



Visibility charts from Cerro Paranal

1 Epochs

- CHART 1: 2020-09-01

2 Cuts applied to the selection

Quantity	Condition	Description	Units
Alt	> 10	Maximum altitude	deg
\widehat{SEO}	> 20	Solar elongation	deg
\widehat{MEO}	> 5	Lunar elongation	deg
m_V	n.a.	Apparent magnitude	mag
α	n.a.	Phase angle	deg
ϕ	n.a.	Apparent diameter	arcsec
\mathcal{D}	> 10	Minimum duration of visibility	min

Visibility computed between civil twilights.

3 Meaning of displayed quantities

Quantity	Description	Units
Target	Target designation	–
m_V	Apparent magnitude	mag
ϕ	Apparent diameter	arcsec
\mathcal{D}	Duration of visibility window	h:m
Alt	Altitude	deg
Az.	Azimuth	deg
RA	Right Ascension	h:m:s
DEC	Declination	d:m:s
Rate	Apparent non-sidereal motion	arcsec/h
λ_G	Galactic longitude	deg
β_G	Galactic latitude	deg
r	Range to observer	au
Δ	Heliocentric distance	au
α	Solar phase angle	deg
$\widehat{\text{SEO}}$	Solar elongation	deg
$\widehat{\text{MEO}}$	Moon elongation	deg

For each target, the values are reported at the time of the highest altitude.

Credits

ViSiON (**V**isibility **S**ervice for **O**bserving **N**ights) has been developed by Benoît Carry and Jérôme Berthier at IMCCE.

If ViSiON was helpful for your research, please add the following in your acknowledgments: “This publication makes use of the Virtual Observatory Web service ViSiON, developed by IMCCE and OCA.”

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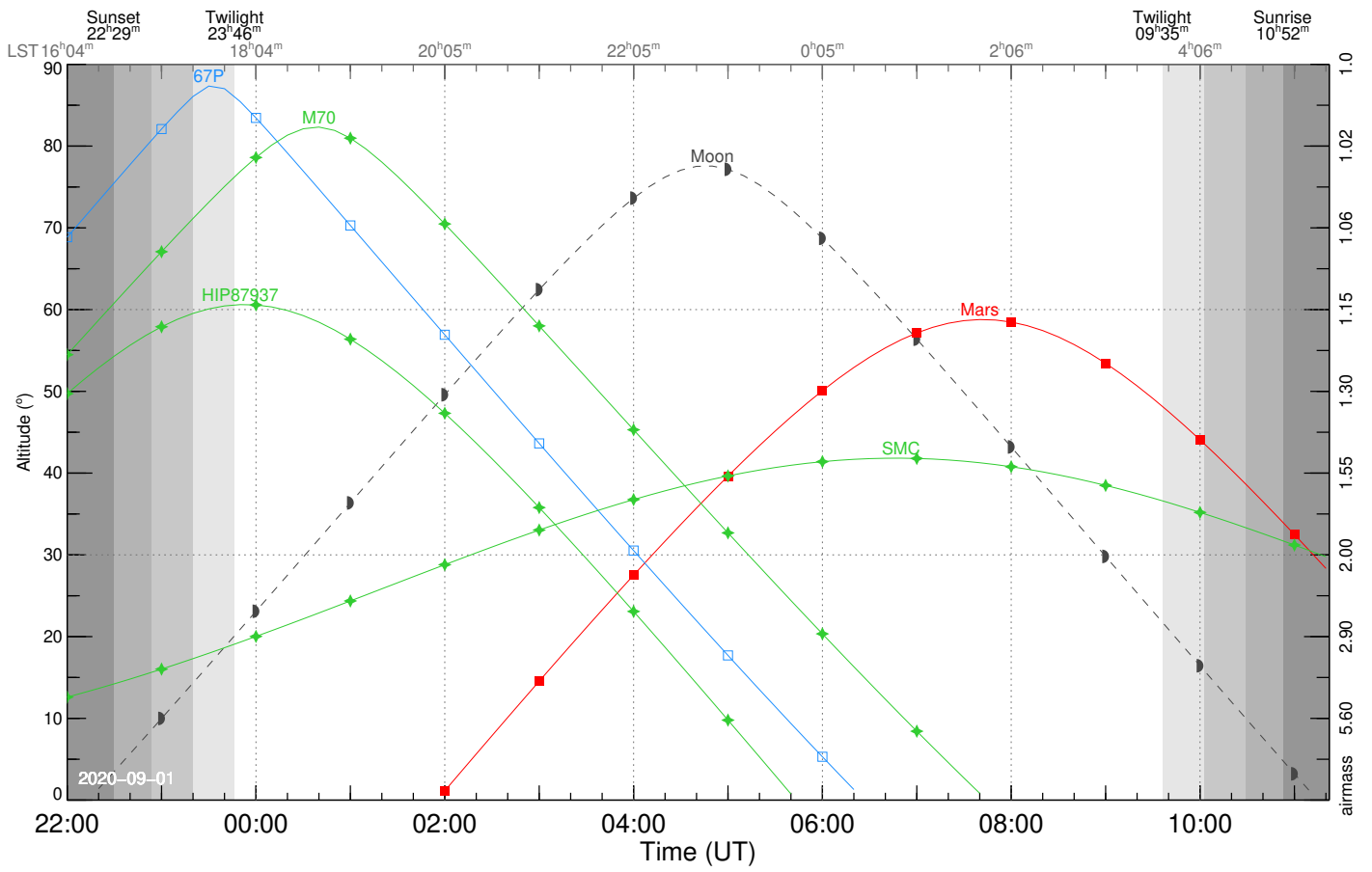
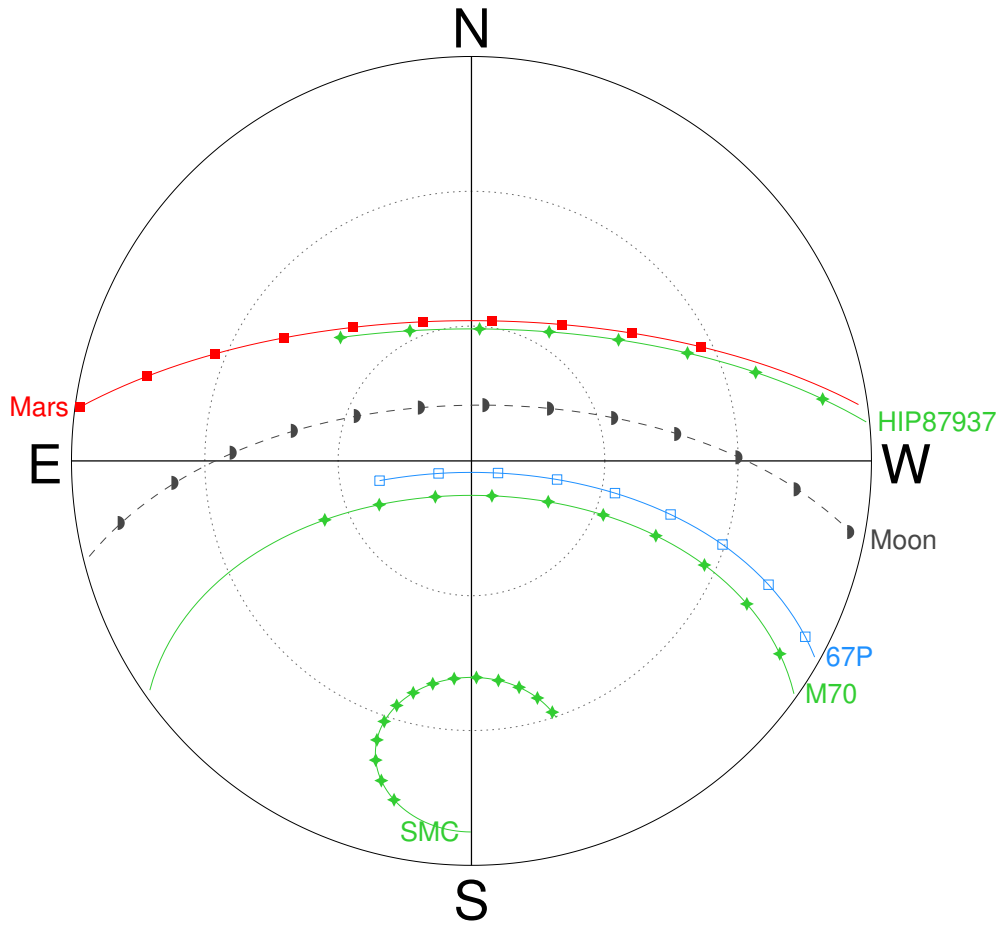


Figure 1: Airmass charts for epoch 2020-09-01















Target	m_V	ϕ	\mathcal{D}	Alt	Az.	RA	DEC	Rate	λ_G	β_G	r	Δ	α	$\widehat{\text{SEO}}$	$\widehat{\text{MEO}}$	Links
Moon	-12.35	1823	$11^h 30^m$	77	356	$22^h 52^m 10^s$	$-12^\circ 12' 38''$	1160	236	-58	0.003	1.012	4.6	175.4	0.0	 – 
67P	19.92	0.09	$6^h 40^m$	87	164	$17^h 37^m 56^s$	$-27^\circ 10' 47''$	1	360	1	3.53	3.92	14.4	105.4	72.5	  
HIP87937	9.54	0.00	$6^h 00^m$	60	1	$17^h 57^m 47^s$	$4^\circ 45' 9''$	0	391	13	1.00	1.00	0.0	107.3	73.6	–  
M70	9.06	0.00	$8^h 00^m$	82	182	$18^h 43^m 12^s$	$-32^\circ 17' 31''$	0	363	-13	1.00	1.00	0.0	119.1	58.7	–  
SMC	0.00	0.00	$11^h 30^m$	41	180	$0^h 52^m 35^s$	$-72^\circ 48' 0''$	0	302	-44	1.00	1.00	0.0	112.3	63.4	– 
Mars	-1.84	19.06	$7^h 50^m$	58	0	$1^h 48^m 1^s$	$6^\circ 35' 3''$	12	327	-53	0.49	1.39	32.4	132.4	46.6	 – 

Table 1: Ephemerides summary for epoch 2020-09-01, values are reported at the time of the highest altitude.