

Interference

What is the principle of linear superposition? What phenomena does it describe?

Describe constructive interference and destructive interference.

What condition must be met in order for interference to occur continuously at a point in space?

Young's double-slit experiment

Describe Young's double-slit experiment. Why is it important?

Give a mathematical expression for the path length difference in the double-slit experiment.

What angles from the midlines produce bright fringes? What angles produce dark fringes?

How do you calculate the distance along the screen at which bright or dark fringes occur?

Thin-film interference

How do you calculate the wavelength of light within a thin film?

During reflection at the boundary between two media, how do you know whether light will undergo a phase shift? What is the magnitude of this phase shift?

For incident light that is perpendicular to the thin film surface, what is the condition for constructive and destructive interference?

