

# OASIS DE Checks

## 1. Starting the Observing System

- Reconfigure DEWAR if necessary.

Note: You need to restart all DAS camera servers you change, even if you just change from 'KEEPCOLD' to the instrument specific name.

MITLL3	159.911	160	whtdas16	KEEPCOLD	<input checked="" type="checkbox"/>	ACK
AG3	249.895	258	whtdas30	KEEPCOLD	<input checked="" type="checkbox"/>	ACK
ANDOR1	233.49200439453125	233	andorpc	KEEPCOLD	<input checked="" type="checkbox"/>	ACK

The instrument names to be used are OASIS (for MITLL3), NAOMIACQ (for AG3) and LUCKY(ANDOR1).

- The PC (currently *whticspc*) to the right of the ICS computer is not used at the moment (as of April 2013).

- When configuring OASIS into the observing system, ensure that NAOMIACQ (currently AG3) and LUCKY (currently ANDOR1) are also configured. If INGRID is also listed as an instrument, it has to be configured, too.

- Start the observing system in the usual way. Ensure that the following pop up windows appear:

- Talker
- Observing Log
- ULTRADAS camera mimic
- Who goes there?
- OASIS RTD tool
- ds9 image display window (used for the display of the RTD images)
- Acquisition tool

- Start up the Codeso software so that you use the INGRID/LIGHTPATH/OASIS/OBSTOOL control GUI as follows:

- Bring up a terminal on aodisplay2.
- Log onto the machine on which Codeso will be used (aoserver1 in April 2013):  
whtobs@aodisplay2> ssh -X whtobs@aoserver1
- Use the obssys command to set up the correct environment. Do **not** perform a startobssys.  
whtobs@aoserver1> obssys

- At this point you need to start the 'oasisserver' if it is not already running. To establish if it has already been started either (i) check that OASIS GUI is running on aodisplay2 and has status items which are not red, (ii) ask the person who is flattening the mirror or (iii) check whether the following processes are present using this command:

```
TO@aoserver1>ps -ef | grep ServerRunner
```

```

whlobs 13890  1  0 11:00:30 ?      0:12 java -DserverRunner=1 -Dname=aomode -classpath
/whl/release/lib/codeso.jar:/whl
whlobs 13875  1  0 11:00:29 ?      4:46 java -DserverRunner=1 -Dname=usp -classpath /whl/release/lib/codeso.jar:/whl/re
whlobs 7191  6823  0 14:29:44 pts/3    0:00 grep ServerRunner
whlobs 13858  1  0 11:00:27 ?      0:40 java -DserverRunner=1 -Dname=seemon -classpath
/whl/release/lib/codeso.jar:/whl
whlobs 13871  1  0 11:00:28 ?      0:22 java -DserverRunner=1 -Dname=plcmg -classpath /whl/release/lib/codeso.jar:/whl
whlobs 13886  1  0 11:00:30 ?      3:14 java -DserverRunner=1 -Dname=tcs -classpath /whl/release/lib/codeso.jar:/whl/re
whlobs 13888  1  0 11:00:30 ?      0:12 java -DserverRunner=1 -Dname=configurator -classpath /whl/release/lib/codeso.ja
whlobs 13881  1  0 11:00:29 ?      5:06 java -DserverRunner=1 -Dname=obstool -classpath /whl/release/lib/codeso.jar:/wh
whlobs 13873  1  0 11:00:29 ?      1:25 java -DserverRunner=1 -Dname=aoadc -classpath /whl/release/lib/codeso.jar:/whl/
whlobs 13869  1  0 11:00:28 ?      1:23 java -DserverRunner=1 -Dname=plcdc -classpath /whl/release/lib/codeso.jar:/whl/
whlobs 13862  1  0 11:00:28 ?      1:39 java -DserverRunner=1 -Dname=2ngrid -classpath /whl/release/lib/codeso.jar:/whl
whlobs 13884  1  0 11:00:29 ?      10:10 java -DserverRunner=1 -Dname=nbupdate -classpath
/whl/release/lib/codeso.jar:/w
whlobs 13860  1  0 11:00:27 ?      3:04 java -DserverRunner=1 -Dname=oasis -classpath /whl/release/lib/codeso.jar:/whl/

```

If these 'java -DServerRunner' processes are **not** present, then type:

```
TO@aoserver1> startoasisserver (no & !!!)
```

- To start the GUI type:

```
TO@aoserver1> startoasisgui (no & !!!)
```

- The GUI should appear. Once the server has finished starting up, all the status items in the (i) OASIS, (ii) OBSTOOL and (iii) Light Path tabs should be colour coded in either green or pink (excluding the ADC). If any item is in red then this indicates a problem. As of April 2013 the status of the Dichroic changer is red because this function has been moved to AOGUI. The commands can still be sent, though. (Pay careful attention to the OASIS mechanisms)

## 2. Take a test bias frame

[Access to the AO bench is NOT required.]

1. To configure the MITLL3 detector for AO observations, type at the prompt:

```
SYS@taurus> setcamera oasis
```

Ignore any error messages saying "Unable to handle the type for ...".

2. Take a bias image by entering at the prompt:

```
SYS@taurus> bias oasis
```

3. Display the bias frame with IRAF and check the noise with imexam. The standard deviation should be ~2.5.
4. Check the obslog to ensure headers are being collected.

## 3. Initialising the USP Mechanisms

1. In the next steps various bench mechanisms will be moved.

- From a safety point of view, make sure nobody is working inside GRACE at the AO bench.
- If another engineer/astronomer is flattening the mirror, **check whether you can have access to the AO light path for a few minutes.**

2. If this is the first night of an observer's run:

The AO bench should never be floating as it is not necessary any more.

3. Select the 'Light Path' tab page from the Codeso Control GUI. For each of the following mechanisms, go to their drop down menu and select **Initialise**. (Note that all the initialisations can be performed simultaneously.)

- NCU slide
- Irises - Spectral
- Irises - Continuum
- Irises - Simplex
- Filter focus

## 4. Take a test arc frame

This section should NOT be performed during the middle of an observer's run as it will alter the instrument configuration.

1. In the next steps various bench mechanisms will be moved.
  - From a safety point of view, make sure nobody is working inside GRACE at the AO bench.
  - If another engineer/astronomer is flattening the mirror, **check whether you can have access to the AO light path for a few minutes.**

2. You should already have selected the correct windowing and binning for OASIS while testing the bias. If not, type at the prompt:

```
SYS@taurus> setcamera oasis
```

3. Go to the OBSTOOL tab of the INGRID/LIGHTPATH/OASIS Codeso Control GUI. Use the configuration tool to set up the light path for an arc, as follows:

- Select the **Spectral config** to be **MR661**
- Select the **Spatial sampling** to be **0.26 spectro (22mm)**
- Select the **Observing mode** to be **Arc (Neon)**
- Click on the **Select All** button
- Click on **Configure Selected Items**

While OASIS and the AO bench are being configured, the status items on the Codeso GUI will appear in blue.

4. Check that the AO light path mimic is being updated. The status of moving mechanisms should be indicated by blue text. Once configured, (i) the mimic should display a light blue line starting from the NCU slide and reaching the OASIS detector, (ii) none of the mechanisms on the mimic should be colour coded blue and (iii) the five fields under 'Configure' on the OBSTOOL GUI should be colour coded green.

5. Take an arc image by entering at the prompt:

```
SYS@taurus> arc oasis 2 "Ne MR661_26"
```

During the exposure and its readout, check that the OASIS camera status is being updated on the light path mimic (in the bottom right hand corner).

6. Wait until the detector has been read out and has been 100% processed. Make sure the images are written (with TCS header information) to the observing log. The log should also display the OASIS configuration and observing mode (**MR661\_26 3**) under the column 'Filters etc'.
7. Immediately after the reading out, the Real Time Display Tool (RTD) should detect the new image file and load it to the ds9 display window. Check that this is the case.

8. Check that the OASIS image headers of the arc image are okay. These can be checked as follows:

```
SYS@taurus> imhead /obsdata/whta/2008????/r???????.fit | grep ^OA
```

The following headers should appear:

```
OAFCLASS=          3 / File Class (for DR)
OAPSCAL = 'n/a      ' / Imaging Plate Scale (microns/arcsec)
OACONFIG= 'MR661_26 ' / Configuration Name
OAFOCPL = 'Clear Aperture 1 ' / Focal Plane Id
OAENLRGE= '22 mm, 11.2 ' / Enlarger Id
OAFILTER= 'MR661,6214-7001,6161-7100,6.05,1.40,-3.33' / Filter Id
OAIMAGER= 'Clear aperture, ' / Imaging Id
OASAMPLE= 'TIGER lens array,1.19,8.24' / Sampler id
OAWDGSLSL =          1 / Wedge Slide (1=IN/0=OUT)
OAWDGAN = '-17.0    ' / Wedge Angle
OAGRISM = 'R300,300,21.6,SK5,7300,5500-9500' / Grism Id
OACAMPOS=          -3.330000 / Camera Position
```

9. Use IRAF to display the arc frame and check that an array of (thousands of) bright spots is present. These spots should all fall within the image array and *not* touch the top or bottom. There should also be a gap of ~50 pixels at the right hand side where the overscan region is. Use imexam and the 'r' button to fit a radial profile to one of the brighter spots. The peak counts should be ~20000-30000 counts.

## **5. Test Communication with the TCS**

[Access to the AO bench is NOT required.]

**Check the OCSCorbaDramaInterface is working:** Check that the sidereal time (**ST**) is being updated every second at the top of the AO light path mimic. If not, this is likely to indicate that either (i) the TCS is not running or (ii) there is a problem with the OCSCorbaDramaInterface and it should be restarted (see <http://www.ing.iac.es:8081/faultdb/DisplayFaultDetails.fmsc?FaultId=17037> for details).

**Check that autoguiding works from AOGUI:** On AOGUI (which is running on aodisplay2 verify that there is a big label on a green background saying Autoguider idle. If this is not the case, contact computing group (Luis).

## **6. Test the Acquisition Tool can grab images from AG3/OASIS**

[Access to the AO bench is NOT required.]

- 1 Type at the prompt:

```
SYS@taurus> setcamera oasis ag3
```

This will ensure that the correct windowing and binning is selected for the two cameras.

- 2 Locate the “Acquisition Tool” GUI.
- 3 Click on the menu option **Grab**, then select **Grab Acquisition Image**. A “Grab Image” GUI should appear. Check that the top parameter, “Duration (secs)”, is set to a low value (e.g. 1 or 0.1), altering it if necessary.
- 4 Click on **Grab Image**. This should take an AG3 exposure and automatically load it into the display window of the main GUI. (Some green and/or red overlays should also be drawn.) If there is an error message saying “Unable to find scratch file /tmp/acquisitionImage.fit” then click on ‘OK’ and click on **Grab Image** again. (The error sometimes occurs the first time the acquisition tool is used.)
- 5 Now click on the menu option **Grab**, then select **Grab OASIS Image**. An “OASIS Image Acquisition” GUI should appear. Check that the “Duration (secs)” is set to a low value (e.g. 1), altering it if necessary.
- 6 Click on **Grab Image**. This should take an OASIS exposure and automatically load it into the display window of the main GUI. (This should take less than a minute.) A yellow overlay should also be drawn.

### **Document History**

Rev 1.0 Dec 18th 2005 JR; OASIS checks based on INGRID checks document.

Rev 1.1 Nov 3rd 2007 JR; Parts removed already contained in principal WHT check document.

Rev 2.0 Nov 6<sup>th</sup> 2007 srix; new document.

Rev 2.1 Dec 18<sup>th</sup> 2007 srix, improved clarity and added instructions for starting CODESO

Rev 2.2 Apr 10<sup>th</sup> 2013 JR, Jure; new servers, included DEWARS information

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