

Astronomy 1102/1104

Some Definitions

9 February, 2009

Time

Day — Time between successive risings or settings of the Sun or a star.

Month — Time for the Moon to go through its phases or move around the sky once.

Year — Time for the seasons to repeat or for the Sun to move around the sky once.

Note: Each of these time definitions is actually for two distinct periods.

Motion

Daily motion — Motion of celestial objects relative to the horizon.

Annual motion — Motion of the Sun, Moon, and planets relative to the stars.

Direct motion — The usual annual motion from west to east.

Retrograde motion — Annual motion east to west.

Celestial positions

Altitude — The angle between a celestial object and the horizon.

Azimuth — The direction of the horizon directly below a celestial object.

North celestial pole — The point in the northern sky about which all stars revolve.

Meridian — The curve running from the northern horizon through the zenith to the southern horizon dividing the sky into eastern and western halves.

Celestial equator — The curve through all the stars in the sky which rise exactly in the east and set exactly in the west.

Ecliptic — The path of the Sun's annual motion through the stars.

Summer solstice — The location of the Sun on the ecliptic on the longest day of the year.

Winter solstice — The location of the Sun on the shortest day of the year.

Equinox — The location of the Sun when it rises exactly in the east and sets exactly in the west; where the ecliptic crosses the celestial equator.

Stars

Circumpolar stars — The stars which are always above the horizon and never set.

Heliacal rising — The first visible rising of a star after it has disappeared behind the Sun.

Constellations — Arbitrary groupings of stars.

Zodiac — The band of stars along the ecliptic through which the planets move.

Planets

Conjunction — When a planet is closest to the Sun in the sky.

Opposition — When a planet is opposite to the Sun in the sky.

Inferior planets — The planets which stay close to the Sun.

Superior planets — The planets which can be at opposition.

Sidereal period — The period as measured with respect to the stars.

Synodic period — The period between successive oppositions, conjunctions, etc.

Finally ...

Precession — The slow motion of the NCP and celestial equator with respect to the ecliptic and stars.