

Sun

Bulk parameters

Classification: Star, yellow dwarf
Spectral class: G2V
Radius: 175,750 km
Mass: 1.25719×10^{29} kg
Gravitational parameter: $8.39056 \times 10^{18} \text{ m}^3/\text{s}^2$
Mean density: $5,530 \text{ kg/m}^3$
Surface gravity: 27.7 g
Escape velocity: 309,003 m/s
Luminosity: $2.40661 \times 10^{25} \text{ W}$
Absolute magnitude: +4.7
Surface temperature: 5,750 K

Rotational parameters

Sidereal rotation period: 25 days
Synchronous orbit altitude: 6,106,178 km
Sphere of influence: infinity

Atmosphere

Overall height: 1,600,000 m
Pressure: 0.1 atm datum
Temperature range: 4,175-7,200 K
Mean molecular weight: 1.25 g/mol
Composition: 92% H, 8% He

Moho

Bulk parameters

Classification: Planet, terrestrial
Radius: 650 km datum, 652.3 km mean
Mass: 1.80034×10^{22} kg
Gravitational parameter: 1.20156×10^{12} m³/s²
Mean density: 15,480 kg/m³
Surface gravity: 0.29 g datum
Escape velocity: 1,923 m/s
Bond albedo: 0.1
Solar irradiance: 9,081 W/m²
Black-body temperature: 436 K
Natural satellites: none

Orbital & rotational parameters

Semi-major axis: 14,522,400 km
Perihelion: 11,617,920 km
Aphelion: 17,426,880 km
Orbit eccentricity: 0.2
Orbit inclination: 7°
Longitude of ascending node: 70°
Argument of periapsis: 15°
Sidereal orbit period: 87.874 days
Synodic period: 115.74 days
Mean orbital velocity: 24,037 m/s
Sidereal rotation period: 58.582 days
Solar day: 175.75 days
Synchronous orbit altitude: not possible
Sphere of influence: 26,572 km

Eve

Bulk parameters

Classification: Planet, terrestrial
Radius: 2,050 km sea level, 2,052.0 km mean
Mass: 8.64500×10^{23} kg
Gravitational parameter: 5.76974×10^{13} m³/s²
Mean density: 23,890 kg/m³
Surface gravity: 1.4 g sea level
Escape velocity: 7,503 m/s
Bond albedo: 0.45
Solar irradiance: 2,602 W/m²
Black-body temperature: 282 K
Natural satellites: Gilly

Orbital & rotational parameters

Semi-major axis: 27,131,000 km
Perihelion: 26,859,690 km
Aphelion: 27,402,310 km
Orbit eccentricity: 0.01
Orbit inclination: 2.1°
Longitude of ascending node: 15°
Argument of periapsis: 45°
Sidereal orbit period: 224.39 days
Synodic period: 582.46 days
Mean orbital velocity: 17,586 m/s
Sidereal rotation period: 22.5 hours
Solar day: 22.690 hours
Synchronous orbit altitude: 19,195 km
Sphere of influence: 233,567 km

Atmosphere

Overall height: 60,000 m
Pressure: 10 atm sea level, 1 atm @ 10.6 km
Mean temperature: 410 K sea level
Mean molecular weight: 40.8 g/mol
Composition: 80% CO₂, 20% N₂

Gilly

Bulk parameters

Classification: Moon (Eve)
Radius: 30 km datum, 33.0 km mean
Mass: 9.91820×10^{17} kg
Gravitational parameter: 6.61949×10^7 m³/s²
Mean density: 6,580 kg/m³
Surface gravity: 0.0075 g datum
Escape velocity: 66 m/s
Bond albedo: 0.25
Solar irradiance: 2,602 W/m²
Black-body temperature: 305 K

Orbital & rotational parameters

Semi-major axis: 86,920 km
Periapsis: 39,114 km
Apoapsis: 134,726 km
Orbit eccentricity: 0.55
Orbit inclination: 12°
Longitude of ascending node: 80°
Argument of periapsis: 10°
Sidereal orbit period: 15.517 days
Synodic period: 16.669 days
Mean orbital velocity: 815 m/s
Sidereal rotation period: 15.517 days
Solar day: 16.669 days
Synchronous orbit altitude: not possible
Sphere of influence: 366 km

Kerbin

Bulk parameters

Classification: Planet, terrestrial
Radius: 1,600 km sea level, 1,600.4 km mean
Mass: 3.76157×10^{23} kg
Gravitational parameter: 2.51050×10^{13} m³/s²
Mean density: 21,910 kg/m³
Surface gravity: 1 g sea level (9.80665 m/s²)
Escape velocity: 5,602 m/s
Bond albedo: 0.3
Solar irradiance: 1,360 W/m²
Black-body temperature: 254.5 K
Natural satellites: Mun, Minmus

Orbital & rotational parameters

Semi-major axis: 37,525,648 km (1 au)
Perihelion: 36,775,135 km
Aphelion: 38,276,161 km
Orbit eccentricity: 0.02
Orbit inclination: 0°
Longitude of ascending node: 0°
Argument of periapsis: 0°
Sidereal orbit period: 365 days (1 year)
Mean orbital velocity: 14,953 m/s
Sidereal rotation period: 11.967 hours
Solar day: 12 hours (1 day)
Synchronous orbit altitude: 8,968.110 km
Sphere of influence: 231,588 km

Atmosphere

Overall height: 85,000 m
Pressure: 1 atm sea level (101.325 kPa)
Mean temperature: 288 K sea level
Mean molecular weight: 28.9644 g/mol
Composition: 78.08% N₂, 20.95% O₂, 0.93% Ar

Mun

Bulk parameters

Classification: Moon (Kerbin)
Radius: 400 km datum, 401.1 km mean
Mass: 3.40892×10^{21} kg
Gravitational parameter: 2.27514×10^{11} m³/s²
Mean density: 12,610 kg/m³
Surface gravity: 0.145 g datum
Escape velocity: 1,067 m/s
Bond albedo: 0.2
Solar irradiance: 1,360 W/m²
Black-body temperature: 263 K

Orbital & rotational parameters

Semi-major axis: 90,960 km
Periapsis: 90,505 km
Apoapsis: 91,415 km
Orbit eccentricity: 0.005
Orbit inclination: 0.5°
Longitude of ascending node: 45°
Argument of periapsis: 165°
Sidereal orbit period: 25.182 days
Synodic period: 27.048 days
Mean orbital velocity: 525 m/s
Sidereal rotation period: 25.182 days
Solar day: 27.048 days
Synchronous orbit altitude: not possible
Sphere of influence: 13,860 km

Minmus

Bulk parameters

Classification: Moon (Kerbin)
Radius: 160 km datum, 160.3 km mean
Mass: 1.88079×10^{20} kg
Gravitational parameter: 1.25525×10^{10} m³/s²
Mean density: 10,910 kg/m³
Surface gravity: 0.05 g datum
Escape velocity: 396 m/s
Bond albedo: 0.2
Solar irradiance: 1,360 W/m²
Black-body temperature: 263 K

Orbital & rotational parameters

Semi-major axis: 146,970 km
Periapsis: 142,561 km
Apoapsis: 151,379 km
Orbit eccentricity: 0.03
Orbit inclination: 6°
Longitude of ascending node: 75°
Argument of periapsis: 315°
Sidereal orbit period: 51.720 days
Synodic period: 60.259 days
Mean orbital velocity: 413 m/s
Sidereal rotation period: 9 hours
Solar day: 9.0185 hours
Synchronous orbit altitude: 534 km
Sphere of influence: 7,028 km

Duna

Bulk parameters

Classification: Planet, terrestrial
Radius: 800 km datum, 801.5 km mean
Mass: 3.19734×10^{22} kg
Gravitational parameter: 2.13393×10^{12} m³/s²
Mean density: 14,830 kg/m³
Surface gravity: 0.34 g datum
Escape velocity: 2,310 m/s
Bond albedo: 0.25
Solar irradiance: 586 W/m²
Black-body temperature: 210 K
Natural satellites: Ike

Orbital & rotational parameters

Semi-major axis: 57,189,100 km
Perihelion: 54,272,456 km
Aphelion: 60,105,744 km
Orbit eccentricity: 0.051
Orbit inclination: 0.06°
Longitude of ascending node: 135.5°
Argument of periapsis: 345°
Sidereal orbit period: 686.71 days
Synodic period: 779.12 days
Mean orbital velocity: 12,113 m/s
Sidereal rotation period: 14 hours
Solar day: 14.024 hours
Synchronous orbit altitude: 4,359 km
Sphere of influence: 131,664 km

Atmosphere

Overall height: 70,000 m
Pressure: 0.04 atm datum
Mean temperature: 230 K datum
Mean molecular weight: 42.4 g/mol
Composition: 90% CO₂, 10% N₂

Ike

Bulk parameters

Classification: Moon (Duna)
Radius: 210 km datum, 211.1 km mean
Mass: 3.88794×10^{20} kg
Gravitational parameter: 2.59484×10^{10} m³/s²
Mean density: 9,860 kg/m³
Surface gravity: 0.06 g datum
Escape velocity: 497 m/s
Bond albedo: 0.3
Solar irradiance: 586 W/m²
Black-body temperature: 206 K

Orbital & rotational parameters

Semi-major axis: 36,680 km
Perihelion: 35,580 km
Aphelion: 37,780 km
Orbit eccentricity: 0.03
Orbit inclination: 0.2°
Longitude of ascending node: 90°
Argument of periapsis: 345°
Sidereal orbit period: 22.118 days
Synodic period: 22.854 days
Mean orbital velocity: 241 m/s
Sidereal rotation period: 22.118 days
Solar day: 22.854 days
Synchronous orbit altitude: not possible
Sphere of influence: 6,286 km

Edna

Bulk parameters

Classification: Dwarf planet
Radius: 260 km datum, 261.0 km mean
Mass: 7.94632×10^{20} kg
Gravitational parameter: 5.30344×10^{10} m³/s²
Mean density: 10,670 kg/m³
Surface gravity: 0.08 g datum
Escape velocity: 639 m/s
Bond albedo: 0.15
Solar irradiance: 216 W/m²
Black-body temperature: 169 K
Natural satellites: Dak

Orbital & rotational parameters

Semi-major axis: 94,080,000 km
Perihelion: 87,494,400 km
Aphelion: 100,665,600 km
Orbit eccentricity: 0.07
Orbit inclination: 3°
Longitude of ascending node: 30°
Argument of periapsis: 310°
Sidereal orbit period: 3.9697 years
Synodic period: 487.91 days
Mean orbital velocity: 9,444 m/s
Sidereal rotation period: 3 hours
Solar day: 3.0005 hours
Synchronous orbit altitude: 279 km
Sphere of influence: 49,409 km

Dak

Bulk parameters

Classification: Moon (Edna)
Radius: 20 km datum, 26.1 km mean
Mass: 4.70196×10^{17} kg
Gravitational parameter: 3.13813×10^7 m³/s²
Mean density: 6,320 kg/m³
Surface gravity: 0.008 g datum
Escape velocity: 56 m/s
Bond albedo: 0.1
Solar irradiance: 216 W/m²
Black-body temperature: 171 K

Orbital & rotational parameters

Semi-major axis: 4,770 km
Periapsis: 4,722 km
Apoapsis: 4,818 km
Orbit eccentricity: 0.01
Orbit inclination: 10°
Longitude of ascending node: 120°
Argument of periapsis: 90°
Sidereal orbit period: 6.5795 days
Synodic period: 6.6095 days
Mean orbital velocity: 105 m/s
Sidereal rotation period: 6.5795 days
Solar day: 6.6095 days
Synchronous orbit altitude: not possible
Sphere of influence: 244 km

Dres

Bulk parameters

Classification: Dwarf planet
Radius: 360 km datum, 361.6 km mean
Mass: 2.28515×10^{21} kg
Gravitational parameter: 1.52513×10^{11} m³/s²
Mean density: 11,540 kg/m³
Surface gravity: 0.12 g datum
Escape velocity: 920 m/s
Bond albedo: 0.2
Solar irradiance: 151 W/m²
Black-body temperature: 152 K
Natural satellites: none

Orbital & rotational parameters

Semi-major axis: 112,687,000 km
Perihelion: 96,347,385 km
Aphelion: 129,026,615 km
Orbit eccentricity: 0.145
Orbit inclination: 5°
Longitude of ascending node: 280°
Argument of periapsis: 90°
Sidereal orbit period: 5.2038 years
Synodic period: 451.83 days
Mean orbital velocity: 8,629 m/s
Sidereal rotation period: 4.5 hours
Solar day: 4.5009 hours
Synchronous orbit altitude: 645 km
Sphere of influence: 90,298 km

Jool

Bulk parameters

Classification: Planet, gas giant
Radius: 14,000 km datum
Mass: 2.99515×10^{25} kg
Gravitational parameter: 1.99899×10^{15} m³/s²
Mean density: 2,610 kg/m³
Surface gravity: 1.04 g datum
Escape velocity: 16,899 m/s
Bond albedo: 0.35
Solar irradiance: 53.2 W/m²
Black-body temperature: 111 K
Natural satellites: Laythe, Vall, Tylo, Bop, Pol

Orbital & rotational parameters

Semi-major axis: 189,765,000 km
Perihelion: 180,276,750 km
Aphelion: 199,253,250 km
Orbit eccentricity: 0.05
Orbit inclination: 1.304°
Longitude of ascending node: 52°
Argument of periapsis: 30°
Sidereal orbit period: 11.372 years
Synodic period: 400.19 days
Mean orbital velocity: 6,649 m/s
Sidereal rotation period: 5.5 hours
Solar day: 5.5006 hours
Synchronous orbit altitude: 13,077 km
Sphere of influence: 6,745,648 km

Atmosphere

Overall height: 700,000 m
Pressure: 100 atm datum, 1 atm @ 161 km
Mean temperature: 600 K datum, 145 K @ 161 km
Mean molecular weight: 2.22 g/mol
Composition: 90% H₂, 10% He

Laythe

Bulk parameters

Classification: Moon (Jool)
Radius: 1,100 km sea level, 1,100.1 km mean
Mass: 1.03120×10^{23} kg
Gravitational parameter: 6.88231×10^{12} m³/s²
Mean density: 18,490 kg/m³
Surface gravity: 0.58 g datum
Escape velocity: 3,537 m/s
Bond albedo: 0.25
Solar irradiance: 53.2 W/m²
Black-body temperature: 115 K

Orbital & rotational parameters

Semi-major axis: 87,640 km
Periapsis: 86,764 km
Apoapsis: 88,516 km
Orbit eccentricity: 0.01
Orbit inclination: 0.2°
Longitude of ascending node: 120°
Argument of periapsis: 120°
Sidereal orbit period: 2.6690 days
Synodic period: 2.6707 days
Mean orbital velocity: 4,776 m/s
Sidereal rotation period: 2.6690 days
Solar day: 2.6707 days
Synchronous orbit altitude: not possible
Sphere of influence: 9,067 km

Atmosphere

Overall height: 75,000 m
Pressure: 0.6 atm sea level
Mean temperature: 280 K sea level
Mean molecular weight: 28.4 g/mol
Composition: 90% N₂, 10% O₂

Vall

Bulk parameters

Classification: Moon (Jool)
Radius: 550 km datum, 552.3 km mean
Mass: 8.00068×10^{21} kg
Gravitational parameter: 5.33972×10^{11} m³/s²
Mean density: 11,340 kg/m³
Surface gravity: 0.18 g datum
Escape velocity: 1,393 m/s
Bond albedo: 0.4
Solar irradiance: 53.2 W/m²
Black-body temperature: 109 K

Orbital & rotational parameters

Semi-major axis: 160,230 km
Periapsis: 155,423 km
Apoapsis: 165,037 km
Orbit eccentricity: 0.03
Orbit inclination: 0.3°
Longitude of ascending node: 90°
Argument of periapsis: 270°
Sidereal orbit period: 6.5979 days
Synodic period: 6.6084 days
Mean orbital velocity: 3,532 m/s
Sidereal rotation period: 6.5979 days
Solar day: 6.6084 days
Synchronous orbit altitude: not possible
Sphere of influence: 5,962 km

Tylo

Bulk parameters

Classification: Moon (Jool)
Radius: 900 km datum, 903.0 km mean
Mass: 3.80859×10^{22} kg
Gravitational parameter: 2.54188×10^{12} m³/s²
Mean density: 12,350 kg/m³
Surface gravity: 0.32 g datum
Escape velocity: 2,377 m/s
Bond albedo: 0.35
Solar irradiance: 53.2 W/m²
Black-body temperature: 111 K

Orbital & rotational parameters

Semi-major axis: 292,950 km
Periapsis: 290,021 km
Apoapsis: 295,880 km
Orbit eccentricity: 0.01
Orbit inclination: 0.1°
Longitude of ascending node: 150°
Argument of periapsis: 285°
Sidereal orbit period: 16.311 days
Synodic period: 16.375 days
Mean orbital velocity: 2,612 m/s
Sidereal rotation period: 16.311 days
Solar day: 16.375 days
Synchronous orbit altitude: not possible
Sphere of influence: 20,348 km

Atmosphere

Overall height: 85,000 m
Pressure: 0.2 atm datum
Mean temperature: 125 K datum
Mean molecular weight: 28.0 g/mol
Composition: 100% N₂

Bop

Bulk parameters

Classification: Moon (Jool)
Radius: 190 km datum, 190.8 km mean
Mass: 2.65220×10^{20} kg
Gravitational parameter: 1.77010×10^{10} m³/s²
Mean density: 9,120 kg/m³
Surface gravity: 0.05 g datum
Escape velocity: 432 m/s
Bond albedo: 0.35
Solar irradiance: 53.2 W/m²
Black-body temperature: 111 K

Orbital & rotational parameters

Semi-major axis: 582,970 km
Periapsis: 445,972 km
Apoapsis: 719,968 km
Orbit eccentricity: 0.235
Orbit inclination: 165°
Longitude of ascending node: 190°
Argument of periapsis: 155°
Sidereal orbit period: 45.789 days
Synodic period: 46.300 days
Mean orbital velocity: 1,852 m/s
Sidereal rotation period: 45.789 days
Solar day: 46.300 days
Synchronous orbit altitude: not possible
Sphere of influence: 5,553 km

Pol

Bulk parameters

Classification: Moon (Jool)
Radius: 130 km datum, 130.5 km mean
Mass: 7.44967×10^{19} kg
Gravitational parameter: 4.97197×10^9 m³/s²
Mean density: 8,000 kg/m³
Surface gravity: 0.03 g datum
Escape velocity: 277 m/s
Bond albedo: 0.45
Solar irradiance: 53.2 W/m²
Black-body temperature: 107 K

Orbital & rotational parameters

Semi-major axis: 739,460 km
Periapsis: 613,123 km
Apoapsis: 865,797 km
Orbit eccentricity: 0.17085
Orbit inclination: 4.25°
Longitude of ascending node: 2°
Argument of periapsis: 15°
Sidereal orbit period: 65.413 days
Synodic period: 66.460 days
Mean orbital velocity: 1,644 m/s
Sidereal rotation period: 5 hours
Solar day: 5.0005 hours
Synchronous orbit altitude: 214 km
Sphere of influence: 4,238 km

Lindor

Bulk parameters

Classification: Planet, ice giant
Radius: 8,000 km datum
Mass: 8.83969×10^{24} kg
Gravitational parameter: 5.89968×10^{14} m³/s²
Mean density: 4,120 kg/m³
Surface gravity: 0.94 g datum
Escape velocity: 12,145 m/s
Bond albedo: 0.3
Solar irradiance: 14.8 W/m²
Black-body temperature: 82 K
Natural satellites: Krel, Aden, Huygen, Riga, Talos

Orbital & rotational parameters

Semi-major axis: 359,571,000 km
Perihelion: 348,783,870 km
Aphelion: 370,358,130 km
Orbit eccentricity: 0.03
Orbit inclination: 1.7°
Longitude of ascending node: 80°
Argument of periapsis: 75°
Sidereal orbit period: 29.661 years
Synodic period: 377.74 days
Mean orbital velocity: 4,831 m/s
Sidereal rotation period: 7 hours
Solar day: 7.0004 hours
Synchronous orbit altitude: 13,172 km
Sphere of influence: 7,845,120 km

Atmosphere

Overall height: 540,000 m
Pressure: 100 atm datum, 1 atm @ 138 km
Mean temperature: 500 K datum, 116 K @ 138 km
Mean molecular weight: 2.42 g/mol
Composition: 86% H₂, 13% He, 1% CH₄

Krel

Bulk parameters

Classification: Moon (Lindor)
Radius: 150 km datum, 150.8 km mean
Mass: 9.91820×10^{19} kg
Gravitational parameter: 6.61949×10^9 m³/s²
Mean density: 6,910 kg/m³
Surface gravity: 0.03 g datum
Escape velocity: 297 m/s
Bond albedo: 0.6
Solar irradiance: 14.8 W/m²
Black-body temperature: 71 K

Orbital & rotational parameters

Semi-major axis: 58,600 km
Periapsis: 57,428 km
Apoapsis: 59,772 km
Orbit eccentricity: 0.02
Orbit inclination: 1.5°
Longitude of ascending node: 60°
Argument of periapsis: 180°
Sidereal orbit period: 2.6861 days
Synodic period: 2.6868 days
Mean orbital velocity: 3,173 m/s
Sidereal rotation period: 2.6861 days
Solar day: 2.6868 days
Synchronous orbit altitude: not possible
Sphere of influence: 614 km

Aden

Bulk parameters

Classification: Moon (Lindor)
Radius: 300 km datum, 300.8 km mean
Mass: 9.25699×10^{20} kg
Gravitational parameter: 6.17819×10^{10} m³/s²
Mean density: 8,120 kg/m³
Surface gravity: 0.07 g datum
Escape velocity: 642 m/s
Bond albedo: 0.4
Solar irradiance: 14.8 W/m²
Black-body temperature: 79 K

Orbital & rotational parameters

Semi-major axis: 107,140 km
Periapsis: 106,069 km
Apoapsis: 108,211 km
Orbit eccentricity: 0.01
Orbit inclination: 0.25°
Longitude of ascending node: 120°
Argument of periapsis: 30°
Sidereal orbit period: 6.6406 days
Synodic period: 6.6447 days
Mean orbital velocity: 2,347 m/s
Sidereal rotation period: 6.6406 days
Solar day: 6.6447 days
Synchronous orbit altitude: not possible
Sphere of influence: 2,741 km

Huygen

Bulk parameters

Classification: Moon (Lindor)
Radius: 670 km datum, 670.9 km mean
Mass: 9.89396×10^{21} kg
Gravitational parameter: 6.60331×10^{11} m³/s²
Mean density: 7,820 kg/m³
Surface gravity: 0.15 g datum
Escape velocity: 1,404 m/s
Bond albedo: 0.3
Solar irradiance: 14.8 W/m²
Black-body temperature: 82 K

Orbital & rotational parameters

Semi-major axis: 187,500 km
Periapsis: 182,813 km
Apoapsis: 192,188 km
Orbit eccentricity: 0.025
Orbit inclination: 0.75°
Longitude of ascending node: 150°
Argument of periapsis: 60°
Sidereal orbit period: 15.374 days
Synodic period: 15.396 days
Mean orbital velocity: 1,774 m/s
Sidereal rotation period: 15.374 days
Solar day: 15.396 days
Synchronous orbit altitude: not possible
Sphere of influence: 12,376 km

Atmosphere

Overall height: 180,000 m
Pressure: 1.5 atm datum
Mean temperature: 91 K datum
Mean molecular weight: 27.5 g/mol
Composition: 96% N₂, 4% CH₄

Riga

Bulk parameters

Classification: Moon (Lindor)
Radius: 750 km datum, 751.4 km mean
Mass: 1.48773×10^{22} kg
Gravitational parameter: 9.92923×10^{11} m³/s²
Mean density: 8,370 kg/m³
Surface gravity: 0.18 g datum
Escape velocity: 1,627 m/s
Bond albedo: 0.45
Solar irradiance: 14.8 W/m²
Black-body temperature: 77 K

Orbital & rotational parameters

Semi-major axis: 309,380 km
Periapsis: 300,099 km
Apoapsis: 318,661 km
Orbit eccentricity: 0.03
Orbit inclination: 0.5°
Longitude of ascending node: 90°
Argument of periapsis: 105°
Sidereal orbit period: 32.585 days
Synodic period: 32.684 days
Mean orbital velocity: 1,381 m/s
Sidereal rotation period: 32.585 days
Solar day: 32.684 days
Synchronous orbit altitude: not possible
Sphere of influence: 24,040 km

Atmosphere

Overall height: 90,000 m
Pressure: 0.06 atm datum
Mean temperature: 80 K datum
Mean molecular weight: 28.0 g/mol
Composition: 100% N₂

Talos

Bulk parameters

Classification: Moon (Lindor)
Radius: 500 km datum, 501.3 km mean
Mass: 4.04075×10^{21} kg
Gravitational parameter: 2.69683×10^{11} m³/s²
Mean density: 7,660 kg/m³
Surface gravity: 0.11 g datum
Escape velocity: 1,039 m/s
Bond albedo: 0.4
Solar irradiance: 14.8 W/m²
Black-body temperature: 79 K

Orbital & rotational parameters

Semi-major axis: 575,680 km
Periapsis: 552,653 km
Apoapsis: 598,707 km
Orbit eccentricity: 0.04
Orbit inclination: 1°
Longitude of ascending node: 180°
Argument of periapsis: 285°
Sidereal orbit period: 82.709 days
Synodic period: 83.346 days
Mean orbital velocity: 1,012 m/s
Sidereal rotation period: 82.709 days
Solar day: 83.346 days
Synchronous orbit altitude: not possible
Sphere of influence: 26,558 km

Eeloo

Bulk parameters

Classification: Dwarf planet
Radius: 600 km datum, 602.6 km mean
Mass: 7.93456×10^{21} kg
Gravitational parameter: 5.29559×10^{11} m³/s²
Mean density: 8,660 kg/m³
Surface gravity: 0.15 g datum
Escape velocity: 1,329 m/s
Bond albedo: 0.6
Solar irradiance: 8.6 W/m²
Black-body temperature: 62 K
Natural satellites: Celes, Tam

Orbital & rotational parameters

Semi-major axis: 471,171,300 km
Perihelion: 348,666,762 km
Aphelion: 593,675,838 km
Orbit eccentricity: 0.26
Orbit inclination: 6.15°
Longitude of ascending node: 50°
Argument of periapsis: 260°
Sidereal orbit period: 44.491 years
Synodic period: 373.39 days
Mean orbital velocity: 4,220 m/s
Sidereal rotation period: 8 hours
Solar day: 8.0003 hours
Synchronous orbit altitude: 1,632 km
Sphere of influence: 621,195 km

Atmosphere

Overall height: 80,000 m
Pressure: 0.02 atm datum
Mean temperature: 65 K datum
Mean molecular weight: 28.0 g/mol
Composition: 100% N₂

Celes

Bulk parameters

Classification: Moon (Eeloo)
Radius: 200 km datum, 200.9 km mean
Mass: 2.35098×10^{20} kg
Gravitational parameter: 1.56906×10^{10} m³/s²
Mean density: 6,920 kg/m³
Surface gravity: 0.04 g datum
Escape velocity: 396 m/s
Bond albedo: 0.45
Solar irradiance: 8.6 W/m²
Black-body temperature: 68 K

Orbital & rotational parameters

Semi-major axis: 31,800 km
Periapsis: 30,210 km
Apoapsis: 33,390 km
Orbit eccentricity: 0.05
Orbit inclination: 10°
Longitude of ascending node: 100°
Argument of periapsis: 270°
Sidereal orbit period: 35.841 days
Synodic period: 35.920 days
Mean orbital velocity: 129 m/s
Sidereal rotation period: 35.841 days
Solar day: 35.920 days
Synchronous orbit altitude: not possible
Sphere of influence: 7,782 km

Tam

Bulk parameters

Classification: Moon (Eeloo)
Radius: 10 km datum, 13.6 km mean
Mass: 5.14277×10^{16} kg
Gravitational parameter: 3.43233×10^6 m³/s²
Mean density: 4,900 kg/m³
Surface gravity: 0.0035 g datum
Escape velocity: 26 m/s
Bond albedo: 0.2
Solar irradiance: 8.6 W/m²
Black-body temperature: 74 K

Orbital & rotational parameters

Semi-major axis: 64,670 km
Periapsis: 63,053 km
Apoapsis: 66,287 km
Orbit eccentricity: 0.025
Orbit inclination: 9.5°
Longitude of ascending node: 105°
Argument of periapsis: 210°
Sidereal orbit period: 103.94 days
Synodic period: 104.61 days
Mean orbital velocity: 90 m/s
Sidereal rotation period: 103.94 days
Solar day: 104.61 days
Synchronous orbit altitude: not possible
Sphere of influence: 544 km

Hamek

Bulk parameters

Classification: Dwarf planet
Radius: 450 km datum, 451.3 km mean
Mass: 2.97546×10^{21} kg
Gravitational parameter: 1.98585×10^{11} m³/s²
Mean density: 7,730 kg/m³
Surface gravity: 0.1 g datum
Escape velocity: 939 m/s
Bond albedo: 0.45
Solar irradiance: 6.9 W/m²
Black-body temperature: 64 K
Natural satellites: none

Orbital & rotational parameters

Semi-major axis: 527,129,000 km
Perihelion: 474,416,100 km
Aphelion: 579,841,900 km
Orbit eccentricity: 0.1
Orbit inclination: 4°
Longitude of ascending node: 165°
Argument of periapsis: 175°
Sidereal orbit period: 52.648 years
Synodic period: 372.07 days
Mean orbital velocity: 3,990 m/s
Sidereal rotation period: 4 hours
Solar day: 4.0001 hours
Synchronous orbit altitude: 564 km
Sphere of influence: 469,439 km

Nara

Bulk parameters

Classification: Planet
Radius: 3,600 km datum, 3601.6 km mean
Mass: 1.90430×10^{24} kg
Gravitational parameter: 1.27094×10^{14} m³/s²
Mean density: 9,730 kg/m³
Surface gravity: 1 g datum
Escape velocity: 8,403 m/s
Bond albedo: 0.3
Solar irradiance: 0.65 W/m²
Black-body temperature: 38 K
Natural satellites: Amos, Enon, Prax

Orbital & rotational parameters

Semi-major axis: 1,712,000,000 km
Perihelion: 1,112,800,000 km
Aphelion: 2,311,200,000 km
Orbit eccentricity: 0.35
Orbit inclination: 20°
Longitude of ascending node: 90°
Argument of periapsis: 150°
Sidereal orbit period: 308.15 years
Synodic period: 366.19 days
Mean orbital velocity: 2,214 m/s
Sidereal rotation period: 12 hours
Solar day: 12.0001 hours
Synchronous orbit altitude: 14,579 km
Sphere of influence: 20,213,317 km

Atmosphere

Overall height: 200,000 m
Pressure: 40 atm datum, 1 atm @ 40.3 km
Mean temperature: 40 K datum
Mean molecular weight: 2.42 g/mol
Composition: 80% H₂, 20% He

Amos

Bulk parameters

Classification: Moon (Nara)
Radius: 320 km datum, 321.2 km mean
Mass: 9.02777×10^{20} kg
Gravitational parameter: 6.02521×10^{10} m³/s²
Mean density: 6,500 kg/m³
Surface gravity: 0.06 g datum
Escape velocity: 614 m/s
Bond albedo: 0.25
Solar irradiance: 0.65 W/m²
Black-body temperature: 38 K

Orbital & rotational parameters

Semi-major axis: 55,880 km
Periapsis: 55,321 km
Apoapsis: 56,439 km
Orbit eccentricity: 0.01
Orbit inclination: 0.5°
Longitude of ascending node: 180°
Argument of periapsis: 345°
Sidereal orbit period: 5.3891 days
Synodic period: 5.3894 days
Mean orbital velocity: 1,508 m/s
Sidereal rotation period: 5.3891 days
Solar day: 5.3894 days
Synchronous orbit altitude: not possible
Sphere of influence: 2,616 km

Enon

Bulk parameters

Classification: Moon (Nara)
Radius: 700 km datum, 702.0 km mean
Mass: 1.07998×10^{22} kg
Gravitational parameter: 7.20789×10^{11} m³/s²
Mean density: 7,450 kg/m³
Surface gravity: 0.15 g datum
Escape velocity: 1,435 m/s
Bond albedo: 0.35
Solar irradiance: 0.65 W/m²
Black-body temperature: 37 K

Orbital & rotational parameters

Semi-major axis: 125,980 km
Periapsis: 124,090 km
Apoapsis: 127,870 km
Orbit eccentricity: 0.015
Orbit inclination: 0.2°
Longitude of ascending node: 270°
Argument of periapsis: 0°
Sidereal orbit period: 18.243 days
Synodic period: 18.246 days
Mean orbital velocity: 1,004 m/s
Sidereal rotation period: 18.243 days
Solar day: 18.246 days
Synchronous orbit altitude: not possible
Sphere of influence: 15,914 km

Prax

Bulk parameters

Classification: Moon (Nara)
Radius: 110 km datum, 110.5 km mean
Mass: 3.55586×10^{19} kg
Gravitational parameter: 2.37321×10^9 m³/s²
Mean density: 6,290 kg/m³
Surface gravity: 0.02 g datum
Escape velocity: 208 m/s
Bond albedo: 0.45
Solar irradiance: 0.65 W/m²
Black-body temperature: 35 K

Orbital & rotational parameters

Semi-major axis: 751,900 km
Periapsis: 451,140 km
Apoapsis: 1,052,660 km
Orbit eccentricity: 0.4
Orbit inclination: 17°
Longitude of ascending node: 95°
Argument of periapsis: 100°
Sidereal orbit period: 265.99 days
Synodic period: 266.63 days
Mean orbital velocity: 411 m/s
Sidereal rotation period: 6 hours
Solar day: 6.00003 hours
Synchronous orbit altitude: 194 km
Sphere of influence: 9,653 km