

Lecture 4 – Using Light to Probe the Heavens

Telescopes

- ▶ Refractors
- ▶ Reflectors
- ▶ Chromatic Abberation
- ▶ $LGP \propto D^2$

- ▶ Resolution
Resolving Power

$$\alpha = \frac{11.6}{D \text{ (cm)}} \text{ arcsecond}$$

- ▶ Angular Sizes
- ▶ Magnification just depends on the focal length of the eyepiece and the focal length of the objective lens/mirror
- ▶ Atmospheric Transmission

Telescopes

- ▶ Speed of light in a medium
- ▶ Refraction (Marching Band analogy)
- ▶ Chromatic Abberation
- ▶ Atmospheric Seeing: Differing densities implies different refractive properties — Wavefront distortion