

38 Lecture - PHY101

Important Subjective

What is the principle of rectilinear propagation?

Answer: The principle of rectilinear propagation states that light travels in a straight line in a homogeneous medium.

What is the law of refraction?

Answer: The law of refraction states that the ratio of the sine of the angle of incidence to the sine of the angle of refraction is constant and is known as the refractive index of the medium.

What is the principle of reflection?

Answer: The principle of reflection states that the angle of incidence is equal to the angle of reflection, and the reflected ray and the incident ray are on the same plane perpendicular to the reflecting surface.

What is the principle of least time?

Answer: The principle of least time states that light travels between two points in such a way that the time taken is minimized.

What is lens imaging?

Answer: Lens imaging is the process of forming images of objects by focusing the light rays that pass through lenses.

What is the difference between a virtual image and a real image?

Answer: A virtual image is an image that is formed by the apparent intersection of light rays that appear to come from the image location, while a real image is an image that is formed by the actual intersection of light rays that come from the image location.

What are optical aberrations?

Answer: Optical aberrations are deviations from ideal optical behavior, caused by factors such as lens imperfections, temperature changes, and atmospheric conditions.

What is spherical aberration?

Answer: Spherical aberration occurs when light rays passing through the edges of a lens are refracted differently from those passing through the center, causing the image formed to be blurred and distorted.

What is chromatic aberration?

Answer: Chromatic aberration is caused by the different refractive indices of different wavelengths of light, which results in color fringes around the edges of an image.

What is coma?

Answer: Coma occurs when light rays entering a lens at an angle are not focused on the same point as those entering at the center of the lens, causing the image to be distorted.