

Ch6 Lecture Notes

Perry Nerem

Contents

1	Intro	2
2	Telescope optics: Basic Principles	3
3	Collecting light	3

1 Intro

- Creation of eyeglasses (~ 1285 Italy)
- Telescope invented 1608 (Hans Lippershey) for military purposes
- Galileo in 1609 starts building his own telescopes. Discovers
 - mountains and craters of the Moon
 - moons of Jupiter
 - new stars in the Milky Way
 - phases of Venus (definitive proof Venus orbits Sol)

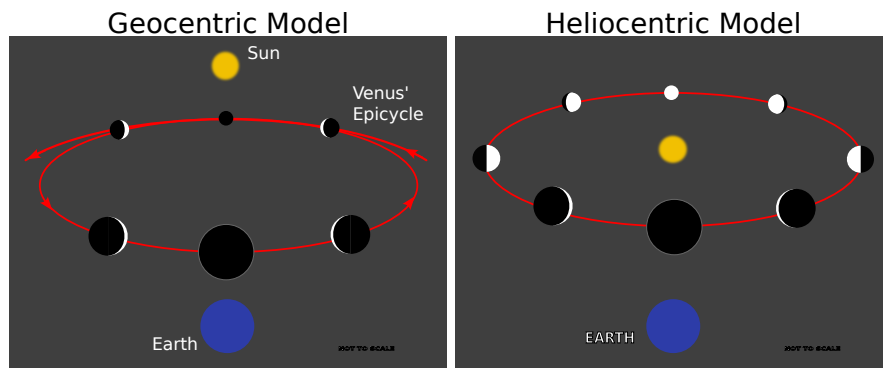


Figure 1: Only crescent phase possible in geocentric model.

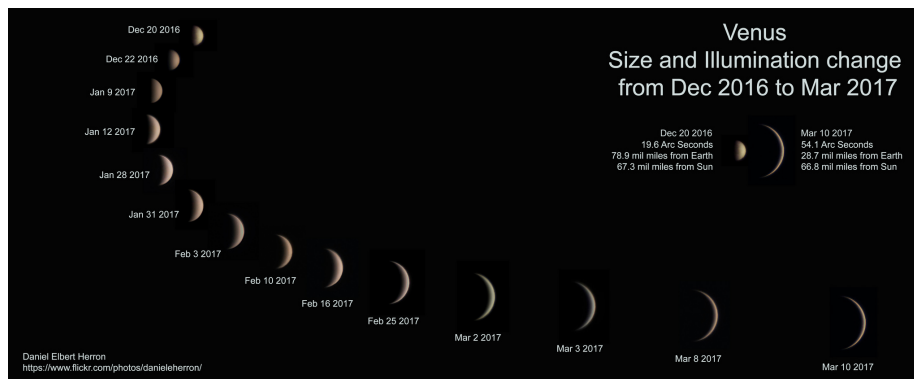


Figure 2: APOD Phases of Venus

- **Telescopes have three main functions for the observer**
 - 1) Collect light
 - 2) Magnify an image
 - 3) Resolve fine details.

The *light collecting power* (aka light grasp) of a telescope is the most important aspect.

2 Telescope optics: Basic Principles

Refraction and reflections are primary principles behind telescopes

Grab knight and work out examples of compound lens problem

3 Collecting light