

## APPENDIX E: GLOSSARY

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**Astronomical Unit (AU)** - Standard unit for measuring distance within the solar system. One AU is equal to the average distance between the Sun and Earth or about 93 million miles.

**Charge-Coupled Device (CCD)** - Charge-coupled devices (CCDs). Technological instruments that contain light-sensitive silicon chips with an arrangement of light-sensitive spots called pixels.

**Coma** (or the comet's head) - The comet's coma or head is the fuzzy haze that surrounds the comet's true nucleus. The coma (and tail) are really all that we see from Earth.

**Declination (DEC)** - Declination is measured in degrees, and refers to how far above the imaginary "celestial equator" an object is (like latitude on the Earth).

**Deep Space Network (DSN)** - An international network of antennas that supports interplanetary spacecraft missions and radio and radar astronomy observations for the exploration of the solar system and the universe.

**Earth's Shadow** - The unlit side of the Earth.

**Ecliptic** - From the Earth, the apparent yearly path on the celestial sphere of the Sun with respect to the stars; also, the plane of the Earth's orbit.

**Ejecta** - Material expelled from the impact site during a crater formation.

**Ephemeris (Ephemerides; plural)** - A table that gives the positions of objects in the sky at various times.

**Focal Length** - The distance from a lens or mirror to its focal point.

**Focal Point** - The point at which parallel light rays, incident on a mirror, are focused after reflecting. For concave mirrors, the focal point is on the same side of the mirror as the source.

**Hubble Space Telescope (HST)** - A space telescope launched in 1990 by the U.S. space shuttle into a low-earth orbit; with a 2.4 meter mirror, HST can observe faint objects with high resolution, especially in the ultraviolet.

**Observation Time** - The time that a scientist plans to make an astronomical observation.

**Nucleus of a comet** - The center of the coma (head) of a comet. The true nucleus of a comet has only been seen once from a spacecraft. From the ground, the star-like nucleus always includes a cloud of dust and gas around the true nucleus.

**Redundancy** - More than one of something in order to ensure that results are not hampered by a failure. For this mission, having more than one Deep Space Network antenna used to receive data from the Deep Impact spacecraft.

**Right ascension (RA)** - Right ascension is measured in hours of time. It is similar to longitude on the Earth. Astronomers have chosen the Vernal Equinox to define the starting point for the measurement of right ascension. The Vernal Equinox is the point where the Sun appears to cross the Celestial Equator at

the beginning of spring. It is therefore one of the two points where the Ecliptic intersects the Celestial Equator.

**Selection Phase** - The time at which a mission is being considered for funding.

**Spectra** - Plural of spectrum.

**Spectroscopy** - The study of spectra.

**Spectrum** - The distribution of energy from a radiant source, arranged in order of wavelengths.

**Superordinate** (umbrella term) - A word whose meaning encompasses the meaning of another, more specific word.

**Zodiacal light** - Sunlight reflected from dust in the plane of the ecliptic.