PHYS 212, Honors Section – Review Material

Chapter 35: The Nature of Light and Ray Optics

- The ray approximation: Describing the propagation of electromagnetic waves and light using rays or wave fronts.
- Reflection: Diffuse vs specular reflection; Angle of incidence, angle of reflection and the law of reflection,

$$\theta_1' = \theta_1 .$$

- Refraction: The index of refraction of a medium, $n = c/v$. Angle of refraction and the law of refraction,

$$n_1 \sin\theta_1 = n_2 \sin\theta_2 .$$

- Huygens' principle: The idea, and application to refraction.
- Dispersion: The idea, and consequence for refraction.
- [Total internal reflection: The idea, and application to optical fibers.]

Note: You are not required to know the topics and equations inside square brackets.

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