

CHAPTER OVERVIEW

58: Astrodynamics

Astrodynamics is a field closely related to celestial mechanics, except that it deals only with man-made orbits of spacecraft, rather than the orbits of natural astronomical objects. Astrodynamists design spacecraft orbits to optimize time or energy, and to also fall within the constraints of the mission. For example, during the Apollo missions to the Moon in the 1960s and 1970s, the spacecraft orbits were designed to land at lowlatitude locations on the Moon's surface, with the constraint that the landing location had to be on the near side of the Moon, while the day side is in daylight.

[58.1: Circular Orbits](#)

[58.2: Geosynchronous Orbits](#)

[58.3: Elliptical Orbits](#)

[58.4: The Hohmann Transfer](#)

[58.5: Gravity Assist Maneuvers](#)

[58.6: The International Cometary Explorer](#)

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