

CHAPTER OVERVIEW

8: Planetary Motions

In this chapter, I do not attempt to calculate planetary ephemerides, which will come in a later chapter. Rather, I discuss in an idealistic and qualitative manner how it is that a planet sometimes moves in one direction and sometimes in another. That the treatment in this chapter is both idealistic and qualitative by no means implies that it will be devoid of Equations or of quantitative results, or that the matter discussed in this chapter will have no real practical or observational value.

[8.1: Introduction to Planetary Motions](#)

[8.2: Opposition, Conjunction and Quadrature](#)

[8.3: Sidereal and Synodic Periods](#)

[8.4: Direct and Retrograde Motion, and Stationary Points](#)

Thumbnail: This montage, assembled from individual Galileo and Voyager images, shows a “family portrait” of Jupiter (with its giant red spot) and its four large moons. From top to bottom, we see Io, Europa, Ganymede, and Callisto. The colors are exaggerated by image processing to emphasize contrasts. (credit: modification of work by NASA).

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