

Ray Optics – Geometrical Optics

- **Geometrical Optics** is built on the representation of light beams as bundles of **rays**; this is why it is often called as **Ray Optics**.
- The ray optics description is a good approximation to light propagation whenever the **dimensions** of the physical system are **very large** in comparison to the **optical wavelength**.
- Visible wavelengths are in the range $\lambda \sim 500 \text{ nm} = 0.5 \mu\text{m}$ (human hair has a diameter of about $80 \mu\text{m}$).
- This description is a good enough approximation to describe numerous optical phenomena, in particular those related to **Imaging Optics** and **Concentration Optics**.
- Devices like mirrors, lenses, prisms, ... and instruments like telescopes, microscopes... are based on the laws of Geometrical Optics

