OBD is a beam splitter

Article Overview

OBD (Optical Beam Deflection) is not a beam splitter; it is a technique for detecting cantilever deflection, often used in atomic force microscopy, rather than splitting light into multiple beams.

Understanding Beam Splitters

A beam splitter is an optical device designed to divide an incoming light beam into two separate beams, typically a transmitted and a reflected beam, with a defined ratio of intensity . Common types include:

o Cube beam splitters: Made from two right-angle prisms cemented together, often with a coated hypotenuse to control reflection and transmission .
o Plate beam splitters: Thin glass plates with partial reflective coatings, usually at a 45? angle of incidence .
o Polarizing beam splitters: Split light based on polarization, transmitting one polarization and reflecting the orthogonal one . Beam splitters are widely used in interferometry, laser systems, fluorescence microscopy, and optical instrumentation to manipulate light paths.

What OBD Actually Is

OBD (Optical Beam Deflection) is a method used to measure the deflection of a cantilever by reflecting a laser beam off its surface and detecting changes in the reflected beam's position on a photodetector. This technique is commonly employed in atomic force microscopy (AFM) to monitor nanoscale forces and surface topography. Unlike a beam splitter, OBD does not split the light into two separate beams for independent use; it merely tracks the deflection of a single beam to infer mechanical motion.

Key Differences
FeatureBeam SplitterOBDFunctionSplits light into transmitted and reflected beamsMeasures deflection of a single reflected beamOutputTwo or more beamsSingle beam position on a detectorApplicationsInterferometry, laser systems, optical instrumentationAtomic force microscopy, cantilever deflection measurementLight ManipulationDivides intensity or polarizationTracks beam displacement
In summary, while both involve laser beams, OBD is a detection method, not an optical component that splits light, and therefore it is not classified as a beam splitter .

Thorlabs offers a wide range of optical beamsplitters. Our plate beamsplitters have a coated front surface

Old Blood Noise Endeavors makes guitar effects pedals that defy easy description and has just launched the Beam

OBD is a beam splitter

Standard Beamsplitters, which split incident light by a specified ratio that is independent of wavelength or

Beam splitters are integral to most optical systems and are also used in interferometers, fiber

This beamsplitter guide highlights the functionality, form factor, role and key considerations when selecting

A simple beam splitter consists of a square or rectangular glass sheet that is coated with a reflective material, while a

A beam splitter (or beamsplitter, power splitter) is an optical device which can split an incident light beam (e.g. a laser beam) into two

The Old Blood Noise Endeavors Beam Splitter Triple Tracker Distortion is an absolute game-changer for

Beamsplitter Construction | Types of Beamsplitters Beamsplitters are optical components used to split incident light at a designated

Options range from laser beam combiners designed for specific laser wavelengths to broadband hot and cold mirrors for splitting

This article explains the working principles of beamsplitters, detailing how they divide a beam of light into two separate

Understanding Beam Splitters Beam splitters are essential optical components used to divide a beam of light into two

Beam splitters are devices for splitting a laser beam into two or more beams. There are different types, including polarizing and non

Explore the precision, applications, and design principles of beam splitters, essential for

Explore different types of beam splitters and their applications. Learn how beam splitters work and find the

The beam splitter has played numerous roles in many aspects of optics. For example, in quantum information the beam splitter plays

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