

Leuschner Operational Instructions – Quick Start - revised 2-23-2023

Beginning of Night Procedure

LOG in to WEBCAM

1. **Chrome web browser:** search for **Amcrest Webview** app [EOL -unsupported, but required]
2. **Amcrest Webview:** search *leuschner.berkeley.edu:82*
3. **Log in window:** User: *talon* Pswd: {see Admin} [Under Settings: Turn on IR light if OFF]

LOG In to TALON

1. **Terminal:** - *ssh -X (or -Y) talon@leuschner.berkeley.edu*
2. **Terminal:** - *ssh -X (or -Y) talon@192.168.1.195*
3. **Terminal:** *firefox* [opens firefox web browser in **XQuartz**]
4. **Firefox:** Go to *192.168.1.210:81* [opened talon log in window within firefox]
5. **DDL Controller:** Click on SBIG CCD power to **ON**, then **logout**
6. **xQuartz:** Close **firefox** window in XQuartz.
7. **Terminal:** – *killTel -all*, then *StartTel -all* [opens all xobservatory windows plus flip mirror window (camera program opened)]

HOME ALL TELESCOPE FUNCTIONS

1. **xObservatory:** Click on **Find Home**
2. xObservatory: **Home** window: Click on **Scope Dec/Alt** [Telescope finds home position-Confirm in Webcam and Text window]
3. **xObservatory:** Click on **Paddle**: Press Y button until **Dec = +15°** [Confirm in webcam and in xObs Current position]
4. **xObservatory:** Home window: Click on **Scope RA/Az** [Telescope finds home position-Confirm in Webcam and Text window]
5. **xObservatory:** Click on **STOW. xObs Query window – YES** [Telescope finds STOW position-Confirm in Webcam and Text window]
6. **xObservatory:** Home window: Click on **Dome** [Dome rotates to Home position – Confirm in webcam and text window]
7. **xObservatory:** Home window: Click on **Focus** [Secondary mirror moves to home position – Confirm in webcam, xObs, and text field – **25,600**]

INITIATE CAMERA FILTER PROCESS

1. **Terminal:** – *ps aux | grep camera* [outputs process numbers for camera]
2. **Terminal:** – *kill {camera process#}* [camera xwindow closes]
3. **Terminal:** – *cd /home/talon/xmccd-3.1.0/xmccd1* [change directory]
4. **Terminal:** - *./xmccd1* [error message followed by opening camera filter window]
5. **Xmccd1:** – set camera **filter**, {select 1=I, 2=R, V=V(*green*), 4=B, or 5=U},
6. **XQuartz:** close **xmccd1** window
7. **Terminal:** – *cd /home/talon*
8. **Terminal:** – *camera&* [camera program re-opens]
9. **Camera 3.44 Xwindow**– set Exposure : Dropdown: **Expose:** Choose **Setup...**
10. **Exposure Setup Xwindow:** **Binning = 2:2; Duration = {exposure time} Second(s)** [Press **Start** to take a CCD image – after readout, image appears in Zoom window]

BEGIN OBSERVATIONS

Select Instrument in **Flip Mirror**:

Port 1: SBIG CCD Camera; [See Leuschner Operational Manual for details]

Port 2: Visual Eyepiece Focuser [Onsite Use only];

Port 3: SFSU eShel Spectrograph – Requires separate LOG IN Procedure simultaneously.

[See SFSU Spectrograph Operations Manual for details]

Open Dome and Mirror Cover:

- 1 **xObservatory**: Roof – **Open** [Dome shutters open and Mirror Cover open – Confirm in webcam and Text window] -NOTE: Dome shutters open/close only if Dome is in Home position for power, but Mirror covers will always open/close regardless of Dome position.
- 2 **xObservatory**: Roof: Check **Auto** box – **xObs Query window – YES** : Status indicator turns green from red [Move the open shutters to the telescope position automatically and moves the dome as telescope tracks a target – Confirm in webcam]

End of Night Procedure

STOW all TELESCOPE FUNCTIONS

- 1 **xObservatory**: Click on **STOW**. **xObs Query window – YES** [Telescope finds STOW position- Confirm in Webcam and Text window]
- 2 **xObservatory**: Home window: Click on **Dome** {Dome rotates to Home position – Confirm in webcam and text window]
- 3 **xObservatory**: Click on Roof: **Close** {Dome Shutters close; Mirror covers close – Confirm in webcam and text window]

SHUTDOWN all PROGRAMS and LOGOUT of TALON

- 1 **Terminal**: – *firefox* [opened firefox within XQuartz]
- 2 **XQuartz: Firefox**: Go to **192.168.1.210:81** [open talon log in window]
- 3 **Firefox**: User: *talon* PSWD {See Admin}
- 4 **Firefox: DLL Controller**: Click on SBIG CCD power to **OFF**, then **logout**
- 5 **XQuartz**: Close *firefox* window.
- 6 **Terminal**: – *killTel -all*
- 7 **Terminal**: **exit** *talon@tcs-desktop* -> **exit** *talon@leuschgate*
- 8 **Chrome**: **logout** of Amcrest Webview – Close **Chrome**