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JPL HOME

EARTH

SOLAR SYSTEM

STARS & GALAXIES

TECHNOLOGY



BODIES

ORBITS

EPHEMERIDES

TOOLS

PHYSICAL DATA

DISCOVERY

FAQ

SITE MAP

JPL Small-Body Database Search Engine

Use this search engine to generate custom tables of orbital and/or physical parameters for all asteroids and comets (or a specified sub-set) in our small-body database. If this is your first time here, you may find it helpful to read our [tutorial](#). Otherwise, simply follow the steps in each section: "Search Constraints", "Output Fields", and finally "Format Options". If you want details for a single object, use the [Small Body Browser](#) instead.

Search Constraints:

[help](#)

Step 1: optionally limit your results by selecting one or more constraint below

Limit by object type/group:
object group: ☒ All objects ☐ NEOs ☐ PHAs
object kind: ☒ All objects ☐ Asteroids ☐ Comets
numbered state: ☒ All objects ☐ Numbered ☐ Unnumbered

Limit to selected orbit class(es): clear selection(s)
----- Asteroid Orbit Classes -----
☐ [Atira](#) ☐ [Inner Main-belt Asteroid](#) ☐ [TransNeptunian Object](#)
☐ [Aten](#) ☐ [Main-belt Asteroid](#) ☐ [Parabolic Asteroid](#)
☐ [Apollo](#) ☐ [Outer Main-belt Asteroid](#) ☐ [Hyperbolic Asteroid](#)
☐ [Amor](#) ☐ [Jupiter Trojan](#) ☐ [Asteroid \(other\)](#)
☐ [Mars-crossing Asteroid](#) ☐ [Centaur](#)
----- Comet Orbit Classes -----
☐ [Hyperbolic Comet](#) ☐ [Encke-type Comet](#)
☐ [Parabolic Comet](#) ☐ [Chiron-type Comet](#)
☐ [Jupiter-family Comet*](#) ☐ [Jupiter-family Comet](#)
☐ [Halley-type Comet*](#) ☐ [Comet \(other\)](#)

Limit by object characteristics:
(select physical parameter) (operator)
(select orbital parameter) (operator)
characteristics constrained as follows...
(combine using logical: ☐ AND ☒ OR)

- prim. desig. = 1977
- prim. desig. = 2294
- prim. desig. = 2407
- prim. desig. = 2573
- prim. desig. = 2904
- prim. desig. = 4813

Output Fields:

[help](#)

Step 2: select desired output fields from the lists below or pick from defined sets
(you can add fields one at a time or in groups)

Object Fields:
object internal database ID
object primary SPK-ID
object full name/designation
object primary designation
object IAU name
comet designation prefix
Near-Earth Object (NEO) flag (Y/N)
Potentially Hazardous Asteroid (PHA) flag (Y/N)
[H] absolute magnitude parameter
[G] magnitude slope parameter (default is 0.15)

Orbital and Model Parameter Fields:
orbit solution ID
epoch of osculation in Julian day form (TDB)
epoch of osculation in modified Julian day form (TDB)
epoch of osculation in calendar date/time form (TDB)
equinox of reference frame
[e] eccentricity
[a] semi-major axis (au)
[q] perihelion distance (au)
[i] inclination; angle with respect to x-y ecliptic plane (deg)
longitude of the ascending node (deg)

Pre-defined field sets:
asteroid - basic
asteroid - physical
comet - basic
comet - physical

Step 3: add selected output fields (above) to your table (repeat steps 2 and 3 as needed)

Step 4: arrange the field output order and/or remove selected fields

Step 5: optionally select sort fields and sort order
Selected Fields (in output order):
 default sort (object ID)

Move Down

Remove

object fullname

a (au)

e

i (deg)

node (deg)

peri (deg)

add selected field(s)

Format Options:

help

Step 6:

select desired output format (for HTML: optionally limit rows-per-page and output precision)

then press the button below to display your results

Table Format:

HTML (default)

10 rows per page max.

reduced-precision (compact)

full-precision (default) [HTML only]

CSV (download)

Generate Table