### 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)

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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 UBVRI 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

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#### Open MaxIm DL Click on 'Toggle Camera Control'



#### Under Camera 1, select Setup Filter

Camera Control		? ×			
Expose Guide Setup					
Camera 1 Setup Camera Cooler	Camera 2 Setup Camera   Cooler	Connect			
Apogee USB/Net	No Camera	Coolers			
Options Dual	Options				
Setup Filter Mode	Setup Filter	Warm Up			
DFM FW-82	No Filters	Less <<			
	Camera 1 Information G No Camera N	iuider Information lo Camera			
3D(1)					

#### 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'

D Camera Control		? ×		
Expose Guide Setup Camera 1 Setup Camera Cooler Apogee USB/Net Options Dual Chip Mode DFM FW-82	Camera 2 Setup Camera Cooler No Camera Options Setup Filter No Filters	Connect Disconnect Coolers On Off Warm Up Less <<		
3D(1)	Camera 1 Information G No Camera N	uider Information lo Camera		

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'

D Camera Control		? ×
Expose Guide Setup TDI		
Exposure Preset Find Star	Seconds	Start
Readout Mode Monochrome	Subframe	Stop Single
ISO VILIGHT	X: 0 Y: 0 W:1024 H:1024	Options
B v	1 Same Car	nera 1 nera 2 Less <<
U B V	Camera 1 Information Guider Camera Idle Camera	Information a Idle
R I Comet R Comet I	Cooler power 14% Cooler Sensor Temp -1.7 Sensor	power 14% rTemp -1.7
3D(1)		

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

etup DF DFM Er Copyrigi	M FW-82 ngineering FW-82 Drive ht (c) 2000-2004 Diffrac	r Version 4.00 tion Limited	Filter or Controlling Camera Model
Support	: www.cyanogen.com	DFM FW-82	
Pos	Filter Name	Focus Offset	ACE Apogee USB
1	Open	0	ASCOM
2	U	0	CRI Tunable
3	В	0	E DEM EW-82
4	V	0	Homeyer
5	R	0	Manual
6	I	0	Optec IFW
7	Comet R	0	SBIG Parallel
,			SBIG Universal OK Simulator TrueTech

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

#### Press 'Advanced...'

ASCON Copyrig Support	1 Plug-in Version 5.05 ht (C) 2006-2009 Diffrac t: www.cyanogen.com	tion Limited	Filter or Controlling Camera Model
Pos	Filter Name	Focus Offset	*
1	0	0	
2	45	0	E
3	22.5	0	
4	67.5	0	
5			
6			
7			<b>v</b>

## From the dropdown menu, select 'OptiPoIHWP ASCOM Driver'

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

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

Trace	
Select the type of filterwheel you have, then b	e sure to click
roperties button to configure the driver for	your interwhee
OptiPolHWP ASCOM Driver	Properties.
Filter Wheel Simulator [.Net]	
OptiPolHWP ASCOM Driver	014
Simulator	<u>0</u> K
about ASCOM a set of	



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

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

D Camera Control		? ×
Expose Guide Setup TDI		
Exposure Preset Find Star	Seconds	Start
Readout Mode Monochrome Speed Frame Type	Subframe           □         On         □         Mouse            X:         0         Y:         0         W:1024         H:10	Stop  Single Continuous C Autosave
ISO     ▼     Light     ▼       Filter Wheel     22.5     ▼	X Binning Y Binning	Options ▶ © Camera 1 © Camera 2 Less <<
	Camera 1 Information Camera Idle Cooler power 19% Sensor Temp -11.4	Guider Information Camera Idle Cooler power 19% Sensor Temp -11.4
3D(1)		

#### Demo sequence (in autosave):

	Autos	ave Setup				12	-	-		N (* 1	(res)	? X	
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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 inplastic; store bolt in red toolbox on observing platform.
- 6) Remove aluminum mounting place 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.

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