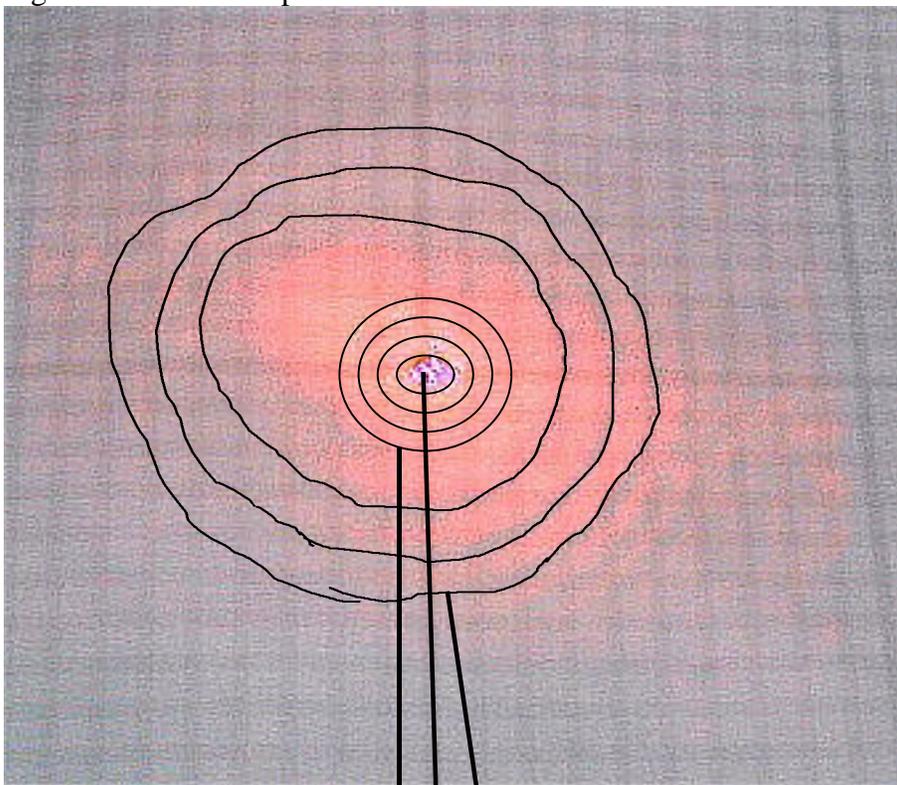


Figure 3 Interference pattern 03/10/00



First interference pattern

Second interference pattern

Laser exit

Figure 4 Interference fringes