

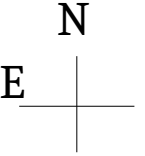
# **OptiPol Startup**

## **April 2019 at WIRO**

Original document: Michael Gordon & Karlen Shahinyan  
Revised for WIRO by Chip Kobulnicky

Startup at WIRO and notes (April 2019)

1) Install polarimeter so that filter wheel projects to the east. Then orient is and scale is 0.12"/pix when binned 4x4 (9 micron pixels x4) and 4096 chip. FOV is 40" north-south by 80" east-west limited by the Wollaston prism, not by the ccd area. Use the power supply attached to the telescope to provide 24 V to the BNC connection on the half wave plate interface. Terry Jones says filters are Astrodon UBVR I plus two comet or Cousins? filters??

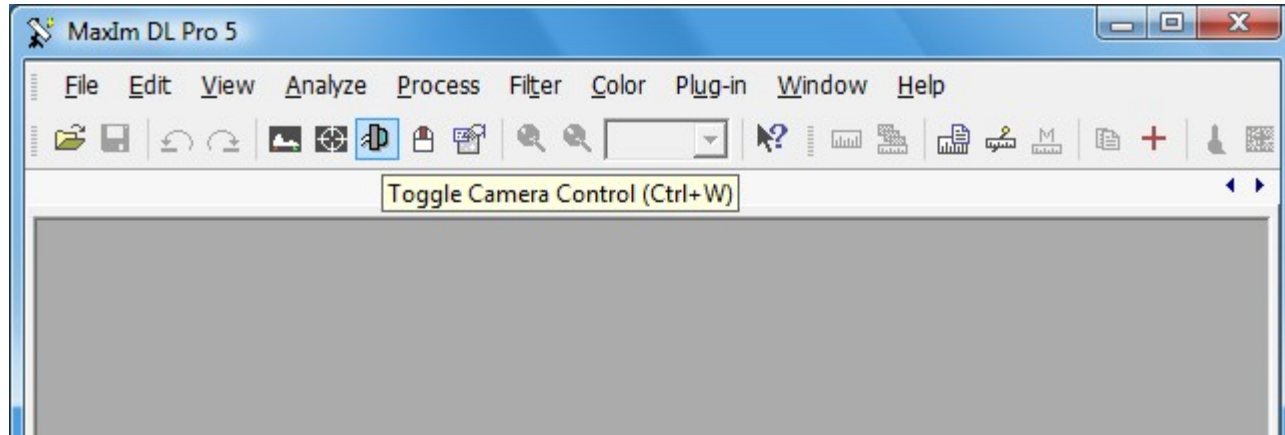


- 2) Nominal focus is 0.45 at 30 deg F. Bias level is near 1700. Gain=\_\_\_ RDN=\_\_ e- at -30C
- 3) Connect to the Windows Vista computer MLOF1 as administrator: vncviewer 10.214.214.133:5900 and the admin password
- 4) Half wave plate is usually on COM1. Camera plugs into USB card in the bus (COM >16). Filter wheel is on COM16 on rear USB (the only one that works...the lower right).
- 6) Start MaxIMDL; toggle camera control; under camera 1 setup filter; select DFM FW-82 on com16; connect w/o filter wheel; when waveplate is set to zero to to ASCOM filter/Advanced and select optipol driver;
- 7) Waveplate operates on a 24 V 0.2 amp power supply over serial cable.
- 8) If observing remotely, do not shut down MLOF1 because it cannot be awakened by powering on the PDU#1. It will recover from a sudden power loss.
- 9) Polarization standards are in polarimeter.cat catalog.
- 10) Domeflats: 

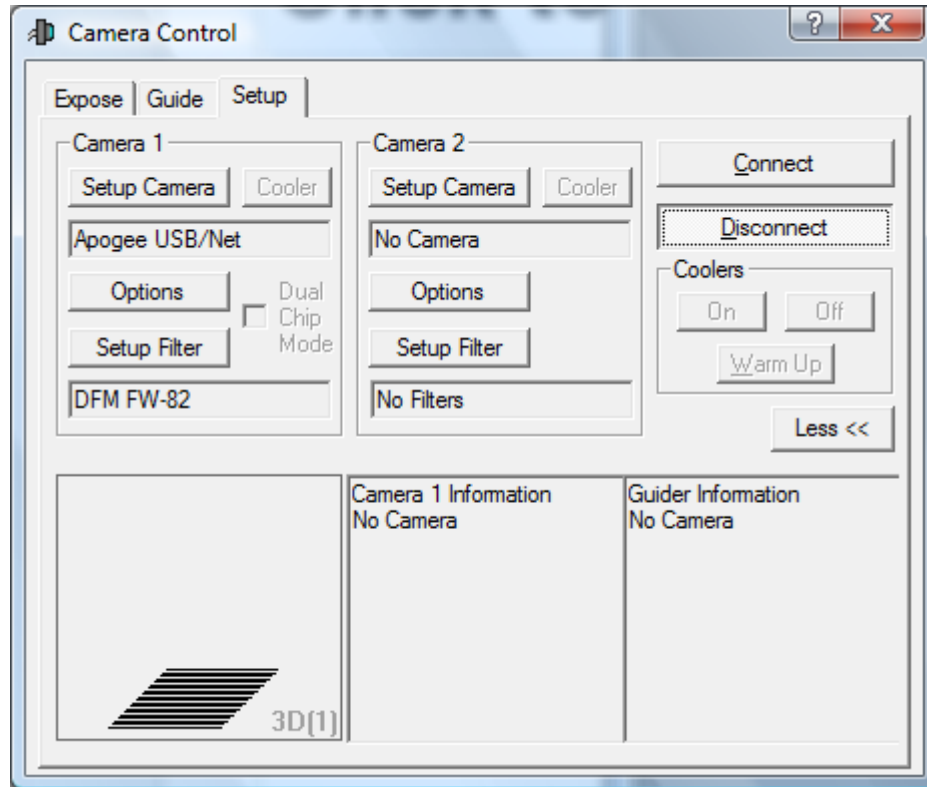
Filter	U	B	V	R	I
Lamp%	99	50	35	15	20
Exp(s)	25	15	15	15	15

# Open MaxIm DL

## Click on 'Toggle Camera Control'

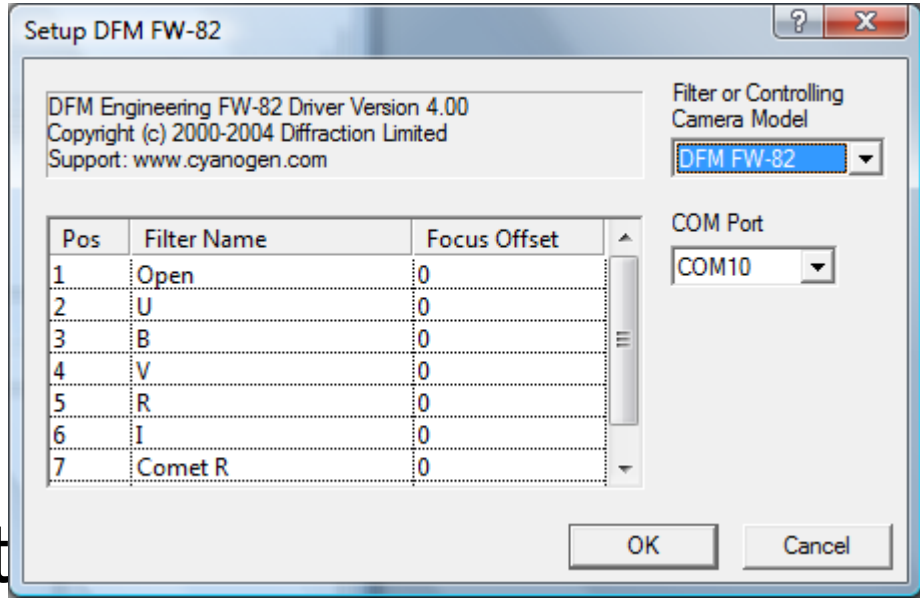


# Under Camera 1, select Setup Filter

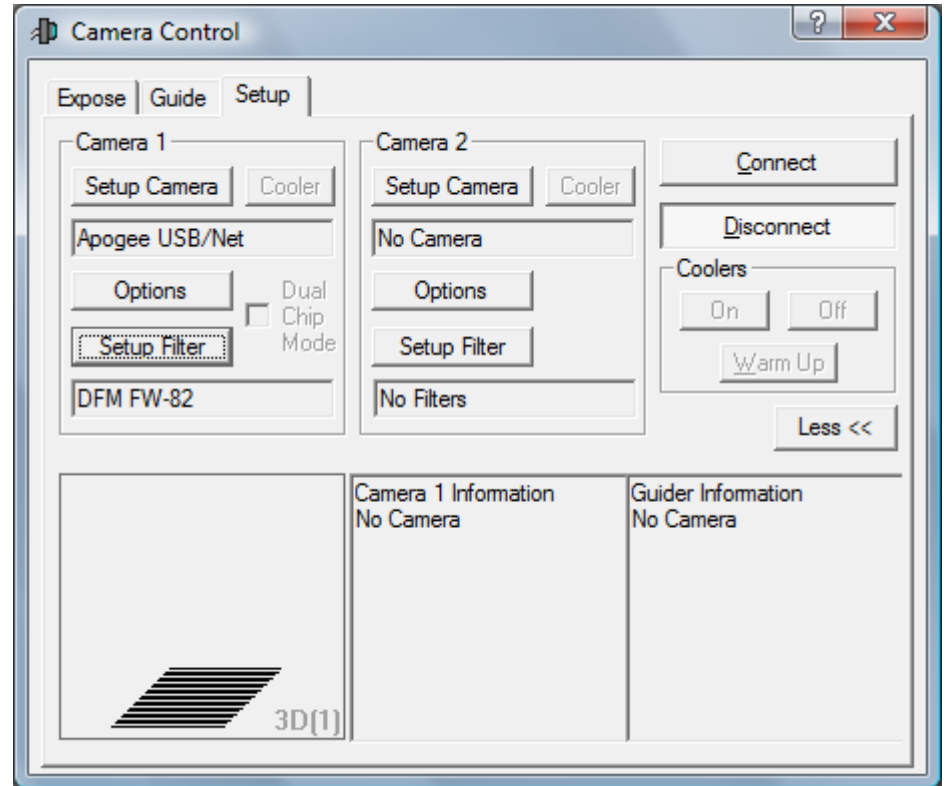


Select DFM FW-82,  
COM Port = 14(?)

Make sure the  
Filter Names read as  
shown (Pos 8 = Comet  
Click Ok

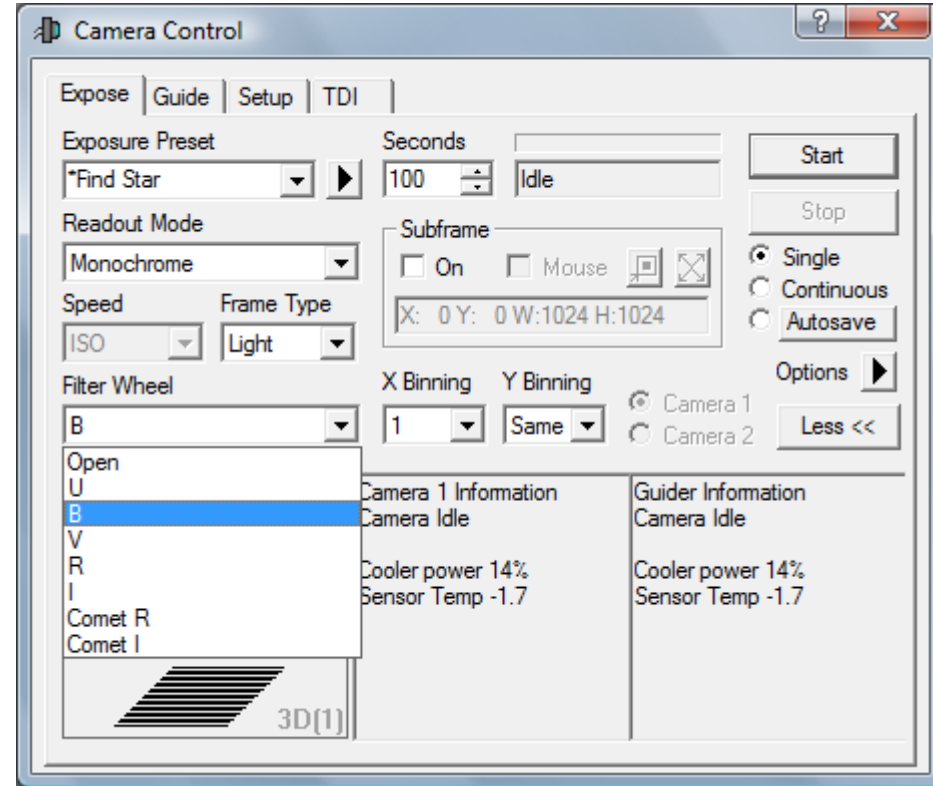


Make sure the camera and the filter wheel are ON and hit 'Connect'

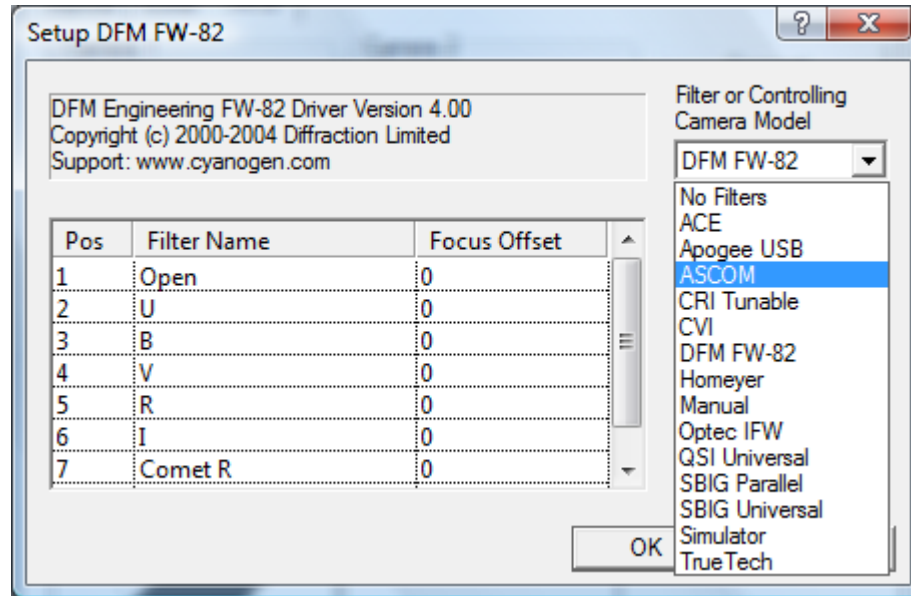


Switch to the 'Expose' tab and select the desired filter from the Filter Wheel dropdown

When Filter is selected, switch back to 'Setup' tab and hit 'Disconnect'



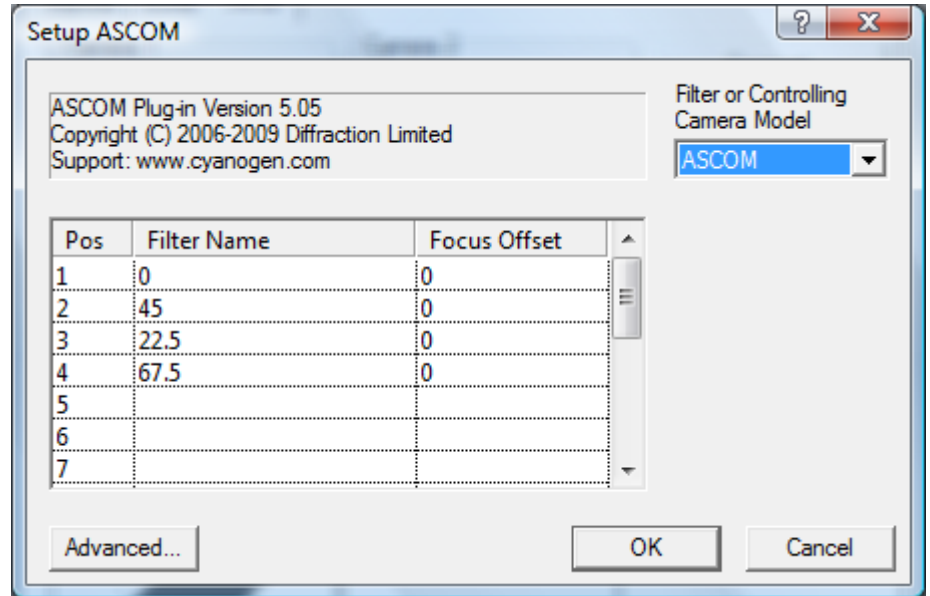
# Select 'Setup Filter' again for Camera 1 and choose ASCOM.





Make sure the positions and filter names match the image below.

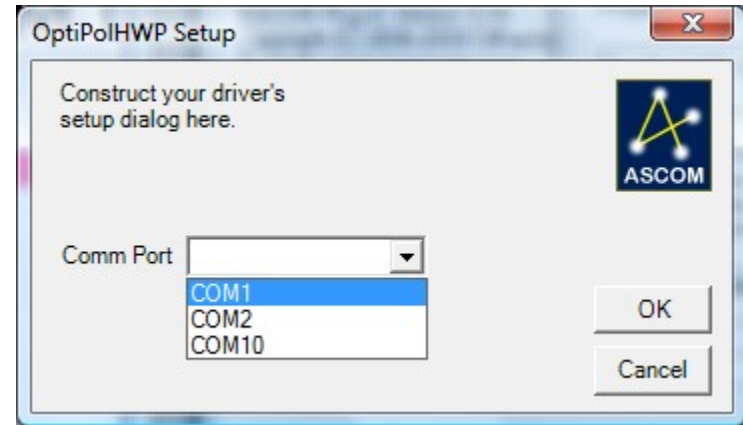
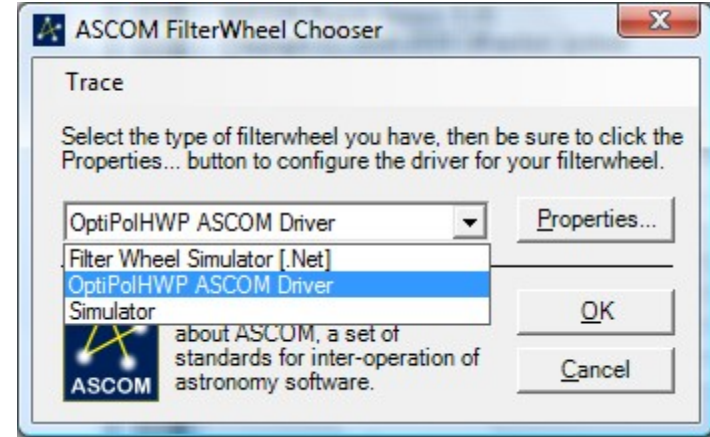
Press 'Advanced...'



From the dropdown menu, select 'OptiPolHWP ASCOM Driver'

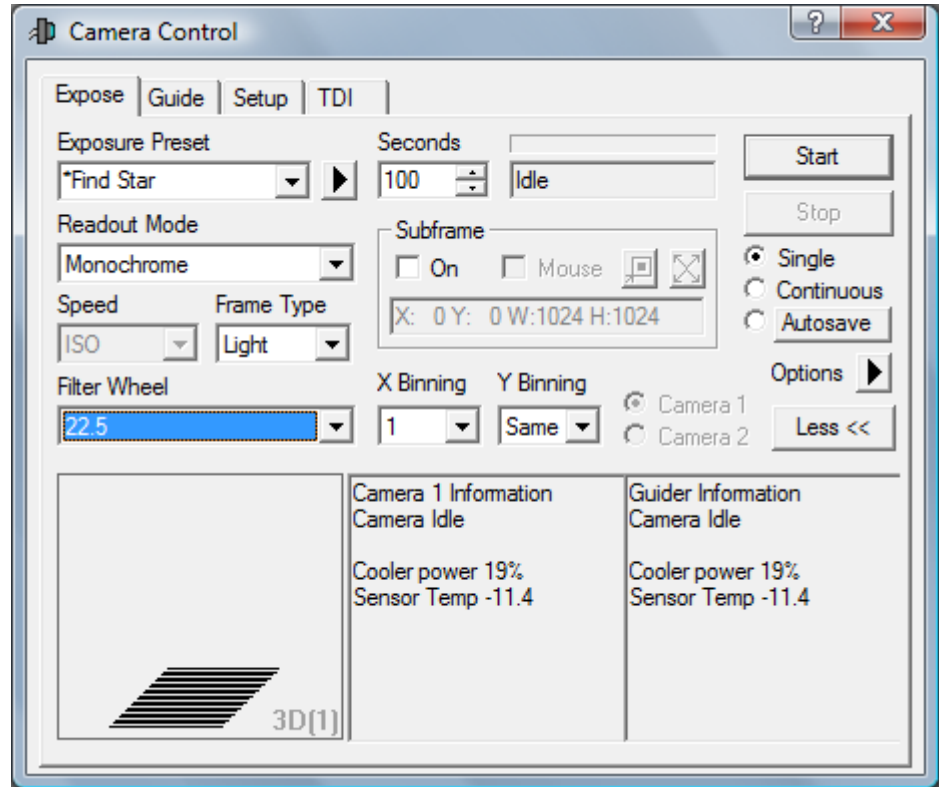
Click 'Properties'  
Select 'COM1' as the  
Comm Port.

Press OK, and OK again to  
return to the Camera menu



Press 'Connect' in the Setup tab and return to the Expose tab

The HWP position can now be selected from the Filter Wheel dropdown



# Demo sequence (in autosave):

**Autosave Setup**

Autosave Filename: Mrk501

Estimated Duration: 30m 21s

Delay First: 2 | Delay Between: 1

**Dither**

Off | Max. Deviation (pixels): 0

Via Guider

Via Mount

**Mosaic**

Capture | Setup

**Astrometric Resync**

Off

Sync Telescope

Correct via Slew

Solve Only | Interval: 1

Bin 2x2

Buttons: OK, Cancel, Apply, Options

Slot	Type	Filter	Suffix	Exposure	Binning	ISO Spd	Readout Mode	Repeat	Script
1	Light	0	_000	90	1	N/A	Monochrome	5	...
2	Light	45	_045	90	1	N/A	Monochrome	5	...
3	Light	22.5	_022	90	1	N/A	Monochrome	5	...
4	Light	67.5	_067	90	1	N/A	Monochrome	5	...
5	Dark	0	_120	120	1	N/A	Monochrome	10	...
6	Dark		_60	60	1	N/A	Monochrome	10	...

This sequence is saved as 'Mrk501'. The 'Delay First' and 'Delay Between' allow extra time for the camera to move

to the next filter. The 'Delay First' and 'Delay Between' allow extra time for the camera to move

## Optipol Removal instructions – 2019 Jun 4

- 1) Turn off PDU#3 to depower instrument devices
- 2) Unplug from Optipol: BNC connection from 24V power supply; power to ccd camera; power to filter wheel; two USB connections from long cables from control room; serial cable from control room; leave long cables into back of computer.
- 3) Coil up long three cables from optipol computer and store in Optipol desk, coiled neatly
- 4) Unplug from PDU#3 and remove from telescope: 24V power supply (undo big C clamps), power supply for ccd camera; power supply for filter wheel. Store these in OptiPol desk.
- 5) Unbolt 6 bolts holding OptiPol with socket wrench and remove instrument to Lab, covered in plastic; store bolt in red toolbox on observing platform.
- 6) Remove aluminum mounting plate from Cass end of telescope. Place it under table on observing platform. Use bolts for mounting Longslit or store them in platform toolbox.
- 7) Unplug OptiPol computer and move it on its desk to the far corner of the control room.
- 8)