

DESCRIPTION OF THE FEATURES OF ASTEROID IMPACT DATASET

Epoch Date Close Approach: The specific date when the asteroid is closest to Earth during its orbit.

Relative Velocity (km per sec): The speed at which the asteroid is moving relative to Earth, measured in kilometers per second.

Relative Velocity (km per hr): The speed of the asteroid relative to Earth, converted to kilometers per hour.

Miles per Hour: The speed of the asteroid relative to Earth, measured in miles per hour.

Miss Dist. (Astronomical): The closest distance between the asteroid and Earth, measured in astronomical units (AU), where 1 AU is the average distance from Earth to the Sun.

Miss Dist. (Lunar): The closest distance between the asteroid and Earth, measured in lunar distances, where 1 lunar distance is the average distance from Earth to the Moon.

Miss Dist. (Kilometers): The closest distance between the asteroid and Earth, measured in kilometers.

Miss Dist. (Miles): The closest distance between the asteroid and Earth, measured in miles.

Jupiter Tisserand Invariant: A parameter used to describe the asteroid's orbit in relation to Jupiter, helping to categorize its dynamical behavior.

Epoch Osculation: The specific date for which the orbital parameters of the asteroid are computed or updated.

Semi Major Axis: The average distance of the asteroid's orbit from the Sun, which defines the size of its elliptical orbit.

Asc Node Longitude: The angle between the vernal equinox and the point where the asteroid's orbit crosses the ecliptic plane going north, measured in degrees.

Perihelion Arg: The argument of perihelion, the angle between the ascending node and the point of closest approach to the Sun within the asteroid's orbit.

Aphelion Dist: The maximum distance between the asteroid and the Sun, where the asteroid is farthest from the Sun in its orbit.

Perihelion Time: The time when the asteroid is closest to the Sun during its orbit.

Mean Anomaly: The angle that describes the position of the asteroid along its orbit at a specific time, relative to perihelion.

Mean Motion: The average angular speed of the asteroid in its orbit around the Sun, typically measured in degrees per day or radians per day.

Approach Year: The year in which the asteroid will make its closest approach to Earth.

Approach Month: The month in which the asteroid will make its closest approach to Earth.

Approach Day: The day of the month when the asteroid will make its closest approach to Earth.

Orbital Period: The time it takes for the asteroid to complete one full orbit around the Sun, measured in years.

Orbit Uncertainty: A measure of the confidence in the asteroid's orbital parameters, indicating how precisely its orbit is known.

Hazardous: A classification indicating whether the asteroid poses a potential threat to Earth based on its orbit and proximity.

Diameter: The size of the asteroid, typically measured in meters or kilometers.

Class: The classification of the asteroid based on its orbital characteristics, such as Near-Earth Object (NEO), Main Belt Asteroid (MBA), or Centaur.