

Albedo: The reflectivity of astronomical objects.

Ansa (plural ansae): The part of a planetary ring system with the greatest apparent curvature, to either side of the planet.

Anti-tail: A comet tail that appears to point back toward the Sun.

Aperture effect: The reduction in perceived true coma size and total brightness with larger aperture (diameter of lens or mirror) in optical instruments.

Aphelion: Far point of an orbit around the Sun (opposite of perihelion).

Apogee: Far point of an orbit around Earth (opposite of perigee).

Apparition: Period of a planet's (or other object's) visibility between two periods when it is not viewable.

Ashen Light: Mysterious luminosity sometimes observed on the night side of Venus's disk.

Asteroids: Small worlds found mostly between the orbits of Mars and Jupiter (also called minor planets).

Astronomical unit (AU): The average distance between Earth and the Sun.

Aureole: The innermost area of scattered light around the Sun in our sky.

Baily's beads: Beads of the Sun's brilliant surface shining through lowland areas on the Moon's edge at the start or end of a total solar eclipse.

Belts: The planet-encircling bands of darker clouds on the gas giant planets.

Bipolar sunspot group: Group of sunspots that are related by being at the corresponding entrance and exit points of magnetic lines of force in a disturbance at the Sun's surface.

Celestial sphere: The imaginary sphere surrounding Earth whose inner surface is the sky above and below one's horizon.

Chromosphere: A colorful layer of the Sun's atmosphere glimpsed briefly at the start and end of a total solar eclipse.

Coma (of a comet): The cloud of gas and dust surrounding an active comet's nucleus, with the nucleus forming the comet's head.

Comet: A mass of frozen gas and dust (the nucleus) that releases this gas and dust to form a coma and (generally) a tail when exposed to sufficient solar radiation and heating.

Conjunction: Strictly speaking, the arrangement when one celestial object moves to a position due north or south of another; more loosely, any close pairing of celestial objects brought about by the motion of one or both.

Corona: The pearly white outer atmosphere of the Sun visible during total solar eclipses.

Cusp-caps: Caps of light occasionally observed on the points of the crescent Venus.

Danjon scale: A scale consisting of verbal descriptions for estimating the brightness of total lunar eclipses, invented by A. Danjon.

Delta effect: The failure of some comets to achieve as great a brightness and coma size as expected because their light is spread out too widely (and thus too thinly) when they are close to Earth.

Diamond-ring effect: The appearance at the start and end of some total solar eclipses of a first (or last) starlike point of the Sun's surface seen through a valley on the Moon's edge like a diamond on the band of the still visible solar corona.

Dichotomy: A world's appearance of being precisely half lit (which does not occur at the time it theoretically should for Venus and Mercury because of Schroter's effect).

Earthshine: The glow from the sunlit parts of Earth seen on the night part of the Moon.

Eclipse: The hiding or dimming of one celestial object by another object or the other object's shadow.

Ecliptic: The apparent path of the Sun through the zodiac constellations, which is really the projection of Earth's orbit in the sky.

Egress: End of a transit or shadow transit.

Elongation: The angular separation of a celestial object from the Sun (rarely, the Moon or other body) in the sky.

Envelopes: Expanding clouds of dust or gas ejected in a comet's head (also called halos).

Evening Star: Venus (rarely, also Mercury) when it is east of the Sun and therefore visible in the evening sky.

Extended radius vector: The continuation of the imaginary line that runs from the Sun to a comet's nucleus.

Faculae: Brilliant regions of hydrogen floating above the solar surface that are best seen where they contrast with the less bright photosphere near the Sun's limb.

Gas giants: The planets whose gaseous atmospheres make up a sizable fraction of their entire bulk (Jupiter, Saturn, Uranus, and Neptune).

Greatest elongation: The maximum angular separation of an inferior planet from the Sun.

Inferior conjunction: Position in which an inferior planet passes the line between the Sun and Earth (see also superior conjunction).

Inferior planet: A planet closer to the Sun than Earth is.

Ingress: Beginning of a transit or shadow transit.

Ion rays: Bright strands of ionized gas or plasma that are magnetic field line tracers in the gas tail (also called ion or plasma tail) of comets.

Jets: Gushers of dust or gas shooting out from active areas of a comet's nucleus.

Libration: Various kinds of tiltings of the face of the Moon pointed toward Earth.

Libration points: The L-points at which very small objects can have stable orbit in relation to two much more massive bodies (like the Earth and Moon or the Sun and Jupiter).

Light pollution: Excessive or misdirected lighting (generally manmade and outdoor).

Limb: The edge of a celestial body like the Sun or Moon.

Limiting magnitude: The faintest magnitude (level of brightness) at which celestial objects (usually stars) can be seen with a given set of sky conditions and optical instruments (including the naked eye).

Long-period comet: A comet with an orbital period of over 200 years (usually thousands or millions of years) probably seen only once in human history.

LTP (lunar transient phenomena): The mysterious ephemeral glows, flashes, colors, or darkenings that seem to occur occasionally at certain locations on the Moon.

Lunation: A cycle from one New Moon to the next New Moon.

Magnitude (as a measure of brightness): See "Note. . . ."

Magnitude (of an eclipse): The fraction of the Sun's diameter covered by the Moon or the fraction of the Moon's diameter covered by the Earth's shadow during eclipses (for total eclipses this fraction can be larger than 1).

Magnitude, absolute (of comets): The magnitude of a comet if it were 1 AU (astronomical unit) away from both the Sun and Earth.

Mare (plural maria): The gray plains of ancient lava on the Moon.

Meridian: The imaginary line from due north to overhead to due south in the sky.

Meteor: A "shooting star"; actually, the streak of light produced when a piece of rock or iron from space (where it is called a meteoroid) burns up from friction in the atmosphere on its way to vaporization or (in rare cases) reaching the ground (where it becomes a meteorite).

Meteor shower: An increased number of meteors seeming to come from a particular point in the heavens (if very intense, it can be called a meteor storm).

Minutes of arc: See "Note. . . ."

Morning Star: Venus (rarely, also Mercury) when it is west of the Sun and therefore visible in the morning (before sunrise) sky.

Nucleus (of a comet): The central body of dusty ice and rock in a comet.

Oblateness: Quality of having greater equatorial than polar width.

Occultation: The hiding of one celestial object by another (a grazing occultation is one in which the uneven edge of one body alternately hides and reveals the other).

Oort cloud: The vast swarm of innumerable pristine comet nuclei located well out beyond the orbits of the planets.

Opposition: Position opposite the Sun in the heavens, which is the most

favorable for any superior planet.

Penumbra: Lighter, peripheral shadow (usually of Earth); lighter area of a sunspot.

Perigee: Near point of an orbit around Earth (opposite of apogee).

Perihelion: Near point of an orbit around the Sun (opposite of aphelion).

Periodic comet: A comet with an orbital period of less than 200 years that thus returns a number of times in human history or perhaps even in a human lifetime (also called short-period comet).

Phase effect: The trace of night side seen on the edge of a superior planet's disk as viewed from Earth (an effect at its greatest near quadrature).

Photosphere: Blindingly bright surface of the Sun.

Projection: Technique of casting an image of the Sun from an optical instrument or a pinhole onto a screen for easy and safe viewing.

Quadrature: Position of a planet 90° east or west of the Sun.

Radiant: Area of the heavens from which a meteor shower radiates.

Rays (on the Moon): Streaks of light-colored material ejected from craters on the Moon.

Relative Sunspot Number (RSN): A figure that conveys the amount of sunspot activity on the Sun, calculated from the number of sunspots and sunspot groups (by a method described in Activity 14).

Retrograde motion: Apparent backward (westward) movement of planets in front of the starry background (opposite of direct motion).

Right ascension (RA): See "Note. . . ."

Rills: Long cracklike features, often ravines, on the Moon.

Schroter's effect: The slight reduction of Venus's (and to a lesser extent Mercury's) phase due to the planet's departure from perfect, uniform smoothness.

Seconds of arc: See "Note. . . ."

"Seeing": Sharpness of astronomical images as a function of atmospheric turbulence.

Shadow transit: Passage of a moon's shadow across the face of a planet.

Short-period comet: See periodic comet.

Sidereal month: The period required for the Moon to make one circuit around Earth and return to the same point as seen against the stars.

Skyglow: Illumination of the sky by terrestrial sources (almost always manmade sources, usually cities).

Solar wind: The ceaseless (but varying) outflow of atomic particles from the Sun.

Sporadic meteor: A meteor not belonging to any known shower.

Stationary point: Point at which a planet halts apparent motion in the heavens when switching from direct to retrograde motion (or back to direct).

Strip sketch: A drawing of all the features of a planet seen along a latitudinal band for the range of longitudes properly observed during the course of a protracted viewing session.

Sun-picture: A projected image of the Sun.

Sunspot: A darker, cooler (actually only somewhat less blindingly bright and hot) region on the Sun.

Superior conjunction: Position in which an inferior planet passes the extension of the Sun-Earth line on the far side of the Sun from Earth (see also inferior conjunction).

Superior planet: A planet farther out from the Sun than Earth is.

Synodic month: The period required for the Moon to go from one phase to next recurrence of this phase (same Sun-Earth-Moon relation).

Synodic period: The period of time it takes for a planet to return to the same position with respect to Earth and the Sun.

Terminator: The line separating day and night on a world.

Transit: Passage of a planet in front of the Sun or passage of a moon in front of a planet.

Transparency: Quality of the atmosphere's ability to pass amount of light (in other words, clarity of the air).

Umbra: Central, darker shadow of any object (especially Earth); darker part of a sunspot.

Violet clearing: Occasional (and unexplained) episode of unusual transparency of Mars's atmosphere to violet light.

Wave of darkening: Episode of apparent darkening of dark Martian surface features (proven to be actually a brightening of the light areas, which makes the dark features more prominent).

W-clouds: Orographic (mountain-caused) clouds on Mars, especially those forming a W shape in the Tharsis region.

Zenith: The overhead point in the sky.

Zodiac: The band of constellations in which the Sun, Moon, and planets are found and whose midline is the ecliptic.

Zones: The planet-encircling bands of lighter clouds on the gas giant planets.

