Interference of Light

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1 Introduction

Definition 1.0.1: Interference of light

The phenomenon of redistribution of energy when two or more waves of same frequency and amplitude superimpose on each other is called interference of light.

Definition 1.0.2: Coherent Source

Two sources of light are said to be coherent if they emit light waves of same frequency and amplitude, and constant phase difference.

1.1 Conditions for Interference

- The two beams of light must be coherent.
- The two beams of light must have same frequency.
- The two beams of light must have constant phase difference.
- The two beams of light must have same amplitude.
- The original source must be monochromatic.
- The fringe width should reasonably be as large as possible and the separation between them must be as small as possible, while the distance of the screen from the source should be as large as possible
- The two interfering waves must be travelling in the same direction.