

AGA5802

Scheduling

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A real observational astronomer is someone who:

1. Has had (at least) one observing proposal rejected (bonus point if the reason does not make sense for real)
2. Has had a bad observing night

A bad observing night is:

A night which is too good to keep the telescope closed but too bad to keep the telescope open.

Our targets

Name	RA	Dec	Time on target	Worst seeing	Worst lunar illumination	Cloud coverage
COSMOS	10 00 28.6	02 12 21	3 hours	0.8"	Dark (<12%)	Photometric
TPyx	09 04 41.51	-32 22 47.50	1 hour	1.5"	Gray (<88%)	Clear
alphaOri	05 55 10.31	07 24 25.43	1 hour	2"	Bright	Cloudy
omegaCen	13 26 47.28	-47 28 46.1	3 hours	0.8"	Gray (<88%)	Clear
M87	12 30 49.42	12 23 28.04	1 hour	1.5"	Gray (<88%)	Clear
etaCar	10 45 03.54	-59 41 04.05	2 hours	2"	Bright	Cloudy

Accepting worst sky conditions, does not mean that the science case is less compelling.

Today exercise: observe our targets from Paranal

We observe on three different nights:

- 12 January 2020
- 19 January 2020
- 26 January 2020

We will use Staralt and the weather monitor <http://www.eso.org/asm/ui/publicLog>

Using Staralt

Pick the night and place of your observations.

Put your targets.

Warning: Staralt accepts two or three columns (name, RA, Dec... where the first is not mandatory) separated by spaces.

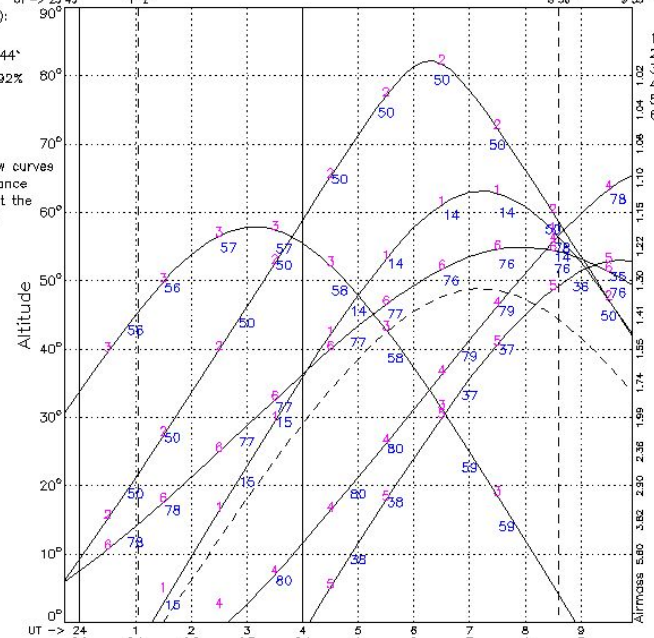
Mode	Staralt
Night	12 January 2020 or date when the local night starts. <i>Staralt, Startrack only.</i>
Observatory	Cerro Paranal Observatory (Chile) Select one above or specify your own site with this format: Longitude(°E) Latitude(°N) Altitude(metres) UT-offset(hours) Ex.: 289.2767 -30.2283 2725 -4
Coordinates	Formats can be any of these: name hh mm ss ±dd mm ss name hh:mm:ss ±dd:mm:ss name ddd.ddd dd.ddd name must be a single word with no dots, avoid using single numbers. Every entry must be in the same format, do not use different formats with different entries. We recommend a maximum of 100 targets per submission. <pre>COSMOS 10 00 28.6 02 12 21 TPyx 09 04 41.51 -32 22 47.50 Betelgeuse 05 55 10.30 +07 24 25.43 omegaCen 13 26 47.28 -47 28 46.1 M87 12 30 49.42 12 23 28.04 etaCar 10 45 03.54 -59 41 04.05</pre> Alternatively, you can upload a file with coordinates. You can use the same format as in the TCS catalog . Target names must be single words with no dots. Browse... No file selected.
Options	Moon distance Included on plot. Moon coordinates at ~02:00 UT. <i>Staralt only.</i> 10°, X=5.8 Min. elevation (or max. airmass X). <i>Starobs, Starmult only.</i> GIF [inline] Output format
Submit	Retrieve Help

12 January 2020

Altitudes, Cerro Paranal Observatory 289.5972E -24.6253N, 2635 m above sea level

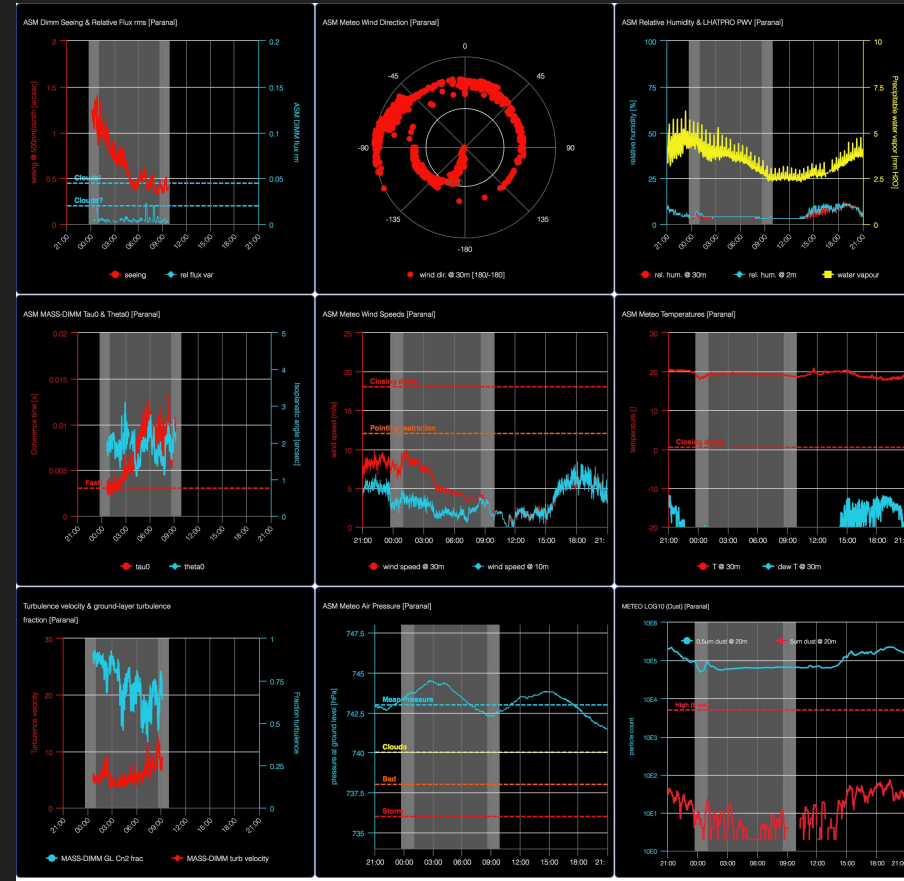
LST → S.set 1^h 2^m Twil 4^h 42^m 5^h 42^m 6^h 42^m 7^h 43^m 8^h 43^m 9^h 43^m 10^h 43^m Twil 8^h 36^m S.rise 9^h 55^m
 UT → 23^h 43^m Moon (dashed): 90°
 Coordinates: 9^h 54^m +16° 44'
 Illumination: 92%
 Quarter: 3

Numbers below curves are Moon distance (in degrees) at the corresponding times.



Mean Solar Zone Time, starting night 12 01 2020
 Processed: 2020/03/23 at 19:48:46 UT. Isaac Newton Group of Telescopes, La Palma.

- List of objects:
- 1 COSMOS 10^h 0^m + 2° 12'
 - 2 TFXX 9^h 4^m - 32° 22'
 - 3 alphaO 5^h 55^m + 7° 24'
 - 4 omegaC 13^h 28^m - 47° 28'
 - 5 M87 12^h 30^m + 12° 23'
 - 6 etaCar 10^h 45^m - 59° 41'



12 January 2020

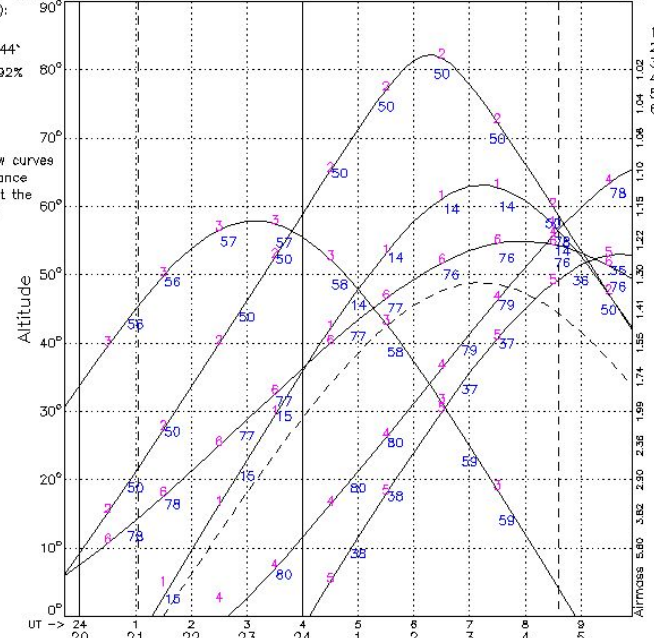
Altitudes, Cerro Paranal Observatory 289.5972E -24.6253N, 2635 m above sea level

LST → S.set UT → 23^h43^m Twil 1^h 2^m 4^h42^m 5^h42^m 6^h42^m 7^h43^m 8^h43^m 9^h43^m 10^h43^m Twil 8^h36^m S.rise 9^h55^m

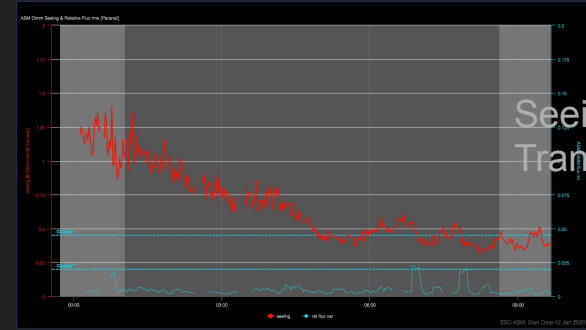
Moon (dashed): 90°
 Coordinates: 9^h54^m +16°44'
 Illumination: 92%
 Quarter: 3

Numbers below curves are Moon distance (in degrees) at the corresponding times.

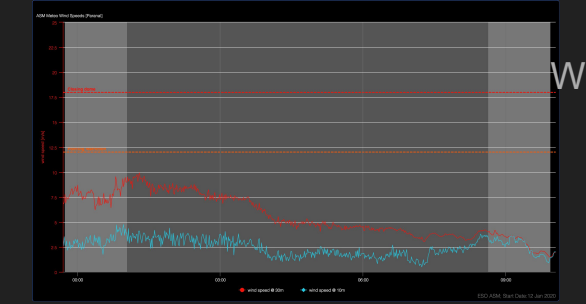
List of objects:
 1 COSMOS 10^h 0^m + 2°12'
 2 TFyx 9^h 4^m - 32°22'
 3 alphaO 5^h55^m + 7°24'
 4 omegaC 13^h28^m - 47°28'
 5 M87 12^h30^m +12°23'
 6 etaCar 10^h45^m -59°41'



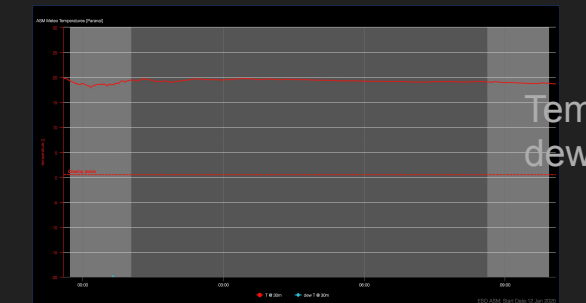
Mean Solar Zone Time, starting night 12 01 2020
 Processed: 2020/03/23 at 19:48:46 UT. Isaac Newton Group of Telescopes, La Palma.



Seeing and Transparency



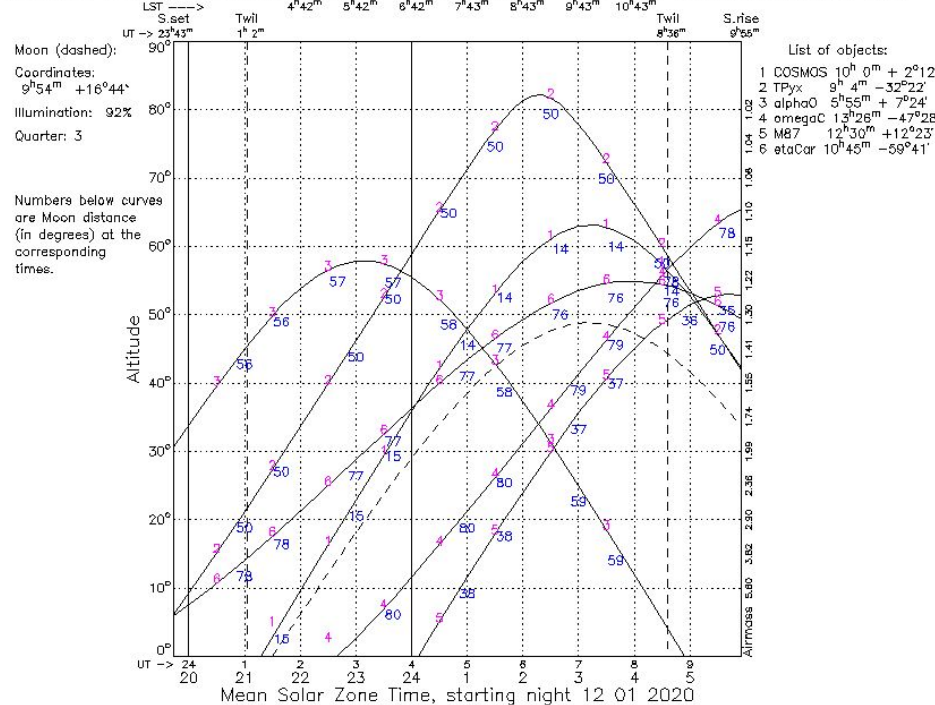
Wind speed



Temperature and dew-point

12 January

Altitudes, Cerro Paranal Observatory 289.5972E -24.6253N, 2635 m above sea level



Bright night

Only available targets: Betelgeuse and eta Carinae

19 January 2020

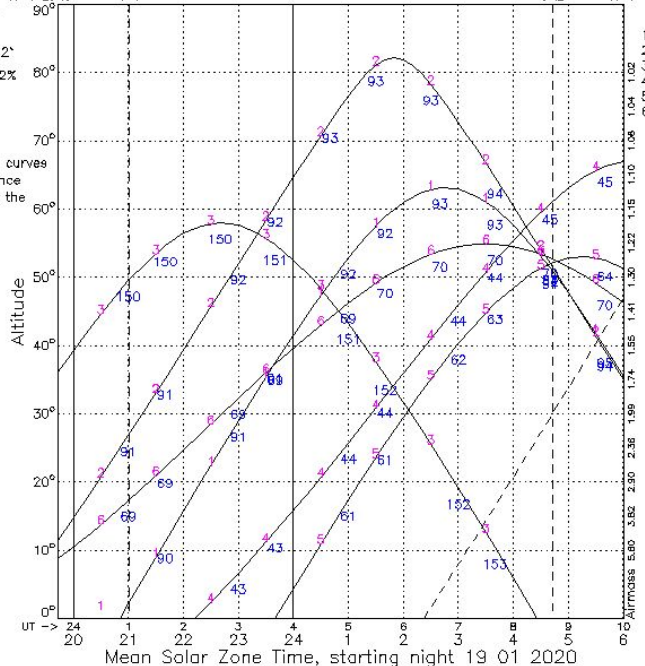
Altitudes, Cerro Paranal Observatory 289.5972E -24.6253N, 2635 m above sea level

LST →
 S.set 22^h43^m Twil 1^h1^m 5^h10^m 8^h10^m 7^h10^m 8^h10^m 9^h10^m 10^h10^m 11^h11^m Twil 8^h42^m S.rise 10^h9^m
 UT → 22^h43^m

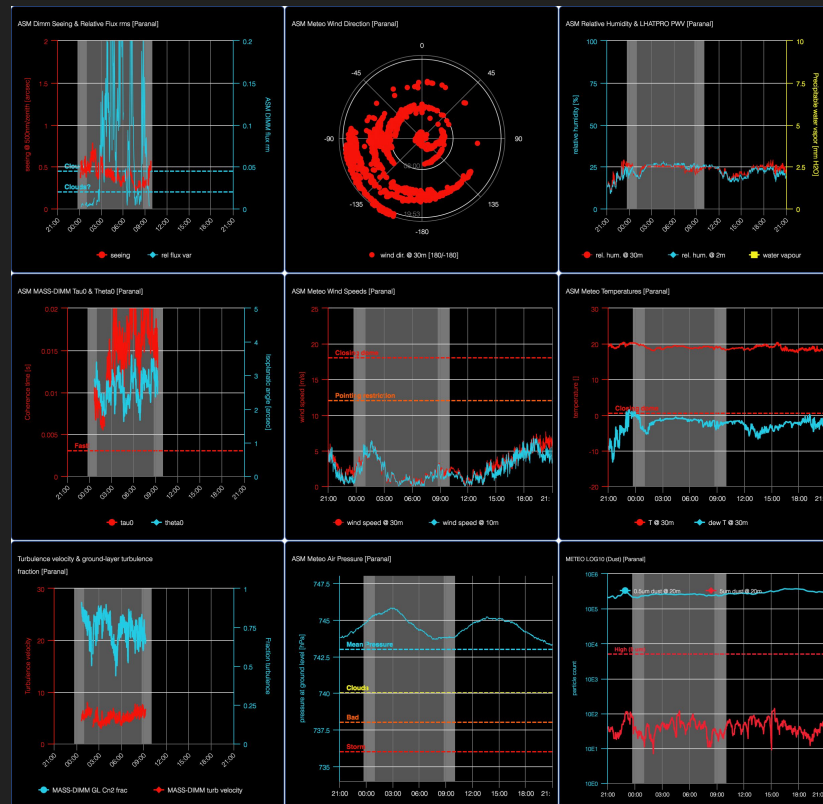
Moon (dashed): 90°
 Coordinates: 16^h10^m -18° 2'
 Illumination: 22%
 Quarter: 4

List of objects:
 1 COSMOS 10^h0^m + 2°12'
 2 TPyx 9^h4^m -32°22'
 3 alphaO 5^h55^m + 7°24'
 4 omegaC 1^h29^m -47°28'
 5 M87 12^h30^m +12°23'
 6 etaCar 10^h45^m -59°41'

Numbers below curves are Moon distance (in degrees) at the corresponding times.



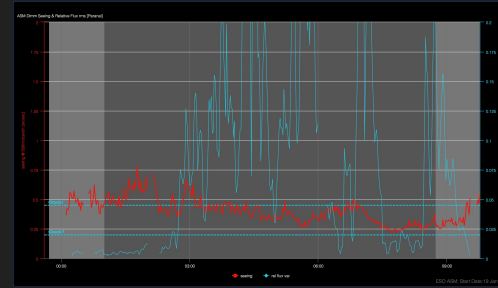
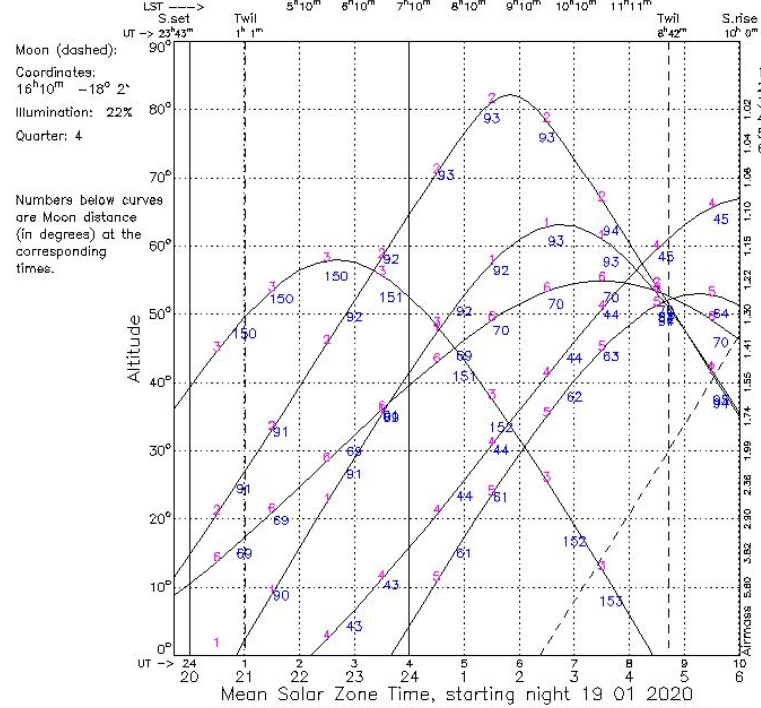
Processed: 2020/03/23 at 20:05:27 UT. Isaac Newton Group of Telescopes, La Palma.



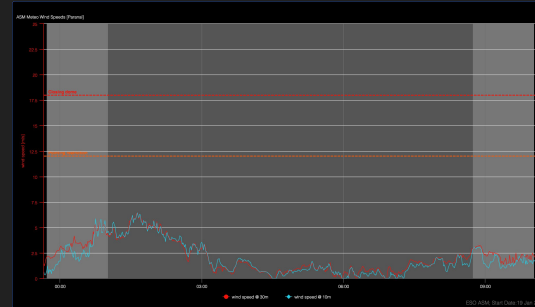
19 Jan 2020 21:00 UTC - 20 Jan 2020 21:00 UTC
 Presets Paranal|SUN 23:43-10:01|Twilight 01:00-08:44|LST 04:15-11:59|MOON 06:15-11:24%

19 January 2020

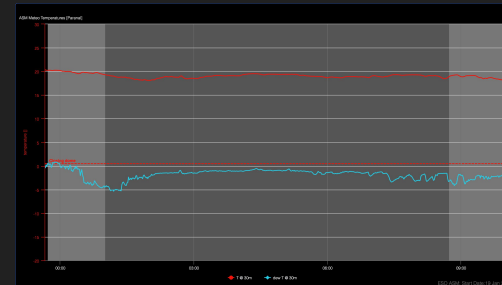
Altitudes, Cerro Paranal Observatory 289.5972E -24.6253N, 2635 m above sea level



Seeing and Transparency



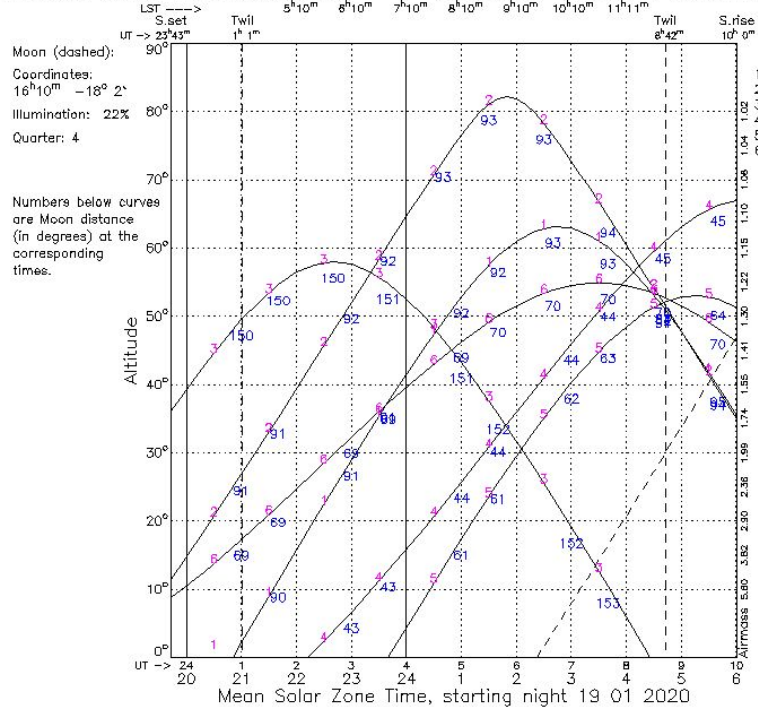
Wind speed



Temperature and dew-point

19 January 2020

Altitudes, Cerro Paranal Observatory 289.5972E -24.6253N, 2635 m above sea level



- List of objects:
- 1 COSMOS 10^h 0^m + 2°12'
 - 2 TPYX 9^h 4^m -32°22'
 - 3 alpha O 5^h 55^m + 7°24'
 - 4 omega C 13^h 28^m -47°28'
 - 5 M87 12^h 30^m +12°23'
 - 6 eta Car 10^h 45^m -59°41'

Gray night

Stuck with Betelgeuse and eta Carinae because of clouds!

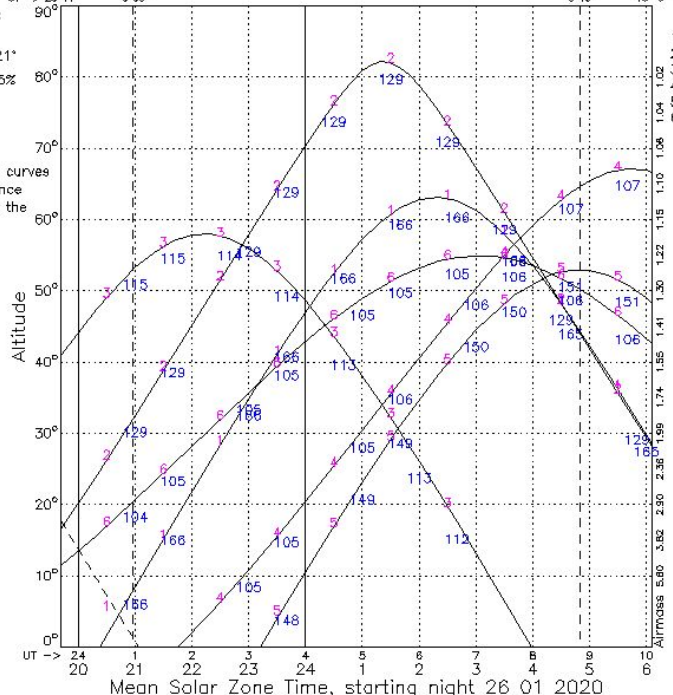
26 January 2020

Altitudes, Cerro Paranal Observatory 289.5972E -24.6253N, 2635 m above sea level

LST → 4^h37^m 5^h37^m 6^h37^m 7^h38^m 8^h38^m 9^h38^m 10^h38^m 11^h38^m Twil 8^h49^m S.rise 10^h18^m
 UT → 23^h41^m 0^h58^m

Moon (dashed): 90°
 Coordinates: 22^h27^m -14°21'
 Illumination: 5%
 Quarter: 1

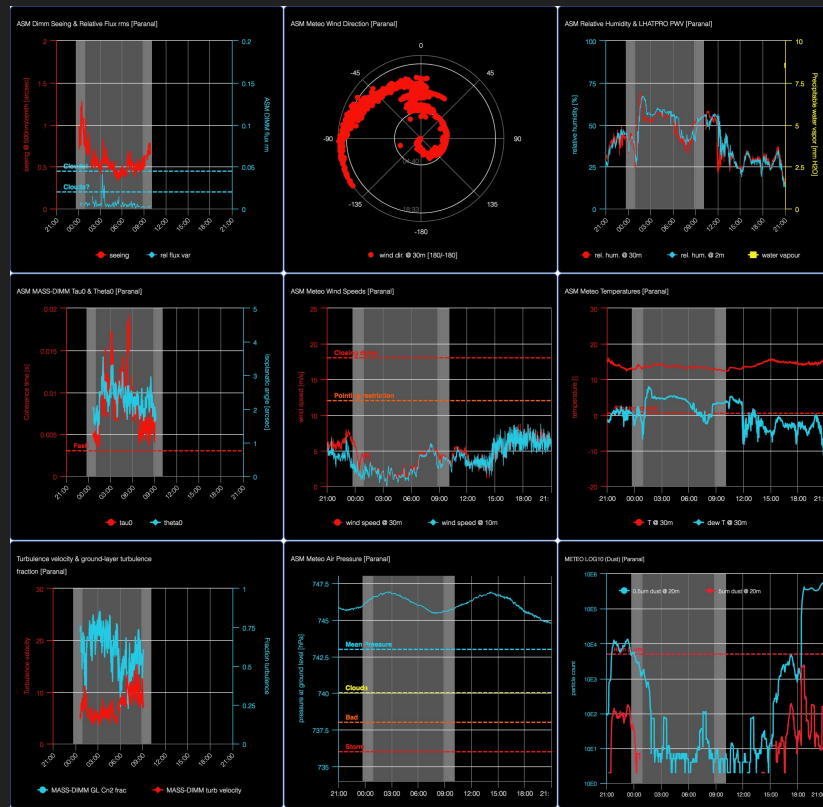
Numbers below curves are Moon distance (in degrees) at the corresponding times.



List of objects:

- 1 COSMOS 10^h 0^m + 2° 12'
- 2 TPγx 9^h 4^m - 32° 22'
- 3 alpha0 5^h 55^m + 7° 24'
- 4 omegaC 13^h 28^m - 47° 28'
- 5 M87 12^h 30^m + 12° 23'
- 6 etaCar 10^h 45^m - 59° 41'

Processed: 2020/03/23 at 20:21:28 UT, Isaac Newton Group of Telescopes, La Palma.



26 Jan 2020 21:00 UTC - 27 Jan 2020 21:00 UTC
 Presets: Paranal(SUN 23:41-10:07|Twilight 00:57-08:50|LST 04:39-12:34|MOON 12:23-01:11)4%

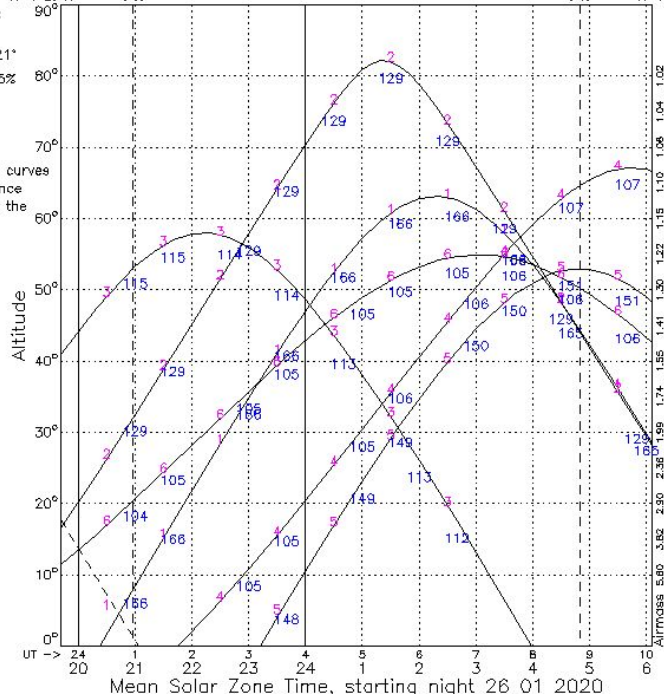
26 January 2020

Altitudes, Cerro Paranal Observatory 289.5972E -24.6253N, 2635 m above sea level

LST → 4^h37^m 5^h37^m 6^h37^m 7^h38^m 8^h38^m 9^h38^m 10^h38^m 11^h38^m Twil 8^h49^m S.rise 10^h5^m
 UT → 22^h41^m 0^h58^m

Moon (dashed): 90°
 Coordinates: 22^h27^m -14°21'
 Illumination: 5%
 Quarter: 1

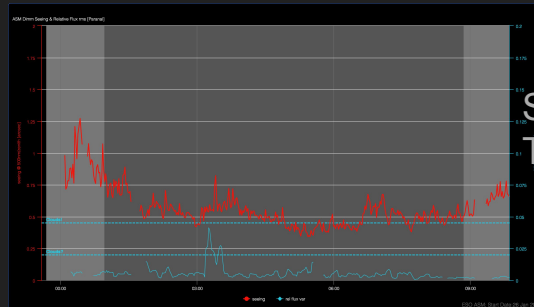
Numbers below curves are Moon distance (in degrees) at the corresponding times.



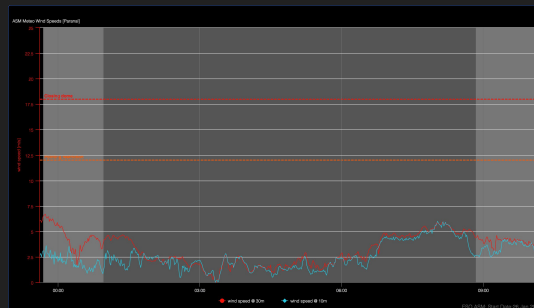
Processed: 2020/03/23 at 20:21:28 UT, Isaac Newton Group of Telescopes, La Palma.

List of objects:

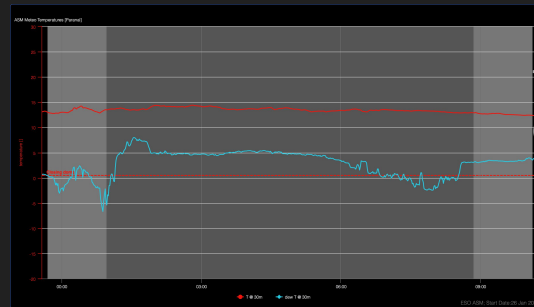
- 1 COSMOS 10^h 0^m + 2°12'
- 2 TPγx 9^h 4^m -32°22'
- 3 alpha0 5^h55^m + 7°24'
- 4 omegaC 13^h26^m -47°28'
- 5 M87 12^h30^m +12°23'
- 6 etaCar 10^h45^m -59°41'



Seeing and Transparency



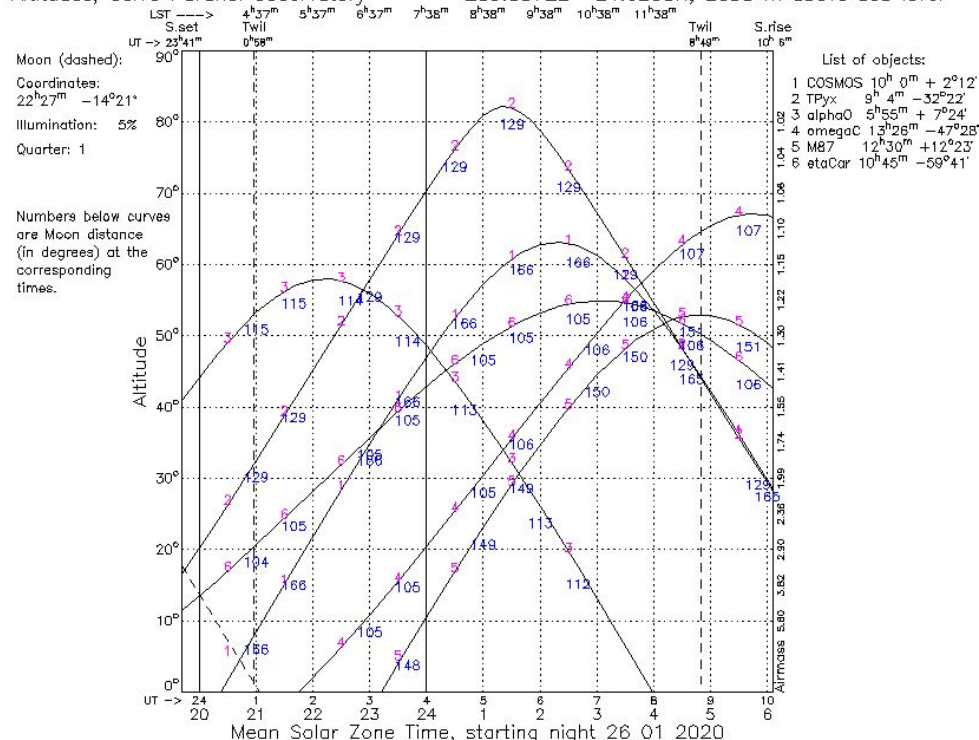
Wind speed



Temperature and dew-point

26 January 2020

Altitudes, Cerro Paranal Observatory 289.5972E -24.6253N, 2635 m above sea level



Dark night with good seeing and transparency

1h on alpha Orionis

1 h on T Pyxidis

3 h on COSMOS

3 h on omega Cen (it's very good night)

Exercise

You try.

Same targets. Same constraints.

Night of 27 January 2020

<http://www.eso.org/asm/ui/publicLog?name=Paranal&startDate=2020-01-27T21:00:00.000Z&hoursInterval=24>