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Solar System Dynamics



BODIES ORBITS EPHEMERIDES TOOLS PHYSICAL DATA DISCOVERY FAQ SITE MAP

IMPORTANT: The SSD Announcement email list is now available. Major changes are coming in the near future, including possible hostname and/or URL changes. To be notified of such changes, subscribe to this email list.

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HORIZONS Web-Interface

This tool provides a web-based *limited* interface to [JPL's HORIZONS system](#) which can be used to generate ephemerides for solar-system bodies. Full access to [HORIZONS](#) features is available via the primary [telnet interface](#). [HORIZONS system news](#) shows recent changes and improvements. A [web-interface tutorial](#) is available to assist new users.

Current Settings

Ephemeris Type [\[change\]](#) : **OBSERVER**
Target Body [\[change\]](#) : **Mars** [499]
Observer Location [\[change\]](#) : **Geocentric** [500]
Time Span [\[change\]](#) : Start=**2020-01-06**, Stop=**2020-02-05**, Step=**1 d**
Table Settings [\[change\]](#) : *defaults*
Display/Output [\[change\]](#) : *default* (formatted HTML)

Table Settings

Select observer quantities from table below:

[\[switch to manual-entry list-of-numbers form \]](#)

Optionally preset observer quantities selection using one of the following:

- | | | |
|--|--|--|
| 1. <input checked="" type="checkbox"/> Astrometric RA & DEC | 16. <input type="checkbox"/> Sub-Sun position angle & distance | * 31. <input type="checkbox"/> Observer ecliptic lon. & lat. |
| * 2. <input type="checkbox"/> Apparent RA & DEC | 17. <input type="checkbox"/> North Pole position angle & distance | 32. <input type="checkbox"/> North pole RA & DEC |
| 3. <input type="checkbox"/> Rates; RA & DEC | 18. <input type="checkbox"/> Heliocentric ecliptic lon. & lat. | 33. <input type="checkbox"/> Galactic longitude & latitude |
| * 4. <input type="checkbox"/> Apparent AZ & EL | 19. <input type="checkbox"/> Heliocentric range & range-rate | 34. <input type="checkbox"/> Local apparent SOLAR time |
| 5. <input type="checkbox"/> Rates; AZ & EL | 20. <input checked="" type="checkbox"/> Observer range & range-rate | 35. <input type="checkbox"/> Earth->obs. site light-time |
| 6. <input type="checkbox"/> Satellite X & Y, pos. angle | 21. <input type="checkbox"/> One-way (down-leg) light-time | > 36. <input type="checkbox"/> RA & DEC uncertainty |
| 7. <input type="checkbox"/> Local apparent sidereal time | 22. <input type="checkbox"/> Speed wrt Sun & observer | > 37. <input type="checkbox"/> Plane-of-sky error ellipse |
| 8. <input type="checkbox"/> Airmass & extinction | 23. <input checked="" type="checkbox"/> Sun-Observer-Target ELONG angle | > 38. <input type="checkbox"/> POS uncertainty (RSS) |
| 9. <input checked="" type="checkbox"/> Visual mag. & Surface Brght | 24. <input checked="" type="checkbox"/> Sun-Target-Observer ~PHASE angle | > 39. <input type="checkbox"/> Range & range-rate 3-sigmas |
| 10. <input type="checkbox"/> Illuminated fraction | 25. <input type="checkbox"/> Target-Observer-Moon angle/ Illum% | > 40. <input type="checkbox"/> Doppler & delay 3-sigmas |
| 11. <input type="checkbox"/> Defect of illumination | 26. <input type="checkbox"/> Observer-Primary-Target angle | 41. <input type="checkbox"/> True anomaly angle |
| 12. <input type="checkbox"/> Satellite angular separ/vis. | 27. <input type="checkbox"/> Sun-Target radial & -vel pos. angle | 42. <input type="checkbox"/> Local apparent hour angle |
| 13. <input type="checkbox"/> Target angular diameter | 28. <input type="checkbox"/> Orbit plane angle | 43. <input type="checkbox"/> PHASE angle & bisector |
| 14. <input type="checkbox"/> Observer sub-lon & sub-lat | 29. <input type="checkbox"/> Constellation ID | |
| 15. <input type="checkbox"/> Sun sub-longitude & sub-latitude | 30. <input type="checkbox"/> Delta-T (TDB - UT) | |

Notes:

- * affected by optional atmospheric refraction setting (below)
- > statistical value that uses orbit covariance if available

Observer quantities are described in the [HORIZONS documentation](#).

Optional observer-table settings:

date/time format :	calendar date/time ▼ -- display date/time in year-month-day and/or Julian-day format
time digits :	minutes (HH:MM) ▼ -- controls output precision of time
angle format :	hours/degrees minutes seconds ▼ -- select RA/Dec output format
output units :	km & km/s ▼ -- units for most output quantities
range units :	astronomical units ▼ -- units for range-type quantities
refraction model :	airless model (no refraction) ▼ -- select atmospheric refraction model
airmass cut-off :	<input type="text"/> -- suppress output when airmass is greater than limit [1 to 38]
elevation cutoff :	<input type="text"/> (deg) -- suppress output when object elevation is less than limit [-90 to 90]
solar elong. cut-off :	<input type="text"/> - <input type="text"/> (deg) -- suppress output when solar elongation is outside (min,max) range [0 to 180, min to 180]
hour angle cutoff :	<input type="text"/> (h) -- suppress output when the local hour angle (LHA) exceeds value [0 to 12]
angular rate cutoff :	<input type="text"/> (arcsec/h) -- suppress output when the RA/Dec angular rate exceeds this value [0 to 100000]
suppress range-rate :	<input type="checkbox"/> -- suppress range-rate for range/range-rate output
skip daylight :	<input type="checkbox"/> -- suppress output during daylight
extra precision :	<input type="checkbox"/> -- output addition digits for RA/Dec quantities
RTS flag :	disable ▼ -- output data only at target rise/transit/set (RTS)
reference system :	ICRF/J2000.0 ▼ -- reference frame for geometric and astrometric quantities
CSV format :	<input type="checkbox"/> -- output data in Comma-Separated-Values (CSV) format
object page :	<input checked="" type="checkbox"/> -- include object information/data page on output

Use Settings Above

Default Optional Settings

Cancel

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(server date/time)



Site Manager: Ryan S. Park
Webmaster: Alan B. Chamberlin