### OptiPol Startup October 2017 at WIRO

Original document: Michael Gordon & Karlen Shahinyan Revised for WIRO by Chip Kobulnicky Startup at WIRO and notes (October 2017)

1) Install polarimeter so that filter wheel projects to the east. Then orient is and scale is 0.085 "/pix and FOV is 40" north-south by 80" east-west. Use the power supply attached to the telescope to provide 24 V to the BNC connection on the half wave plate interface.

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2) Nominal focus is 0.042 at 22 deg F. Bias level is near 1200. Gain=___ RDN=__ e- at -40C
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3) Connect to the Windows Vista computer MLOF1 as administrator using vncviewer 10.214.214.133:5900 and the admin password

4) Half wave plate is usually on COM1. Camera plugs into front USB, lower slot (COM19?). Filter wheel is on COM14 on rear USB (the only one that works...the lower right)

5) 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.

6) Polarization standards are in polarimeter.cat catalog.

7) Instrumental polarization table.

Band	U	В	V	R	1	cR
P%						
$PA_{_{ins}}$						

8) Domeflats in BVRI do 10 s at 99%,40%,35%,25% lamp. 30s in U at 99%

E

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



#### Under Camera 1, select Setup Filter

Camera Control		? <mark>×</mark>	
Expose Guide Setup			
Camera 1	Camera 2	Connect	
Setup Camera Looler	Setup Camera Looler	Disconnect	
Options Dual	Options	Coolers	
Setup Filter Mode	Setup Filter	<u>W</u> arm 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	iuider 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		? ×
Camera Control	Seconds 100 : Idle Subframe On Mouse X: 0 Y: 0 W:1024 H:10 X Binaina	Start Stop Stop Stop Stop Continuous Autosave Options
Filter Wheel B Open U B V R I Comet R Comet R Comet I 3D(1)	A Binning Y Binning ( 1 V Same V ( Camera 1 Information Camera Idle Cooler power 14% Sensor Temp -1.7	Camera 1 Camera 2 Guider Information Camera Idle Cooler power 14% Sensor Temp -1.7

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

Setup DF	M FW-82	Games 2	? ×
DFM Er Copyrig Support	ngineering FW-82 Drive ht (c) 2000-2004 Diffra :: www.cyanogen.com	Filter or Controlling Camera Model DFM FW-82	
Pos	Filter Name	Focus Offset	ACE Apogee USB
1	Open	0	ASCOM
2	U	0	CRI Tunable
3	В	0 =	DEM EW-82
4	V	0	Homever
5	R	0	Manual
6	I	0	Optec IFW
7	Comet R	0 +	QSI Universal
,	•		SBIG Faialler SBIG Universal OK Simulator True Tech

# 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 :: www.cyanogen.com	tion Limited	Filter or Controlling Camera Model
Pos	Filter Name	Focus Offset	*
1	0	0	
2	45	0	=
3	22.5	0	
4	67.5	0	
5			
6			
7			<b>v</b>
/			Ť

## 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

ASCOM FilterWheel Chooser	×
Trace	
Select the type of filterwheel you have, then b Properties button to configure the driver for	e sure to click the your filterwheel.
OptiPolHWP ASCOM Driver	Properties
Filter Wheel Simulator [.Net]	
Simulator	<u>O</u> K
ASCOM standards for inter-operation of astronomy software.	<u>C</u> ancel



# 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		100.00	221-2	9	×
	Autosave Filename Mrk501 Estimated Duration 30m 21s Delay First Delay 2 + 1	y Between M	ither Max. [ Off Max. [ Via Guider (pixels Via Mount 0 osaic Se	Astrometric Res Oeviation C Sync Teleso C Correct via 9 C Solve Only tup Bin 2x2	ync Of cope Can Slew App Interval Option	
his se	Slot       Type         1       Light ▼       0         2       Light ▼       45         3       Light ▼       22.5         4       Light ▼       67.5         5       Dark ▼       0         6       Dark ▼       0	Filter     Suffix       ▼     _000       ▼     _045       5     ▼       5     ▼       5     ▼       000     _022       5     ▼       000     _007       ↓     _120       ↓     _60	Exposure         Binning           90         1           90         1           90         1           90         1           90         1           90         1           90         1           90         1           90         1           90         1           120         1           1         1	ISO Spd     Readout Mode       N/A     Monochrome       N/A     Monochrome       N/A     Monochrome       N/A     Monochrome       N/A     Monochrome       N/A     Monochrome       N/A     Monochrome	Repeat         Script           5            5            5            5            10            10	
he 'D	<del>ciay riist a</del>	inu Delay	Detween	anow extra un		to move