Ephemeris type: ty=e for ephm, s for summary, h for HTML page return

Target: TextArea=111+ate

Start Date: d= yyyy-mm-dd (2022-1-31)

EphemerasCount: l=x table size

Interval: i=xx

Interval Units: u=d

UT Offset (hours): uto=0

Observatory Code: c= xxx

Site Longitude: long= x.xxx

Site Latitude: lat= x.xxx

Site Altitude: alt= x.xxx

Data Type: raty= “d” for decimal, “x” for decimal degrees, “G” for geocentric vector

RA/Dec Motions: s= t for together, c for separate, s for separate sky motion

Display Motion: m=”s” for sec, “m” for min, “h” for hour

ForcePerturbedEphemritas: fp = “y” or “n”

Measure Azimuths: adir=S for West from South Meridian, N for East from North Meridian

oed=

ElementsOutput: e=”-2” for none

resoc=

tit=

bu=

ch=c

ce=f

js=f

SuppressSun: igd = “y” or “n” (default) Suppress output if sun above horizon

SuppressHorizon: igd = “y” or “n” (default) Suppress output if target is below horizon

|  |
| --- |
|  |
| TextArea | "111+ate" |
| d | "2022-1-31" |
| l | "3" |
| i | "1" |
| u | "m" |
| uto | "0" |
| c | "" |
| long | "1" |
| lat | "2" |
| alt | "3" |
| raty | "d" |
| s | "c" |
| m | "m" |
| adir | "S" |
| oed | "" |
| e | "-2" |
| resoc | "" |
| tit | "" |
| bu | "" |
| ch | "c" |
| ce | "f" |
| js | "f" |
|  |  |

UTDate

UTTime

R.A (J2000)

Decl.

Delta

r

El.

Ph.

V

Sky Motion dRA

Sky Motion dDec

Object Azi.

Object Alt

Sun

Moon

Uncertainty info

@class\_or\_instance

def get\_ephemeris\_async(self, target, location='500', start=None, step='1d',

number=None, ut\_offset=0, eph\_type='equatorial',

ra\_format=None, dec\_format=None,

proper\_motion='total', proper\_motion\_unit='arcsec/h',

suppress\_daytime=False, suppress\_set=False,

perturbed=True, unc\_links=False,

get\_query\_payload=False,

get\_raw\_response=False, cache=False):

r"""

Object ephemerides from the Minor Planet Ephemeris Service.

Parameters

----------

target : str (TextArea)

Designation of the object of interest. See Notes for

acceptable formats.

location : str, array-like, or `~astropy.coordinates.EarthLocation`, optional

Observer's location as an IAU observatory code, a

3-element array of Earth longitude, latitude, altitude, or

a `~astropy.coordinates.EarthLocation`. Longitude and

latitude should be anything that initializes an

`~astropy.coordinates.Angle` object, and altitude should

initialize an `~astropy.units.Quantity` object (with units

of length). If ``None``, then the geocenter (code 500) is

used.

start : str or `~astropy.time.Time`, optional

First epoch of the ephemeris as a string (UT), or astropy

`~astropy.time.Time`. Strings are parsed by

`~astropy.time.Time`. If ``None``, then today is used.

Valid dates span the time period 1900 Jan 1 - 2099 Dec 31

[MPES]\_.

step : str or `~astropy.units.Quantity`, optional

The ephemeris step size or interval in units of days,

hours, minutes, or seconds. Strings are parsed by

`~astropy.units.Quantity`. All inputs are rounded to the

nearest integer. Default is 1 day.

number : int, optional

The number of ephemeris dates to compute. Must be ≤1441.

If ``None``, the value depends on the units of ``step``: 21

for days, 49 for hours, 121 for minutes, or 301 for

seconds.

ut\_offset : int, optional

Number of hours to offset from 0 UT for daily ephemerides.

eph\_type : str, optional

Specify the type of ephemeris::

equatorial: RA and Dec (default)

heliocentric: heliocentric position and velocity vectors

geocentric: geocentric position vector

ra\_format : dict, optional

Format the RA column with

`~astropy.coordinates.Angle.to\_string` using these keyword

arguments, e.g.,

``{'sep': ':', 'unit': 'hourangle', 'precision': 1}``.

dec\_format : dict, optional

Format the Dec column with

`~astropy.coordinates.Angle.to\_string` using these keyword

arguments, e.g., ``{'sep': ':', 'precision': 0}``.

proper\_motion : str, optional

total: total motion and direction (default)

coordinate: separate RA and Dec coordinate motion

sky: separate RA and Dec sky motion (i.e., includes a

cos(Dec) term).

proper\_motion\_unit : string or Unit, optional

Convert proper motion to this unit. Must be an angular

rate. Default is 'arcsec/h'.

suppress\_daytime : bool, optional

Suppress output when the Sun is above the local

horizon. (default ``False``)

suppress\_set : bool, optional

Suppress output when the object is below the local

horizon. (default ``False``)

perturbed : bool, optional

Generate perturbed ephemerides for unperturbed orbits

(default ``True``).

unc\_links : bool, optional

Return columns with uncertainty map and offset links, if

available.

get\_query\_payload : bool, optional

Return the HTTP request parameters as a dictionary

(default: ``False``).

get\_raw\_response : bool, optional

Return raw data without parsing into a table (default:

``False``).

cache : bool, optional

Cache results or use cached results (default: ``False``).

Notes

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See the MPES user's guide [MPES]\_ for details on options and

implementation.

MPES allows azimuths to be measured eastwards from the north

meridian, or westwards from the south meridian. However, the

`~astropy.coordinates.AltAz` coordinate frame assumes

eastwards of north. To remain consistent with Astropy,

eastwards of north is used.

Acceptable target names [MPES]\_ are listed in the tables below.

.. attention:: Asteroid designations in the text version of the

documentation may be prefixed with a backslash, which

should be ignored. This is to force correct rendering of

the designation in the rendered versions of the

documentation (e.g., HTML).