Outline of Lecture 1: Optical Point of View

I. Geometrical Optics: Rays

A. Snell's law

B. Fermat's principle

II. Physical Optics: Waves

A. Frequency, wavelength, wave equation concepts

B. Eikonal equation

C. Hamilton-Jacobi theory

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III. Quantum Optics: Wave-particle interaction

  A. Quantum mechanics

  B. Path integrals