2.4m Templeton Installation
Last Updated: 19/03/07 Steven Magee

Prerequisites

This procedure is used when installing the Templeton detector onto the 2.4m Multiple Instrument System (MIS) with the filter wheel installed. Instrument rotator needs to face North.

Equipment Needed

- Canned Air
- Allen wrenches
- MIS filter change kit.

Pump the cryostat until the vacuum stabilizes and then add liquid nitrogen. See separate vacuum instructions on how to pump & fill a cryostat.

Place the detector on the Hydraulic table and raise it up to within several inches of the MIS unit. Always keep the detector supported so that it cannot fall during the installation. Unbolt the detector cover plate and remove it.

Dust off the CCD window with canned air. Raise the hydraulic table to bring the detector up to the MIS unit.
Using the bolts that were removed previously from the cover, attach the detector to the telescope with the cables facing West. Use the short side of the allen wrench to tighten the bolts, as the long side will put too much torque on the bolts.

Make sure that the CCD power supply is turned off before attaching the two CCD cables to the controller, small connector first. Make sure that the connector locking rings click into the locked position. Turn the CCD power supply on and press reset on the controller (as shown in the photo).

If the filters need to be changed, use the allen wrench in the filter kit to remove the filter access cover on the MIS unit.

The numbers are marked on the filter wheel locations. Move the wheel by hand to the correct location, taking care not to touch the filters, and change the filter using the filter holder and allen wrench in the filter kit. When tightening the allen screws, do not overtighten – just finger tight is good. Note the filter types and locations in the filter wheel.

The telescope should look like this when finished. Check the balance log and make sure that the telescope is balanced correctly.
Now set up the computer system.

**Computer System Set Up**

- Log into hiltner.
- From the background menu, type `telconfig` and follow the prompts.
- In an xterm, type `telconfig` and follow the prompts.
- In an xterm, type `misfilter` and follow the prompts.
- From the background menu, select “Telescope control – XTCS”.
- From the background menu, select “Telescope control – XMIS”.
- On both the XTCS and XMIS displays click on “Initialize”.
- From the background menu, select “Data acquisition – ccdcom”.
- In the ccdcom window that pops up, type “ccdcom”.
- In the ccdcom window, type “dftempleton” to download the ccd program.
- In the ccdcom window, type “ut init” to initialize the detector utility board.
- In the ccdcom window, type “!pwd” to see where the directory is where the images will be stored.
- In the ccdcom window, type “bias”.
- In the ccdcom window, type “go”.
- Click on the IRAF icon to bring up IRAF.
- Click on the DS9 icon to bring up DS9.
- Both of the above can also be brought up from the background menu on the Data Acquisition menu.
- In IRAF, change to the directory where the images are stored.
- In IRAF, type “disp<filename>” to see the image in the ds9 window.
- In the ds9 window, check that the fits header information is correct by selecting “File – Display fits header” from the menu.
- In ccdcom, type “sh op” and “sh cl” to check the operation of the shutter.
- Check operation of the guider if needed.
- Check telescope balance if needed.