→ CAFS FOR 2024 GJ2

ESA's NEO Coordination Centre

Close approach fact sheet for asteroid 2024 GJ2

The very small asteroid 2024 GJ2 has a close encounter with Earth on 11 April 2024. The estimated impact probability is: 0

Fly-by date	2024-04-11
Closest approach time	18:31 UTC (± 5 min)
Fly-by distance from Earth surface	12320 km, 0.03 Lunar Distances (± 40 km)
Fly-by speed	14.4 km/s
Size range	2.3-5 m
Discovery date	2024-04-09
Discovery site	Pan-STARRS 2

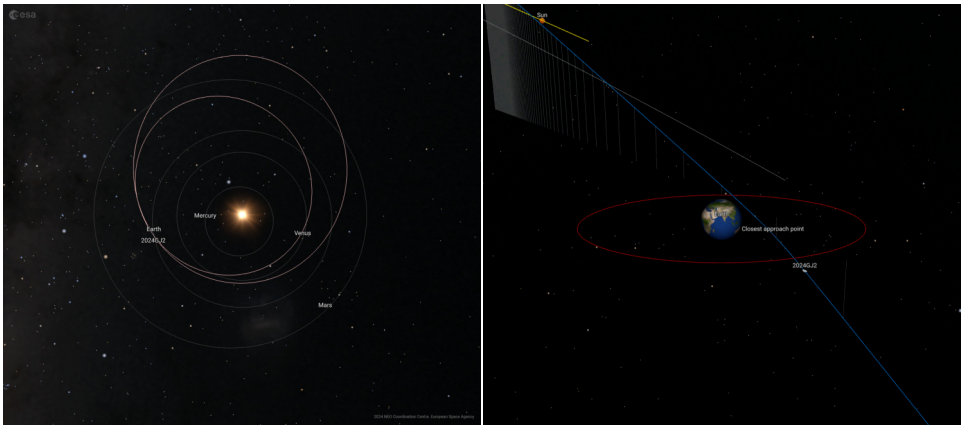
All error bars quoted in this table correspond to one standard deviation.

Orbit information

As the approach distance of the nominal trajectory to the Earth is relatively small, changes in its orbital elements due to the Earth gravity are noticeable.

Date before and after fly-by	Orbital period (year/day)	Aphelion distance (au)	Perihelion distance (au)	Eccentricity	Inclination (deg)
2024-03-12	1.572/574	1.944	0.759	0.438	1.119
2024-05-11	1.101/402	1.495	0.638	0.402	1.022

All orbital elements in this table are referred to the ecliptic at the epoch of J2000.0



In image to the left, the orbit is reported – showing how it will be affected by the close flyby. In image to the right, the flyby trajectory (blue line) and a geostationary orbit (red line) are visualised. N.B.: the size of the object has been magnified.

Physical and mitigation information

Days to closest approach	Cumulative impact probability	Composition	Rotation period (hours)
1	Not applicable	Unknown	Unknown

Observational information

Peak brightness	Visual observability	Geometric observability
12.4	Professional Telescopes	Observable from most of the planet during the incoming part of the approach, coming from the opposition direction. Unobservable due to extremely low solar elongation afterwards.

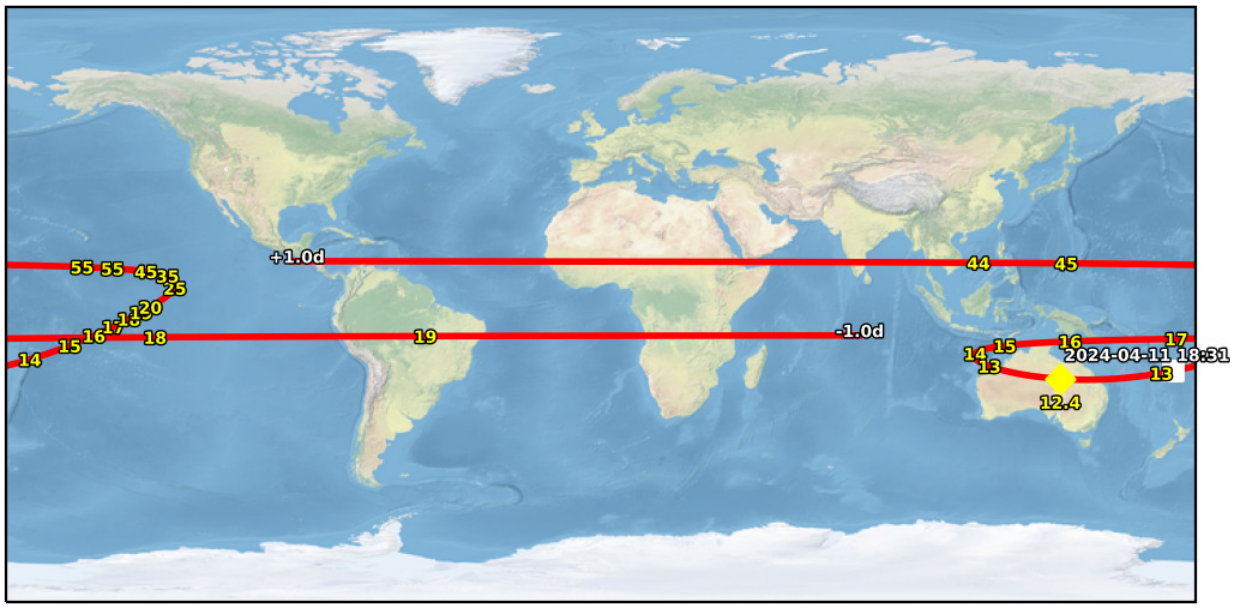
Other information

Encounter peculiarities	Previous encounter	Next encounter
None	2013-04-10	2048-11-12

Only encounters within 0.05 au are considered.

Asteroid ground track

The following figure gives a representation of the sub-asteroid point groundtrack over the Earth. The plot provides an indication of the closest approach point and of the visual magnitudes at different points in the path as observed from the Earth's surface. In the plot, the white square represents the closest approach point, and the yellow diamond indicates the maximum visual magnitude point.



Links

NEO information:
https://neo.ssa.esa.int/search-for-asteroids?sum=1&des=2024GJ2
Orbit visualiser:
https://neotools.ssa.esa.int/ovt?object=2024GJ2
Close approaches page:
https://neo.ssa.esa.int/close-approaches