wave diagram

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Sound Wave Interference and Finding the Path ... - Physics Forums

Homework Statement Below I have attached a revision question on the wave interference of sound waves from two speakers. I have also attached the original question diagram in addition to my own diagrams to answer the questions. However, I feel this is one of my weaker topics and I am rather uncertain of the credibility of the diagrams I have drawn and my method to find the path difference in ...

Sound Wave Diagram Help - Physics Forums

Research the principles of wave interference in detail Learn about coherent wave sources and their phase relationships Study the mathematical representation of sound waves and path differences Students and professionals in physics, acoustics engineers, educators teaching wave mechanics, and anyone involved in sound wave analysis and diagramming.

Standing wave, phase and antiphase - Physics Forums

Learn about phase relationships in wave interference Explore the mathematical representation of wave functions Investigate the implications of phase differences in real-world applications Students of physics, educators teaching wave mechanics, and anyone interested in understanding the behavior of standing waves and phase relationships.

Wavelength, Path Difference, Phase Difference - Physics Forums

The discussion centers on the interrelationship between wavelength, path difference, and phase difference in wave mechanics. Wavelength is defined as the distance between consecutive points on a wave, while path difference quantifies how much one wave lags behind another, typically measured in meters. Phase difference indicates how much one wave is ahead or behind another, expressed in radians ...

Direction of of the velocity vector for particles in a sound wave

What would be the direction of velocity for particles close to ## x_1## and on either side of it as shown in the sound wave diagram below? The hollow dots show equilibrium positions of displaced particles. Solid dots are the displaced particles. The arrow shown against solid dots indicates the displacement direction from equilibrium position.

What Do Peaks and Troughs in Light Waves Physically Represent?

The discussion centers on the physical interpretation of peaks and troughs in light waves, specifically in the context of electromagnetic (EM) waves. Peaks in the wave function represent maximum electromagnetic force, while troughs indicate the opposite direction of the field vector, not negative electromagnetism. The dark regions in interference patterns arise from the cancellation of these ...

E vs K Diagrams: Understanding Crystal Momentum & Velocity

This discussion centers on the concepts of crystal momentum and velocity in the context of semiconductor physics, specifically regarding E versus K diagrams. The participants clarify that crystal momentum is defined as ħ*k, where k represents the wave vector, and that the velocity of a particle can be derived from the energy dispersion relation through the equation (1/ħ)dE/dk. The ...

Derive wave spectrum from scatter diagram • Physics Forums

The discussion focuses on deriving a wave spectrum from a scatter diagram for downtime analysis, specifically using the JONSWAP spectrum. The significant wave height (Hs) and peak period (Tp) are critical parameters for this conversion. The zero-order moment (m0) is highlighted as a key component in the calculation, emphasizing its role in incorporating significant wave height into the ...

Why are light waves depicted as lines, circles, and sinusoids?

A light wave is fundamentally an electromagnetic wave of oscillating electric and magnetic fields. The oscillating fields are at right angles to each other and to the direction of propagation. Different sources produce different overall beams of light waves. A light bulb sends waves fairly uniformly in all directions. So, you might represent that as concentric circles. A torch or car ...

The Science of Interstellar: Tidal Wave - Physics Forums

The discussion centers on the tidal wave phenomenon depicted in the film "Interstellar," specifically on Miller's Planet, which is situated near a massive black hole. Critics argue that the wave's steep mountain-like shape, purportedly 4,000 feet tall, contradicts the expected distribution of tidal forces across the planet's surface. However, participants in the forum suggest that the shallow ...