

OPTICSTOPIC - Two Beam interference by Fresnel'sMethod : It refers to a technique

where a single light source is split into two coherent beams using a special device called a "Fresnel biprism," which then allows the two beams to interfere with each other, creating a visible pattern of bright and dark fringe on the screen. It's a way to demonstrate light interference by creating two virtual coherent light source from a single source using the refraction pattern properties of a biprism.

Main point about Fresnel's Method :-

(1) Biprism Setup :-

A Fresnel biprism consists of two thin prism joined base to base, causing light rays from source to be slightly deflected, creating two virtual light sources that appears to be close together.

Coherent light :-

Since the two virtual sources originate from the same light source, the light waves are considered "coherent," meaning they have a constant phase relationship.

Interference pattern

When these two coherent beams overlap on the screen, they interfere with each other, producing a pattern of