# Observing Report for 2018

Presented by Norm Vargas

Lowell Observatory, Flagstaff, AZ

March 18, 2019

# Observing Report Topics

- Observing and Weather Statistics
- New PoP Changes
- New Swiss Army Gui

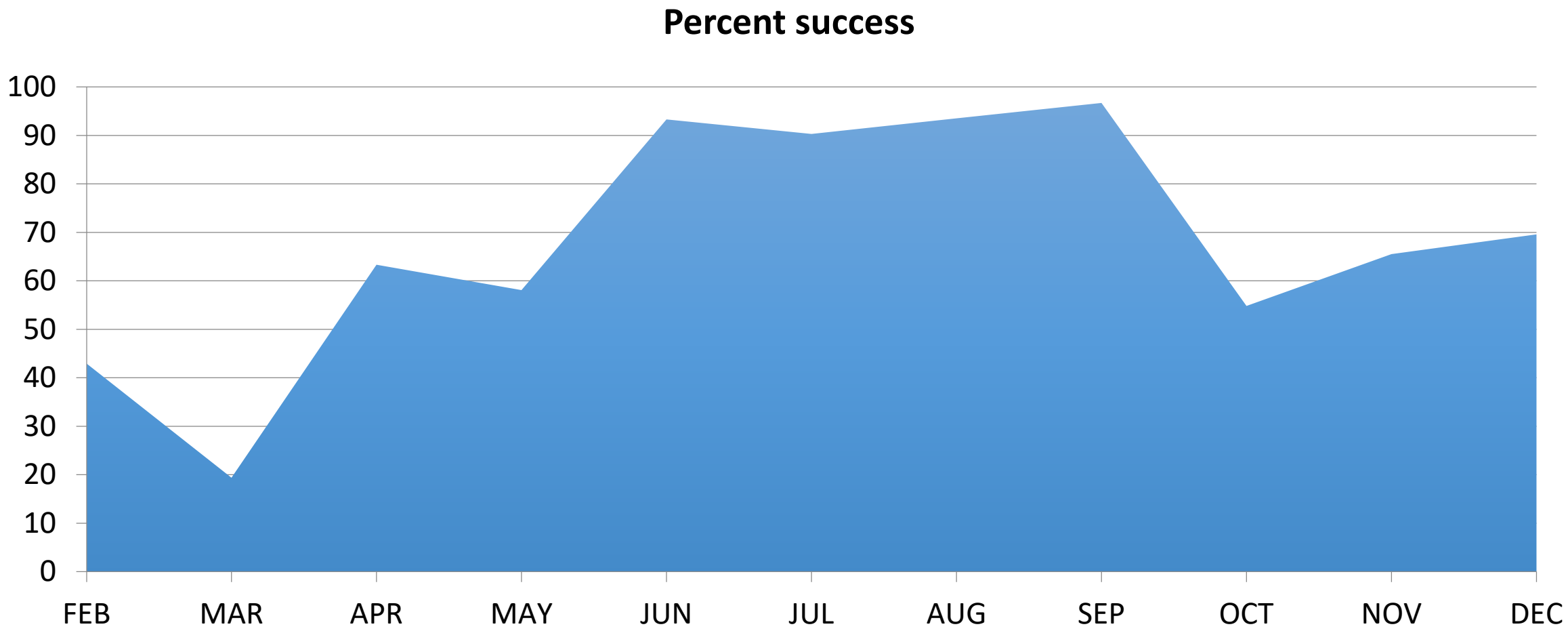
# Observing Statistics

- 325 nights scheduled in 2018. We started in February again to support the NOAO observing.
- 221 nights with at least one object observation
- 68.0% success rate
- 104 nights without an object observation

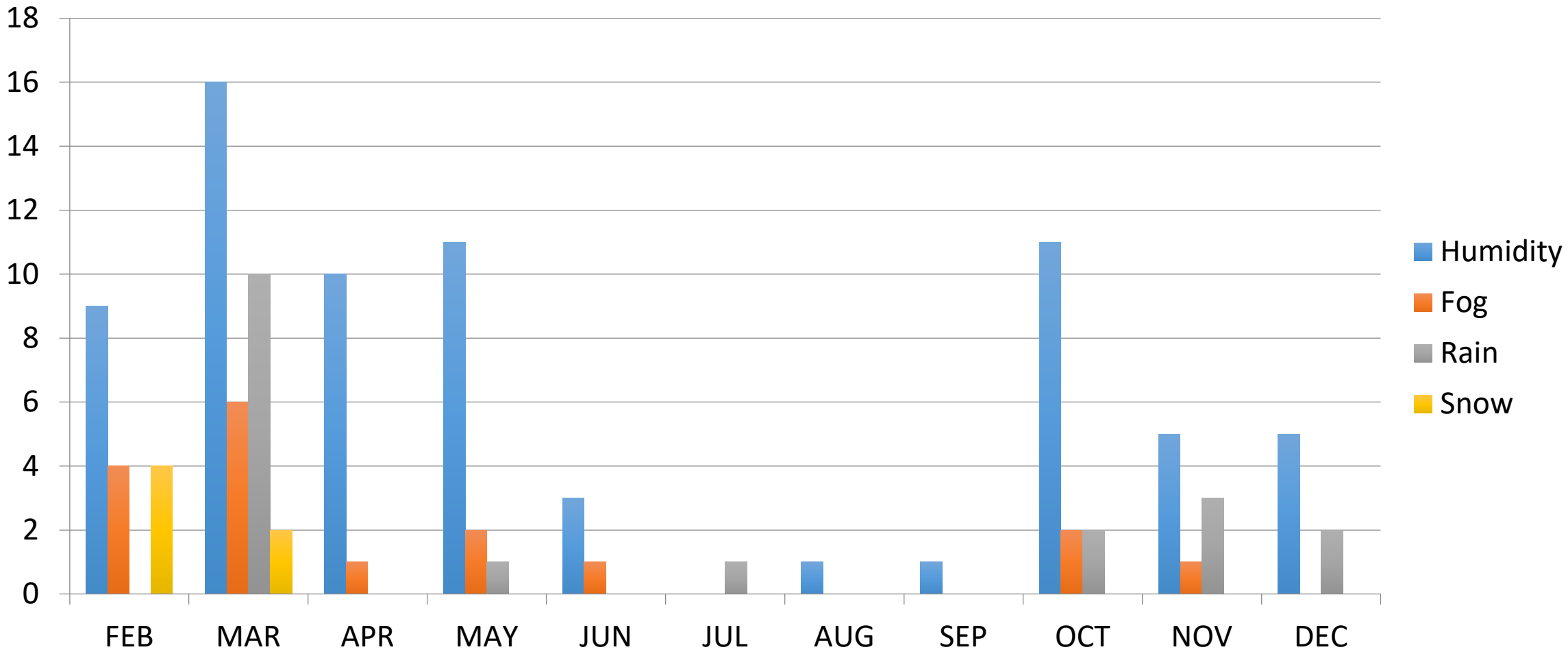
# Monthly Success

February 12/28 42.9%
March 6/31 **19.4%**
April 19/30 63.3%
May 18/31 58.1%
June 28/30 93.3%
July 28/31 90.3%
August 29/31 93.5%
September 29/30 96.7%
October 17/31 **54.8%**
November 19/29 65.5%
December 16/23 69.6%

# Monthly Success



# Hindrances to Data Collection



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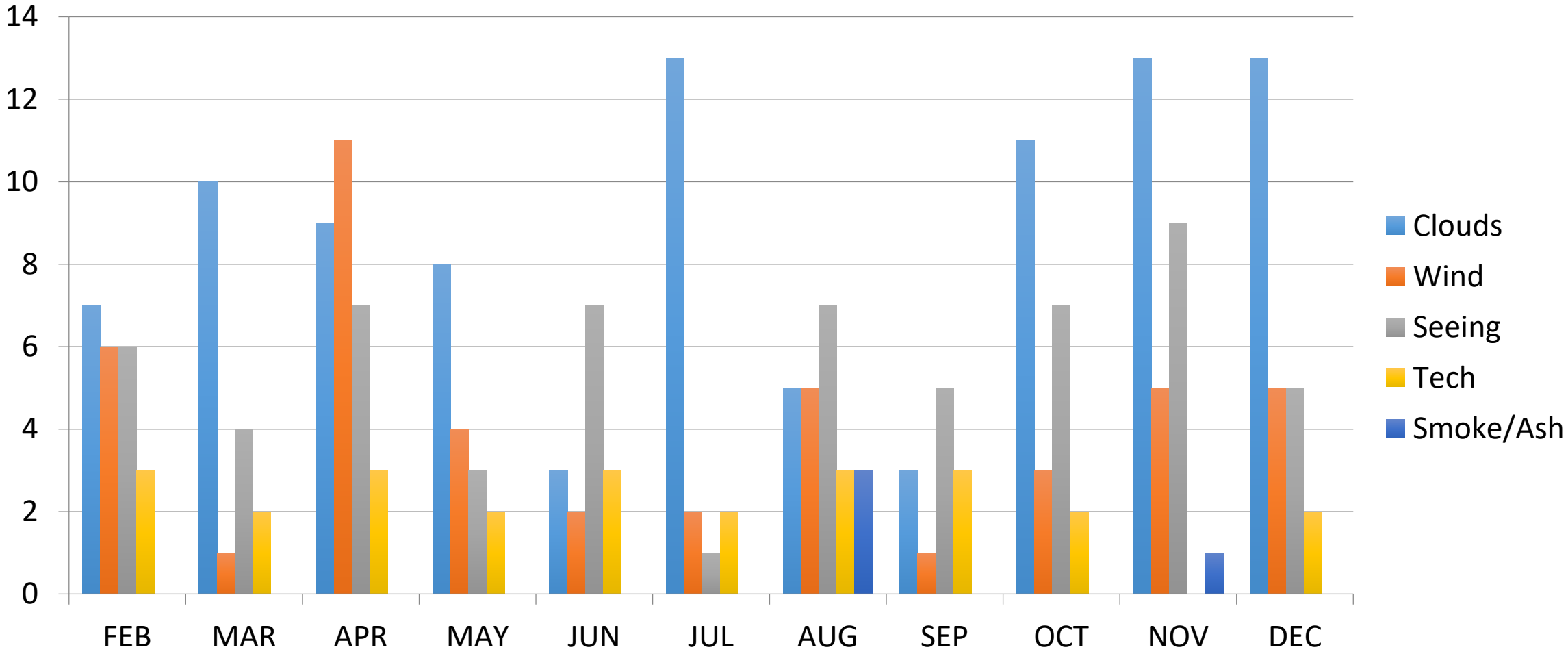
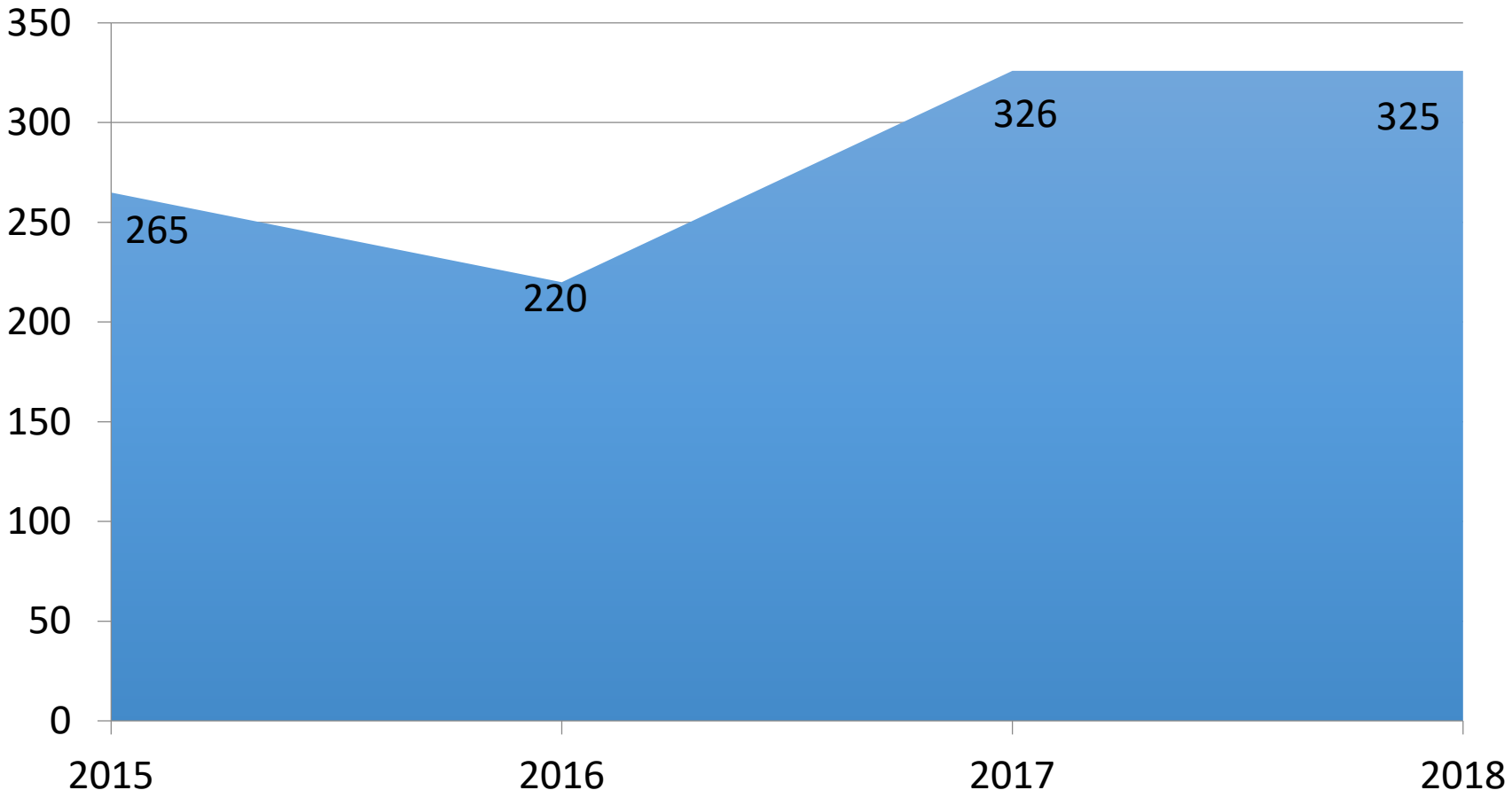
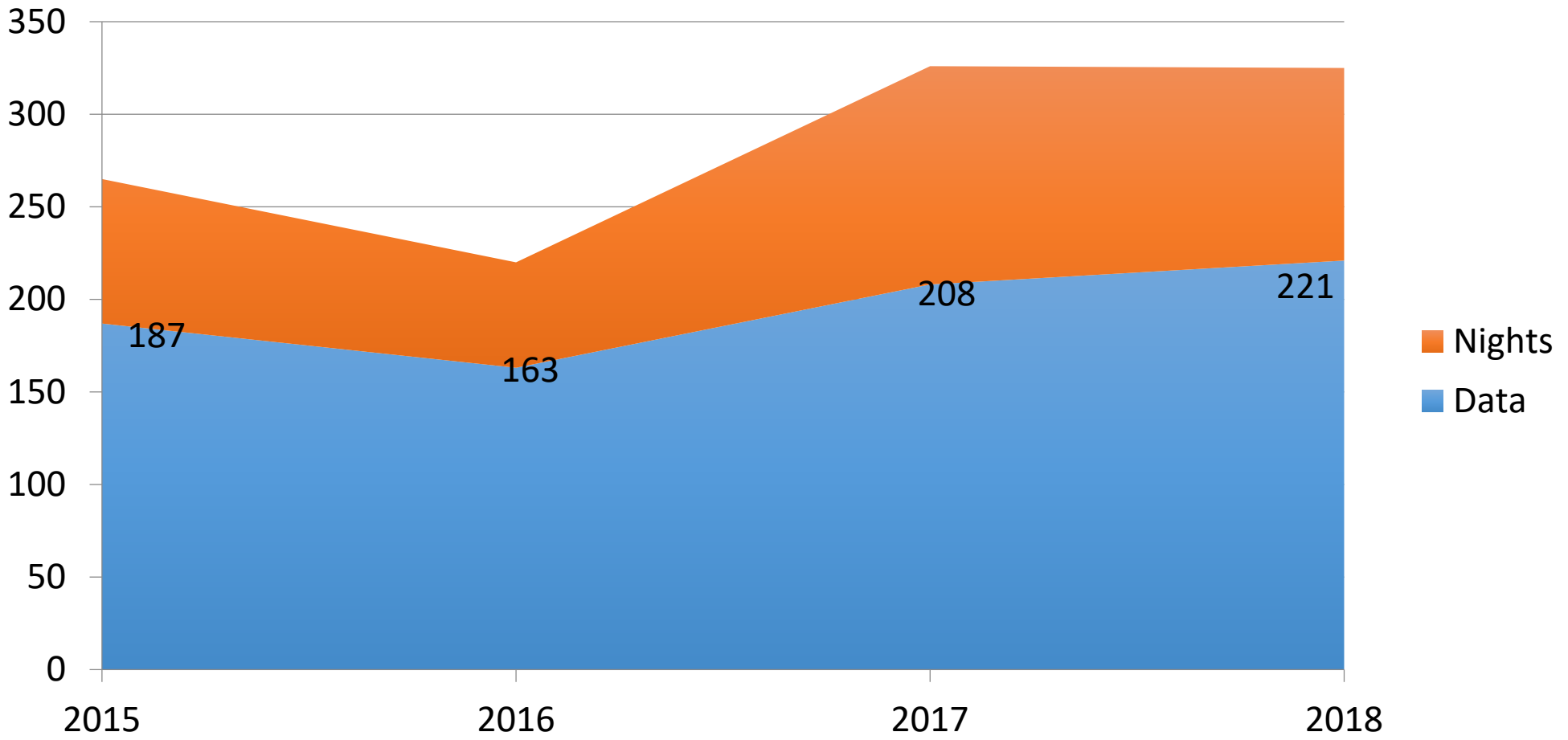


# Nights Attempted 2015-2018



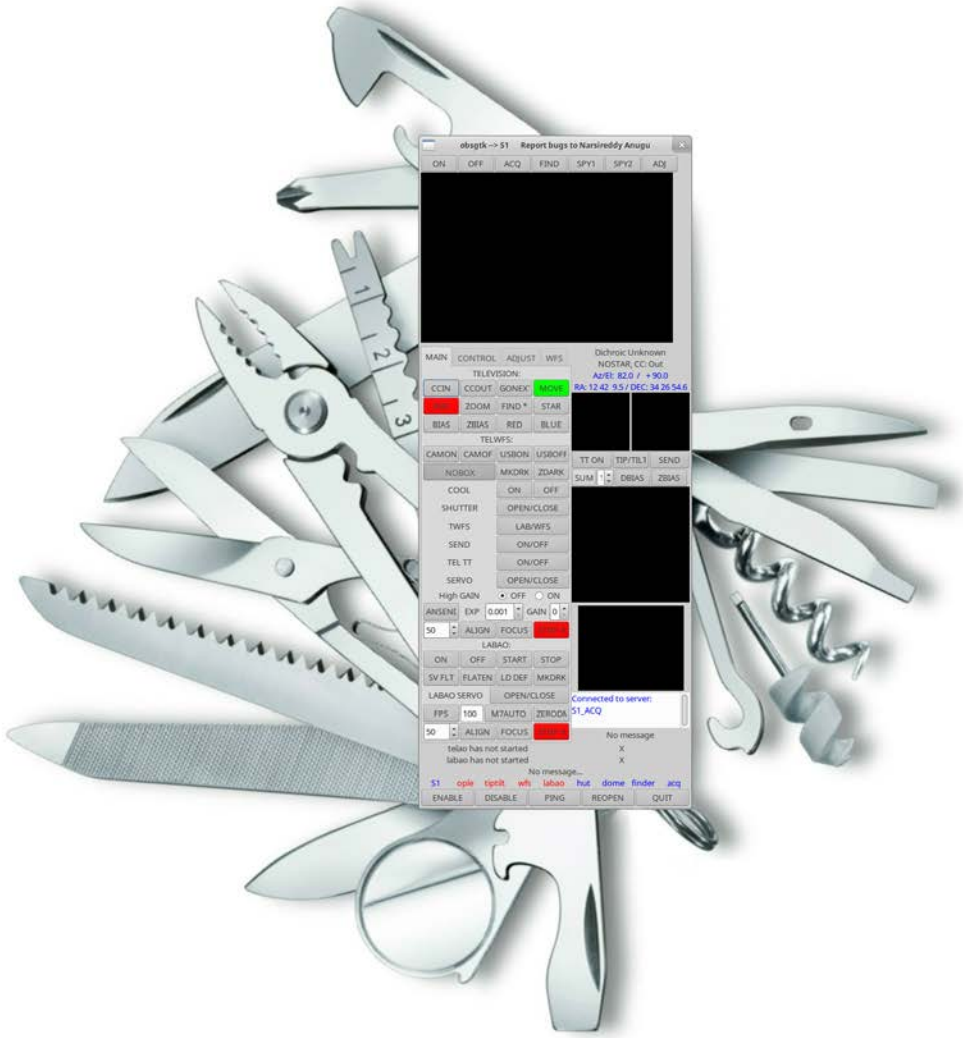
# Nights with Data 2015-2018



# Something New for PoP changes

PoP changes will be quicker now with the new gui that will move the PoP mirrors in or out and also move the periscope to the correct position. It will then open a new Pico 2 M10 window so its position can be adjusted as well.

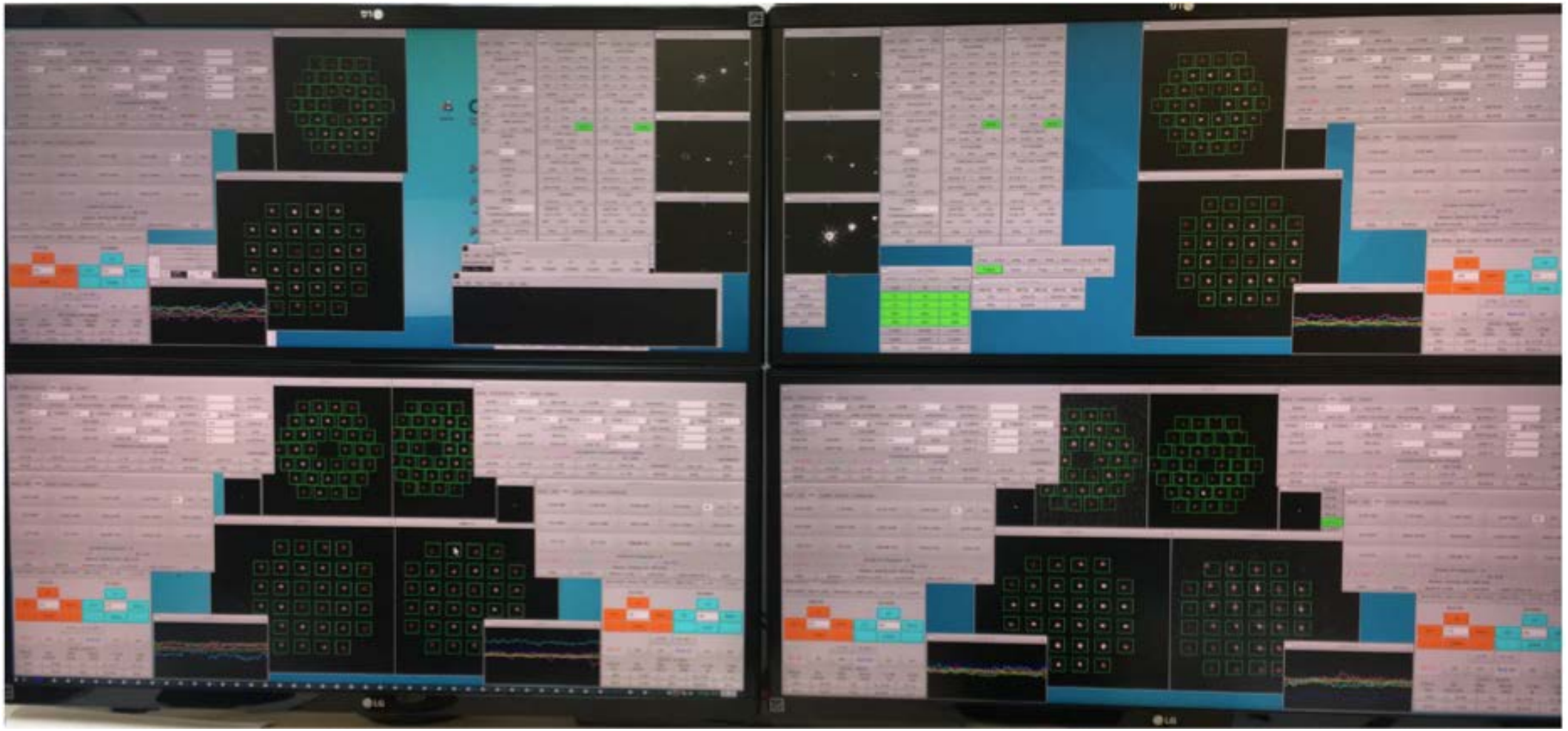
# The New Obsgtk



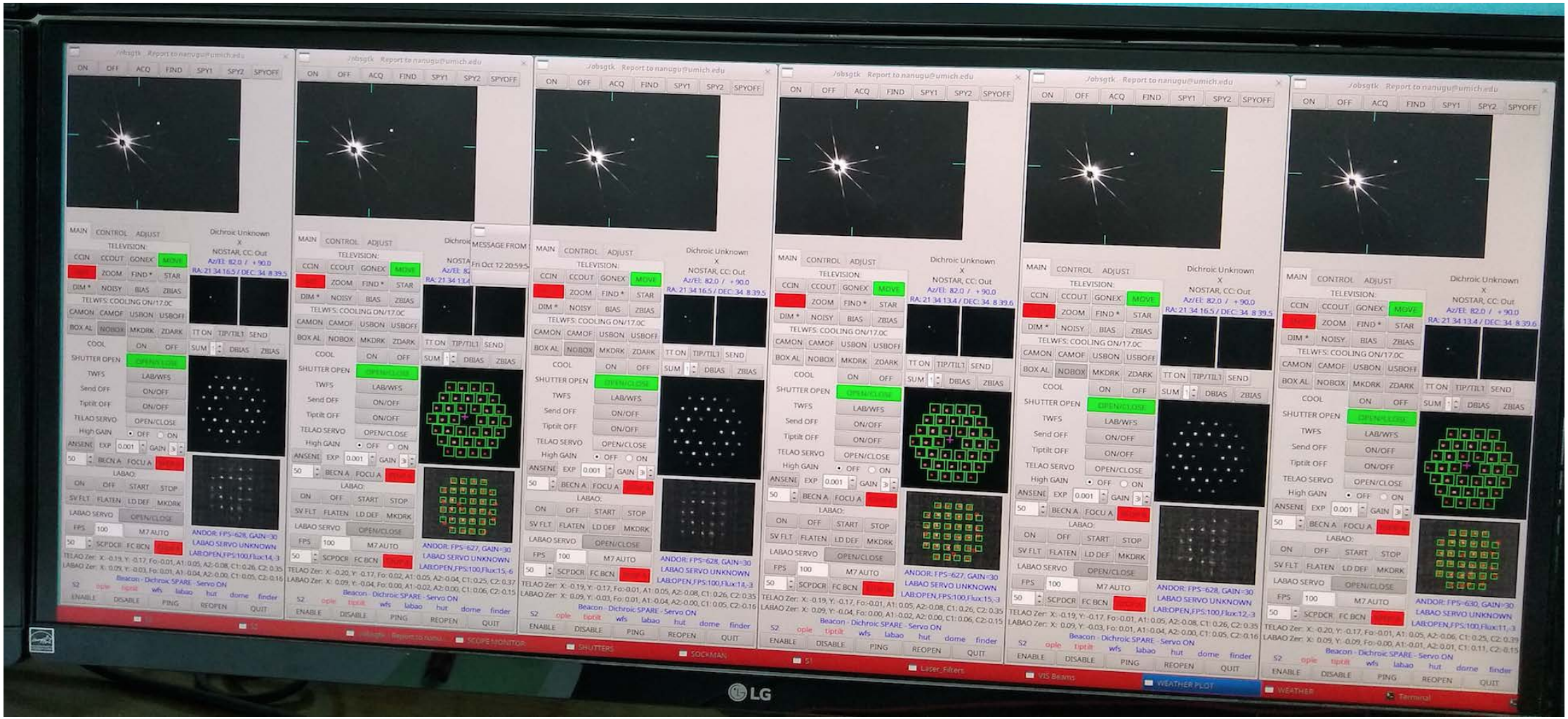
# The New Obsgtk

- New telescope gui was needed to save screen space
- It incorporates functions of 7 guis, but includes only what is needed to observe
- Combines telescope, tiptilt, labao, telescope wfs, acquisition and finder guis
- Must communicate with 9 servers and perform at least 85 functions
- Displays 9 cameras and plots: ACQ, Finder, 2 Spy cams, M10 cam, TT or WFS plots, Telescope WFS, and Labao WFS
- Developed by Narsi Anugu with input from Theo, Chris, Judit, Olli and Norm over the last 5 months.  Used on sky since November.
- Some room for new buttons, but already quite filled

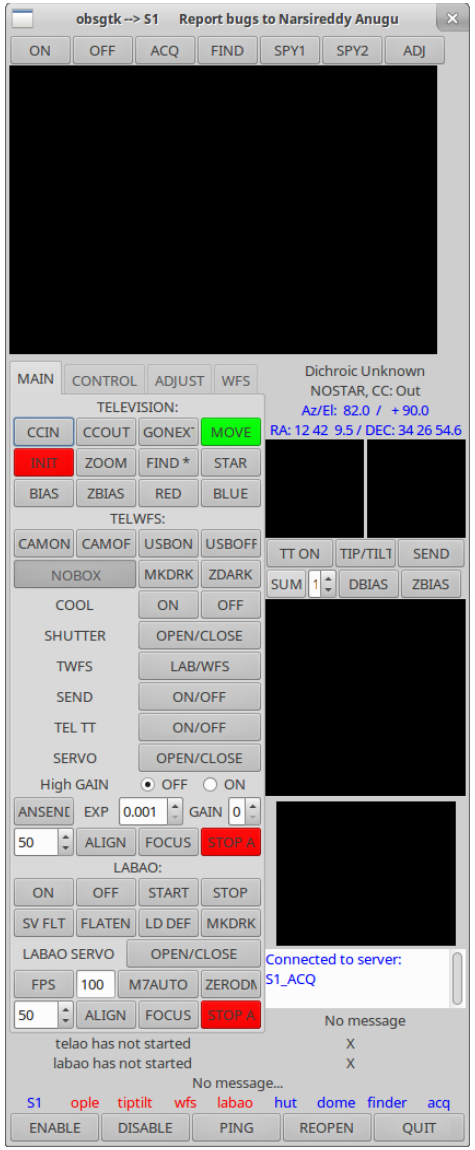
# The Nightmare that Wasn't



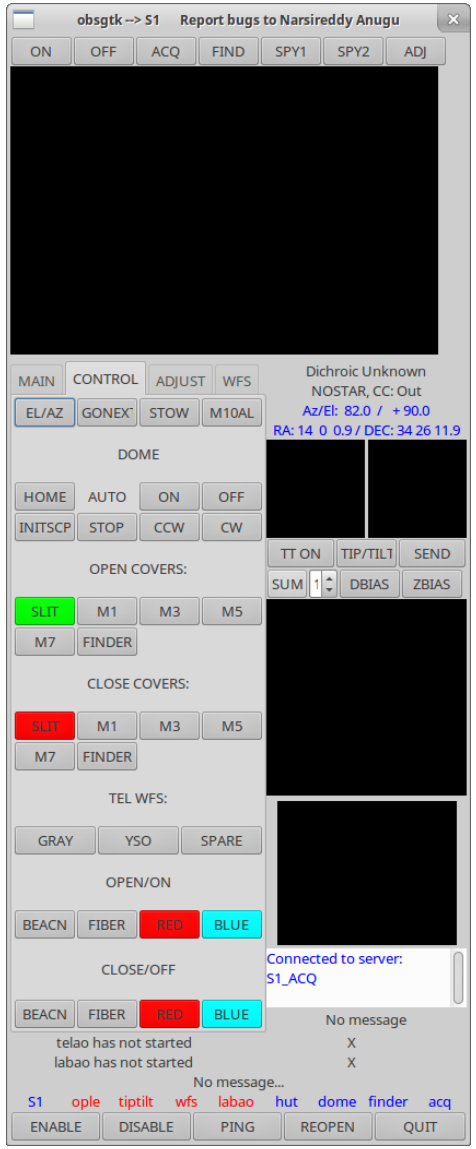
# All Six Open


/obsgtk Report to nanugu@umich.edu
ON OFF ACQ FIND SPY1 SPY2 SPYOFF
MAIN CONTROL ADJUST
TELEVISION:
Dichroic Unknown
NOSTAR, CC: Out
TELWFS: COOLING ON/17.0C
SHUTTER OPEN
LABAO:
ANDOR: FPS=628, GAIN=30
LABAO SERVO UNKNOWN
Beacon - Dichroic SPARE - Servo ON
ENABLE DISABLE PING REOPEN QUIT
LG

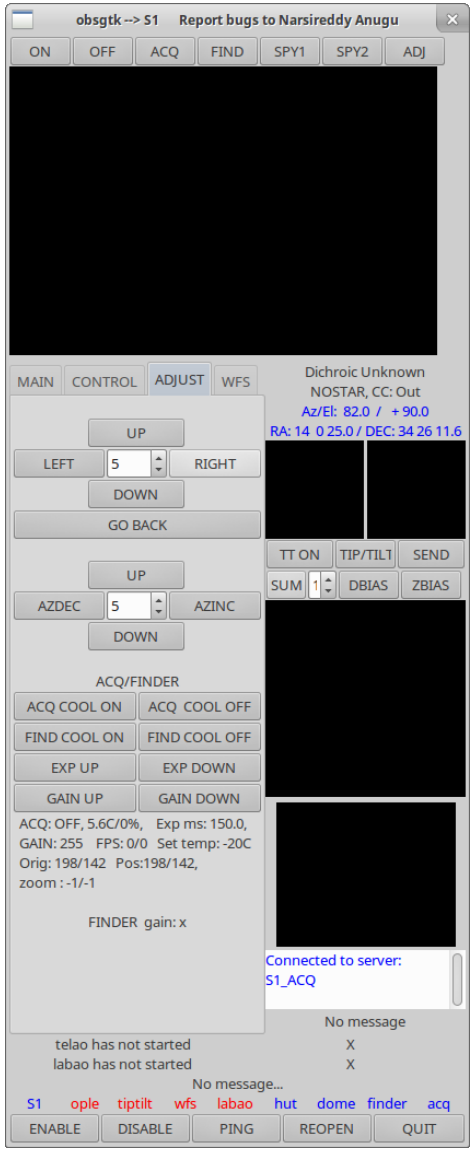
## Main Tab



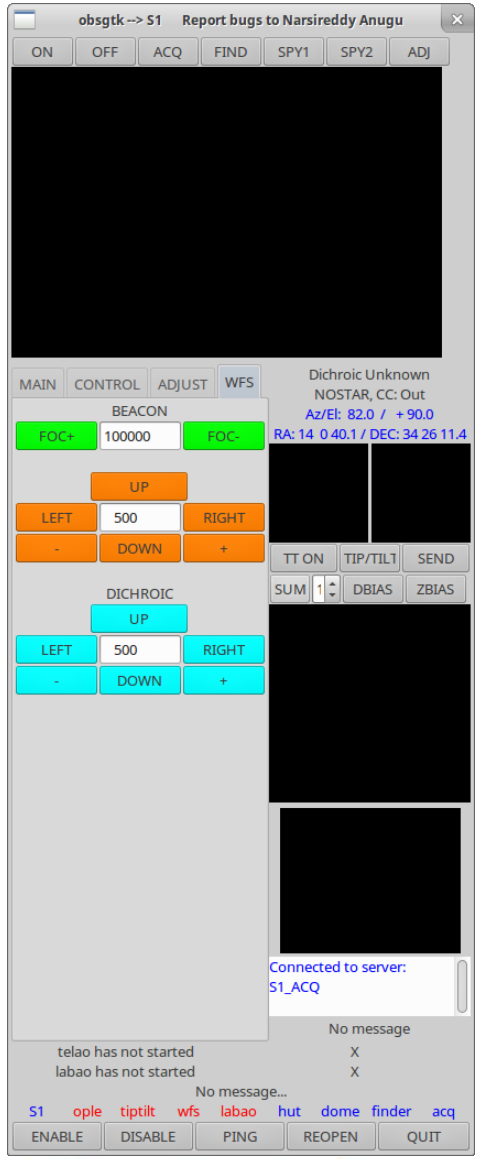

## Control Tab




## Adjust Tab




## WFS Tab

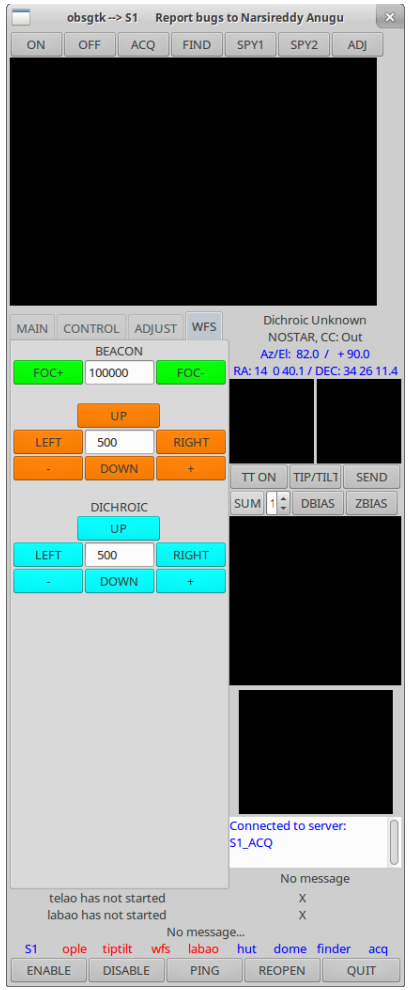


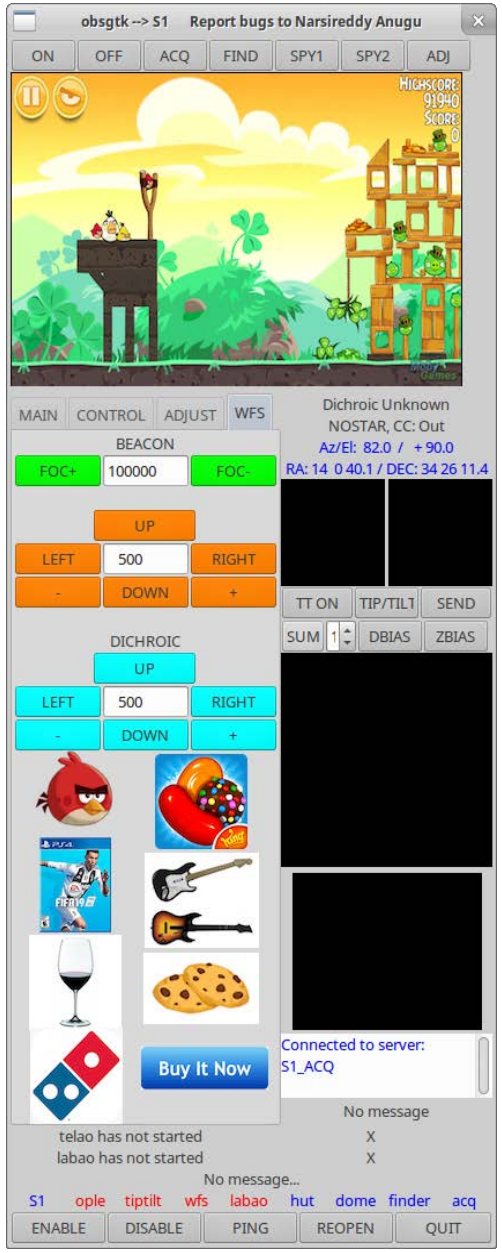
# Difficulties in Creating Obsgtk

- Integrating communications with all 9 servers: telescope, ople, tiptilt, telescope wfs, labao, hut, dome, acquisition and finder
- Handling error messages from each server  Runaway pop ups!!!
- Integrating cameras into one window when output from each varies so much.  Images are binned in the servers before being sent to guis.
- Integrating the MOVE button to work with new cameras
- Deciding where to put the buttons and what to call them, ie. too many cooks in the kitchen or trop de cuisiniers dans la cuisine.
- Deciding what do we really need and use and what is too much

# Future expansion

What do we put here in all this empty space?




obsgtk --> S1 Report bugs to Narsireddy Anugu
ON
OFF
ACQ
FIND
SPY1
SPY2
ADJ
HIGHSCORE
9940
SCORE
0
MAIN
CONTROL
ADJUST
WFS
BEACON
FOC+
100000
FOC-
UP
LEFT
500
RIGHT
-
DOWN
+
DICHROIC
UP
LEFT
500
RIGHT
-
DOWN
+
Buy It Now
Dichroic Unknown
NOSTAR, CC: Out
Az/El: 82.0 / +90.0
RA: 14 0 40.1 / DEC: 34 26 11.4
TT ON
TIP/TILT
SEND
SUM
1
DBIAS
ZBIAS
Connected to server:
S1_ACQ
No message
telao has not started
X
labao has not started
X
No message...
S1
ople
tiptilt
wfs
labao
hut
dome
finder
acq
ENABLE
DISABLE
PING
REOPEN
QUIT

obsgtk --> S1 Report bugs to Narsireddy Anugu
ON
OFF
ACQ
FIND
SPY1
SPY2
ADJ
Target: 22920
Moves: 14
Score: 10800
MAIN
CONTROL
ADJUST
WFS
BEACON
FOC+
100000
FOC-
UP
LEFT
500
RIGHT
-
DOWN
+
DICHROIC
UP
LEFT
500
RIGHT
-
DOWN
+
Buy It Now
Dichroic Unknown
NOSTAR, CC: Out
Az/El: 82.0 / +90.0
RA: 14 0 40.1 / DEC: 34 26 11.4
TT ON
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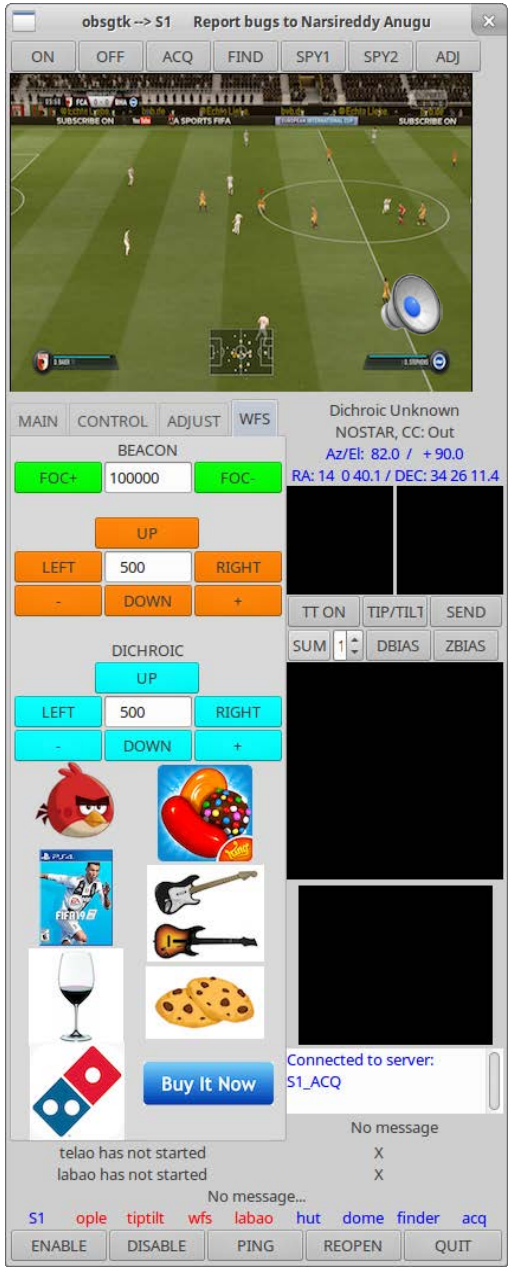
SEND
SUM
1
DBIAS
ZBIAS
Connected to server:
S1_ACQ
No message
telao has not started
X
labao has not started
X
No message...
S1 ople tiptilt wfs labao hut dome finder acq
ENABLE
DISABLE
PING
REOPEN
QUIT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X
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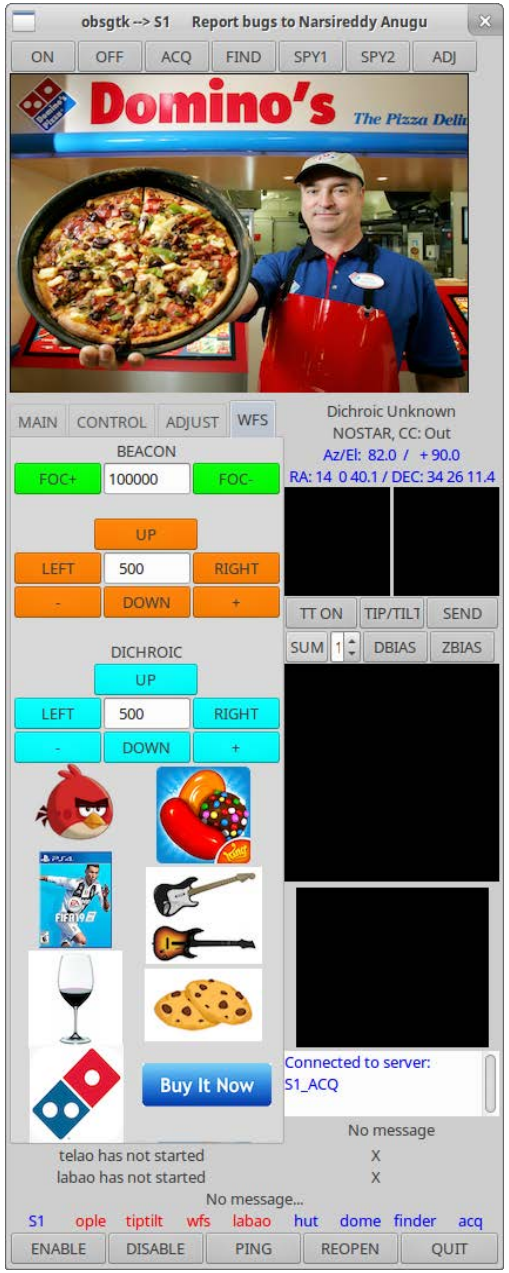
obsgtk --> S1 Report bugs to Narsireddy Anugu
ON
OFF
ACQ
FIND
SPY1
SPY2
ADJ
Domino's
The Pizza Deli
MAIN
CONTROL
ADJUST
WFS
BEACON
FOC+
100000
FOC-
UP
LEFT
500
RIGHT
-
DOWN
+
DICHROIC
UP
LEFT
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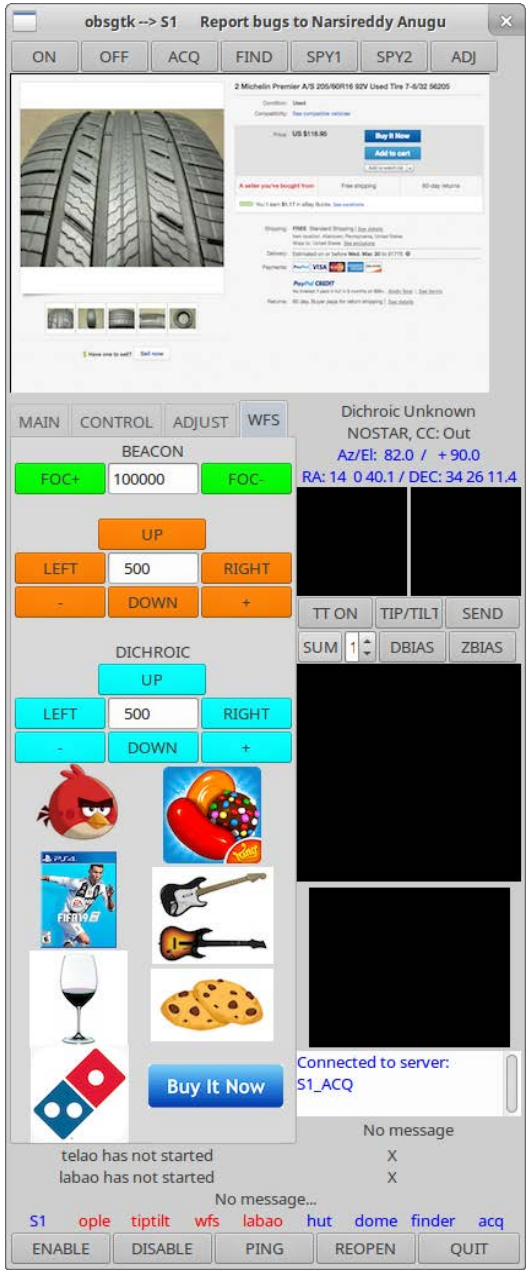
QUIT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Connected to server:
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labao has not started
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X
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S1 ople tiptilt wfs labao hut dome finder acq
ENABLE
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# Let's Eat!