

Brightest from Earth [[edit](#)]

Only Vesta is regularly bright enough to be seen with the naked eye. Under ideal viewing conditions with very dark skies, a keen eye might be able to also see Ceres, as well as Pallas and Iris at their rare perihelic oppositions.^[16] The following asteroids can all reach an [apparent magnitude](#) brighter than or equal to the +8.3 attained by [Saturn's](#) moon [Titan](#) at its brightest, which was discovered 145 years before the first asteroid was found owing to its closeness to the easily observed Saturn.

None of the asteroids in the outer part of the asteroid belt can ever attain this brightness. Even Hygiea and Interamnia rarely reach magnitudes of above 10.0. This is due to the different distributions of spectral types within different sections of the asteroid belt: the highest-albedo asteroids are all concentrated closer to the orbit of [Mars](#), and much lower albedo [C](#) and [D](#) types are common in the outer belt.

Those asteroids with very high eccentricities will only reach their maximum magnitude rarely, when their perihelion is very close to a heliocentric conjunction with Earth, or (in the case of [99942 Apophis](#), [\(152680\) 1998 KJ₉](#), [\(153814\) 2001 WN₅](#), and [367943 Duende](#)) when the asteroid passes very close to Earth.

Asteroid ↕	Magnitude when brightest ↕	Semi-major axis (AU) ↕	Eccentricity of orbit ↕	Diameter (km) ↕	Year of discovery ↕
99942 Apophis	3.4 [*]	0.922	0.191	0.32	2004
4 Vesta	5.20	2.361	0.089172	529	1807
2 Pallas	6.49	2.773	0.230725	544	1802
1 Ceres	6.65	2.766	0.079905	952	1801
7 Iris	6.73	2.385	0.231422	200	1847
433 Eros	6.8	1.458	0.222725	34 × 11 × 11	1898
(153814) 2001 WN₅	6.85	1.711	0.467207	0.93	2001
367943 Duende	7.04	0.910	0.089319	0.04 × 0.02	2012
6 Hebe	7.5	2.425	0.201726	186	1847
3 Juno	7.5	2.668	0.258194	233	1804
18 Melpomene	7.5	2.296	0.218708	141	1852
(152680) 1998 KJ₉	7.74	1.448	0.639770	0.5	1998
15 Eunomia	7.9	2.643	0.187181	268	1851
8 Flora	7.9	2.202	0.156207	128	1847
324 Bamberga	8.0	2.682	0.338252	229	1892
1036 Ganymed	8.1	2.6657	0.533710	32	1924
9 Metis	8.1	2.387	0.121441	190	1848
192 Nausikaa	8.2	2.404	0.246216	103	1879
20 Massalia	8.3	2.409	0.142880	145	1852