



THE DARK ENERGY SURVEY

Astrometry Progress for Version 3 of FNAL Processing

Hope Head, Dr. Douglas Tucker, Dr. Sahar Allam

Status:

Completely Successful Nights:

November: 27, 29, 30

December: 3 – 19, 22– 23, 28 – 31

January: 1, 6 – 20

Partially Successful Nights:

December 1: Z and y filters are good, g,r,i filters had images fail first phase.

December 31, r: Image Ftttprecam_00017315 has an Unsolved error.

November 28: All filters had some images that failed first phase

November 24, r: Only r filter was touched, others left alone. Had images that failed first phase

Status:

Unsuccessful Nights:

November 21 – 22 <--- All images did not successfully pass first phase

Uncompleted Nights:

November 23, 25 - 26 <--- Need to be checked for Copying to cluster correctly

December 2 <--- Header problems; left alone

Status:

Nights with no data:

November: 15 - 20

December: 20 – 21, 22 z and y, 24- 27

January: 2 – 5, 6 z and y, 15 – 20 g,r,z,y

V3.CAT FILES:

The following is an example of the information added to the headers of the images:

```
# FILTER: i
# OBJECT: precam2081_1
# RADEG: 63.789 (approx. center of PreCam FOV,
degrees)
# DECDEG: -30.807 (approx. center of PreCam FOV,
degrees)
# HADEG: 45.437 (Hour Angle, degrees)
# ALTDEG: 51.116 (altitude, degrees)
# AZDEG: 257.120 (azimuth, degrees)
# AIRMASS: 1.286
# AIRMASS_SLALIB: 1.284
# MJD-OBS: 55574.188144
```

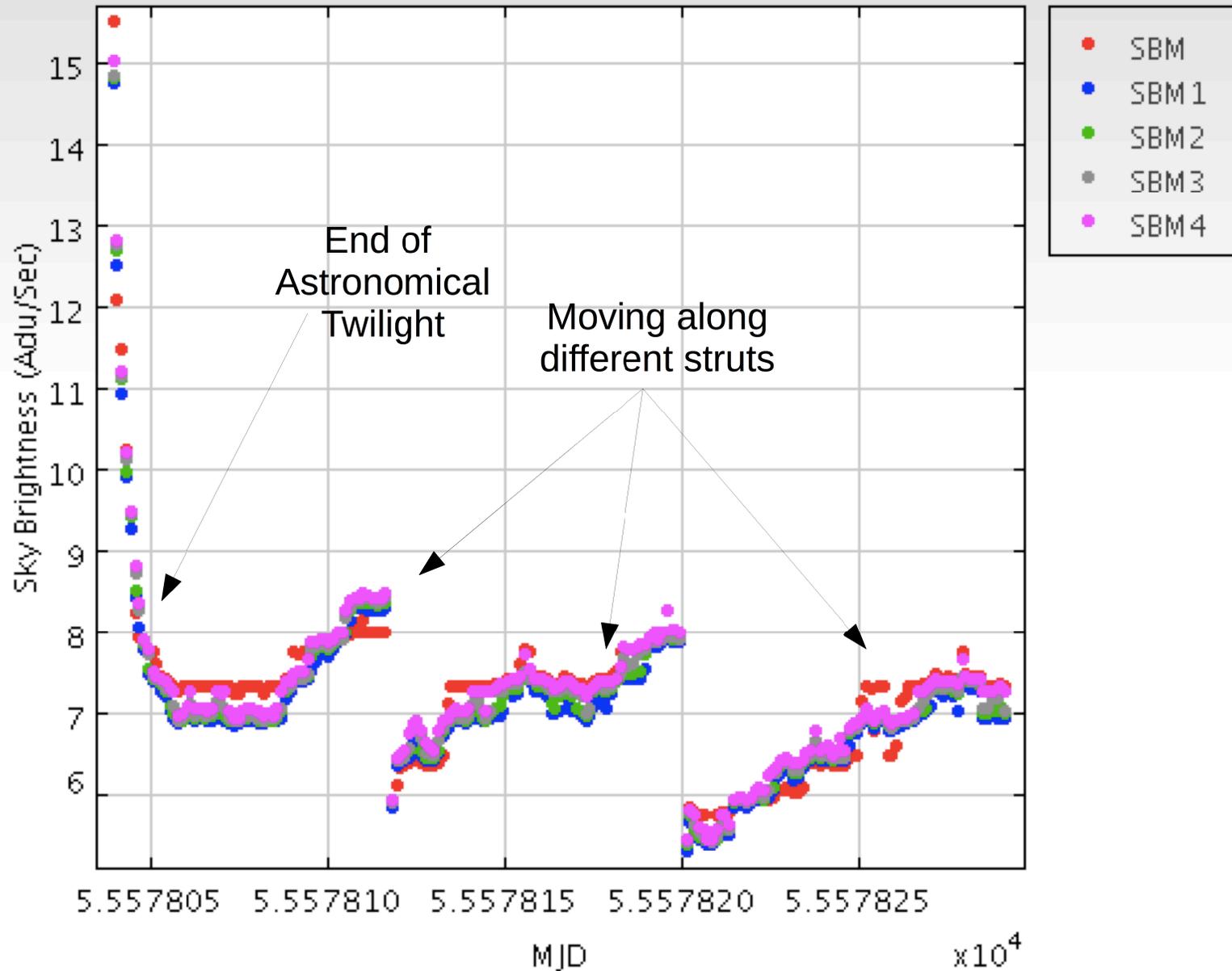
cont. --->

LSTDEG: 109.226556 (Local Sidereal Time, degrees)
EXPREQ: 65.000 (requested exposure time, seconds)
MOONUP: 0 (1=yes, 0=no, -1=unknown)
MOONALTDEG: -1.592 (Moon altitude, degrees)
MOONAZDEG: 287.490 (Moon azimuth, degrees)
MOONRADEG: 25.837 (Moon RA, degrees)
MOONDECDEG: 16.447 (Moon Dec, degrees)
MOONSEPDEG: 59.698 (angular separation from Moon,
degrees)
MOONPHASE: 0.569 (Phase of Moon, 0=New, 1=Full)
FWHM_MED: 3.409 (median FWHM, arcsec)
SBM: 192.004 (mean sky background, ADU)
SBM1: 192.014 (mean sky background in Quarter 1,
ADU)
SBM2: 192.406 (mean sky background in Quarter 2,
ADU)
SBM3: 192.120 (mean sky background in Quarter 3,
ADU) cont --->

SBM4: 192.573 (mean sky background in Quarter 4, ADU)
SBSTD: 1.422 (std dev sky background, ADU)
SBSTD1: 0.690 (std dev sky background in Quarter 1, ADU)
SBSTD2: 0.973 (std dev sky background in Quarter 2, ADU)
SBSTD3: 1.058 (std dev sky background in Quarter 3, ADU)
SBSTD4: 1.598 (std dev sky background in Quarter 4, ADU)
STM: 0.275 (streak mean, ADU)
STM1: 0.277 (streak mean in Quarter 1, ADU)
STM2: 0.161 (streak mean in Quarter 2, ADU)
STM3: 0.236 (streak mean in Quarter 3, ADU)
STM4: 0.427 (streak mean in Quarter 4, ADU)
STSTD: 6.258 (streak std dev, ADU)
STSTD1: 6.560 (streak std dev in Quarter 1, ADU) ---->

STSTD2: 7.269 (streak std dev in Quarter 2, ADU)
STSTD3: 5.478 (streak std dev in Quarter 3, ADU)
STSTD4: 5.615 (streak std dev in Quarter 4, ADU)
STMIN: -167.573 (streak min, ADU)
STMAX: 128.712 (streak max, ADU)
USEIMA: 1 (Use image flag; 1=yes, -1=no)
USEQ1: 1 (Use Quarter 1 flag; 1=yes, -1=no)
USEQ2: 1 (Use Quarter 2 flag; 1=yes, -1=no)
USEQ3: 1 (Use Quarter 3 flag; 1=yes, -1=no)
USEQ4: 1 (Use Quarter 4 flag; 1=yes, -1=no)

Some QA



Something Extra



Image of Orion Nebula in gri bands using logscale, courtesy of Dr. Sahar Allam

Backup Slides: