

FILE: Single Edge and Single Slit .034 Working Files

TITLE: INTERFERENCE OF LIGHT SUPERPOSITION DEBUNKED

IMPINGE THEORY of SUPERPOSITION PROOF

CONCENTRATE ON THE 4 TIMES GREATER.

THE PROCEDURE FILE GOES IN THIS ALSO. OR IS PROCEDURE JUST A VIDEO*****

Abstract

Blunder in double slit experiment. Misinterpretation of duality.

Groundbreaking paper for new interpretation of the Double Slit Experiment.

A proposal on the topic of superposition and interference. The concept of Duality got on the wrong track at the time of the Copenhagen interpretation (late 1920's) resulting conclusions of unreality.

Redefines superposition and interference in such a way which corrects conclusions that result in illogical unreality concepts.

The key point in this article is what causes the intensity to become four times greater during the constructive interference of light. In almost all the explanations today the intensity is left out. It is important and should be included in all presentations of the single and double slit. When the intensity is evaluated during the assembling or forming of the slit the terms describing interference such as constructive, destructive or annihilation become misleading. Instead, light impinges or collides at the slit redirecting and fanning out into the interference pattern. This is a common natural phenomenon.

It is all based on an error that should never have happened. It's not something that can be solved by sitting in a chair at a desk cranking out numbers. You must get your head and hands into something more concrete.

Illogical arguments.

Got off-track.

Take a look and see how so many un-real, nonsense, ideas came to be. Where did it go wrong?

Conclusion: Deluded by a illusion.

It's not a wave appearing somehow to be like a particle but waves that collide. The collision of two waves makes a photon appear like a particle. Because superposition infers that two waves always pass through each other, they should never appear as particles. But if somehow one could get two waves to collide, they would temporarily appear to have the attributes of two solid objects colliding. Thus, the experiment can be altered to either collide or pass directly through another. Varying the experiment turns the collision on or off. This is how people are fooled into duality. Reality is two waves can be made to collide. Photons are only waves that can be forced to collide like particles. They're only temporarily appearing to be like particles. Without this understanding wild unreal concepts develop. It is a simple fix and the math to calculate the pattern still works.

Interference is a natural phenomenon happening all the time at every edge even with white light. See the White Light Interference photograph of the cardboard box example and the 'Single Edge Razor Blade Diffraction' Photograph using laser light. These are examples of interference caused by diffraction.

The realism of the double slit.

Realism has replaced reality with the double-slit experiment and all kinds of philosophical arguments have arisen. Realism and reality are different concepts. The theory for the double slit has realism (meaning that its concepts exist independently of the observer).

We seem to have developed conclusions of unreality from the double slit.

There are a lot of references on the non-reality conclusions arising from the double slit experiment. Listed below are several of them.

How can all these weird unreality concepts come from the double slit?

Examples of unreality conditions arising from the double slit experiment: All can be debunked.

1 How Physics Proved the Universe is Not Locally Real – Nobel Prize in Physics

<https://www.youtube.com/watch?v=txlCvCsefYQ>

As usual full of computer sketches and not the details of actual experiment.

2. <https://www.quora.com/Does-the-double-slit-experiment-prove-that-the-universe-only-exists-as-a-product-of-our-consciousness>

It does not have to be a particle if wave to wave collisions can occur.

The double slit demonstrates a limitation of the ability of the observer to predict experimental results, Richard Feynman called it "a phenomenon which is impossible to explain in any classical way. It contains the only mystery of quantum mechanics.

Book by Sabine Hossenfelder "Lost in Math". We should not let beauty get in our way.

<https://www.quora.com/Does-the-double-slit-experiment-prove-that-the-universe-only-exists-as-a-product-of-our-consciousness>

[Does the double slit experiment prove that the universe only exists as a product of our consciousness?](https://www.quora.com/Does-the-double-slit-experiment-prove-that-the-universe-only-exists-as-a-product-of-our-consciousness)

Most physicists (I would like to say all, but people are individuals) are realists. That means that they ultimately expect there to be some final reality underlying our observations of the world. This would explain simple things like our common experience of everyday phenomena. This common experience extends to the double slit experiment.

All the experiments set up to make conclusions of the double slit are based on a misconception. A foundational blunder. The blunder is the concept that waves always pass directly through another unaffected. This is wrong and results in weird concepts like Schrodinger's cat whether it is dead or alive. In this paper we will show how to correct these weird concepts and bring reality back. Light waves can collide under certain circumstances. Presented here is a simple eye-opening revelation of how the double slit went wrong.

Since the intensity energy is redistributed the conservation of energy law remains valid.

THE MANY INTERPERATATIONS OF THE DOUBLE SLIT EXPERIMENT:

Corpuscles Isaac Newton

Copenhagen

Relational Interpretation

Many-Worlds

De-Broglie-Bohm theory Piolet wave theory by Louis de Broglie

Einstein said the notion of observation dictating the outcome of an experiment was ridiculous, since it denied the existence of a solid underlying reality. Even Schrodinger was disturbed by the implications of what he helped create. Saying "I don't like it and I'm sorry I ever had anything to do with it."

Well, they were right. This is what we have today. It is not that difficult to bring reality back to the double slit controversy.

[https://phys.libretexts.org/Bookshelves/College_Physics/Book%3A_College_Physics_1e_\(OpenStax\)/16%3A_Oscillatory_Motion_and_Waves/16.11%3A_Energy_in_Waves-Intensity](https://phys.libretexts.org/Bookshelves/College_Physics/Book%3A_College_Physics_1e_(OpenStax)/16%3A_Oscillatory_Motion_and_Waves/16.11%3A_Energy_in_Waves-Intensity)

Ultraviolet Catastrophe Planks constant

Taken on what we have learned here.

FLAWS CAN BE FOUND IN ALL THESE EXPERIMENTS:

They're all based upon a concept error and their flaws can be revealed now.

"Which Way" experiments and principle of complementary

Delayed Choice and Quantum Eraser

Mach-Zehnder interferometer.

And many more.

If you have the time, you can solve a lot of broken physics with this concept.

You can find references that say the magnetic field disappears and the electric field doubles. Or vice versa.

'Look for wave collisions!' not destructive and constructive interference.

Concept Error: Put reality back in and reveal a force.

INTRODUCTION:

We need to have a new interpretation.

The Copenhagen interpretation discussed several ideas at the time, and they made an interpretation of wave mechanics which was the wrong decision so ends up in unreal conclusions.

Bohr maintained that the distinction between a wave view and a particle view was defined by a distinction between experimental setups, whereas Heisenberg held that it was defined by the possibility of viewing the mathematical formulas as referring to waves or particles.

Ref Wikipedia

Bottom line. There is an error in the rules of superposition of light waves and the physics of superposition of light waves got off track.

In this paper we will go back to the basics to see if something got overlooked.

I will show that the dark bands are not from destructive interference but from wave collisions at the barrier or slit!

Many of the concepts that came from the double slit must be revised.

When corrected, a true force can replace curved space time theory and a lot of confusion in physics can be solved. It does not take a genius to figure it out. In reality It is quite simple.

The intensity adding to 4 is known already but no one has taken the time to fully analyze the how and why. The human mind is confused and blocked by the concept of superposition where waves always pass directly through another. If you look at this closer 'step by step' you will arrive at the correct conclusion and the weird mysteries of the double slit will dissolve away. Without this new concept presented here the double slit is as Richard Feynman stated "a phenomenon which is impossible".

This quadrupling of intensity is known by scientists but is often left out when interference is studied. This disclosure shows the quadrupling using a light intensity meter. We will find that the quadrupling of intensity requires that the interference cannot be from the current rules of cancellation and addition that are taught in textbooks.

DUP

In a ripple tank as two waves merge to interfere the water from the nearby destructive region swashes into the constructive waves resulting in an increase of four times the energy. Light unlike water collides resulting in 4 energy intensity. Its energy cannot swash into the constructive regions. To be real and avoid unreal conclusions a collision must be at least considered.

Someone messed up years ago, the wavelength calculations for the interference of the destructive spacing are still valid, however. The only difference is a collision occurs at the barrier or slit.

Because light waves can be forced to collide under certain circumstances it can appear like a particle. This experiment applies to light waves or photons only, and how they can appear as both a wave and a particle. Electrons, which are particles already, have a slightly different explanation, but is not covered here.

The double slit has the same results (4 times greater due to wave collisions) as a single slit except that it has 1 more slit. A detector cannot be placed at the slit without disrupting the collisions. The phase is altered when passing through the detector and the interference disappears.

With the conclusions found here, many of the concepts derived from the double slit must be revised.

Einstein only did thought experiments and he spent his lifetime doing them. This is a real experiment and real thoughts are derived from it. If Einstein or anyone else for that matter based their thought experiments on a conceptual mistake, what kind of results would they have?

They only appear as corpuscles when they hit an object or an edge in this case.

Newtons equal and opposite force implies that a force is pushing and redirecting the photons into the pattern. This involves a true force and when we research further, we will find that a true force can be put back into gravity, and the quantum can be related to gravity. Also, inertia and length contraction.

Terms can be placed Newtons law of gravity to allow for the bending of light from gravitational stellar objects. Here a minute force from similar sized waves passing through another one from light and one from gravity can appear to warp space and time.

What is going on with light interference? It is not a matter of which slit it is going through. At the Copenhagen they were discussing several ideas at the time, and they made an interpretation of wave mechanics which was the wrong decision. Now if a student asks any questions the professors simply tell the students to "Shut up and calculate" and it becomes "Shrouded in formalities" and intimidating mathematical sophistication. This ended up with gravity not having a true force and all kinds of weird concepts.

See SynodicGravity.com for more examples of wave-to-wave collisions.

Also view the interferometer video for further evidence of direct head on collision of two beams of light resulting in no light arriving at the screen and a direct bounce back to the source.

See the 'Theory' File for postulations on Gravity, Time Dilation, and Length Contraction at relativistic velocities.

It all boils down to how a force can be transferred with an electromagnetic wave. This force is the causality (cause and effect) of gravity and magnetism.

To my knowledge this has never been revealed before in this way.

Spooky action at a distance, Einstein could not explain it. The Impede theory presented here can explain this and more.

NOTES:

Antiquated based on physics from the 1800's. Huygens Principal ERROR Huygens only covered wavelets.

Why did they do the single photon exp. What was the reason?

A detector cannot be placed by the slit without disrupting the interference pattern because the interference occurs at the detector not at the screen.

NOTE: Copenhagen interpretation.

https://en.wikipedia.org/wiki/Copenhagen_interpretation

Another issue of importance where Bohr and Heisenberg disagreed is [wave-particle duality](#). Bohr maintained that the distinction between a wave view and a particle view was defined by a distinction

between experimental setups, whereas Heisenberg held that it was defined by the possibility of viewing the mathematical formulas as referring to waves or particles. Bohr thought that a particular The 'Double Slit Experiment' can in theory be performed with *any* physical system: electrons, protons, atoms, molecules, viruses, bacteria, cats, humans, elephants, planets, etc. In practice it has been performed for light, electrons, [buckminsterfullerene](#),^{[71][72]} and some atoms.

Wikipedia

Faulty Argument of Current Theory.

As a wave passes through the single slit, the distance to a particular part of the screen is slightly different from one end of the slit to the other. Because of this, the wavelet that begins from one end of the slit won't arrive at the same time as the other. This means that a peak of one wavelet might hit the screen at the same time as a trough of another wavelet. This creates a dark area on the screen and is called **destructive interference**. Alternatively, two troughs could hit the screen together, or two peaks. Either of these cases creates a bright area on the screen, and this is called **constructive interference**.

As Richard Feynman (Fine man) said; If a detector is placed before each slit the interference pattern would disappear. A detector cannot be placed at the slits because the waves will no longer collide.

Argument Against:

As stated above this current theory picks specific '*purposely chosen locations*' between the slit to formulate an answer for the correct pattern. This is fudging the results. Specific locations cannot be picked. They're all arbitrary. If all these waves pass through each other, who says what wave front, either a crest or a trough will arrive at the screen? In the current theory, because waves only pass through one another, they can only end up with a solid line pattern as you cannot specify for certain which location within the slit the light has passed through and hit the screen. However, it results in the correct answer. Is there another way to come to the correct answer?

Further if the waves interfere destructively, which is often called annihilation, where has the destroyed energy gone? So right away we see that something is wrong. Like Schrodinger's cat, is it dead or alive? In reality they're not destroying because the energy and intensity ends up in the bright fringes.

CAN'T FIGURE EQU OUT – WHAT DOES IT EQUAL.

W = width of single slit.

$W \sin \theta = m \lambda$ This derived equation does not require the path length?

So the equation comes out like this, where W is the slit width measured in meters, λ is the light's wavelength also measured in meters, θ is the angle relative to the original direction of the light in degrees, and m is the order of the minimum - that's just a number to say whether you're looking at the first minimum (1), second minimum (2) and so-forth.

$\theta \Delta = \Delta x$

$d \sin \theta = \Delta x$

From Kahn video

Pair the waves for destruction.

Calculate the Path length difference.

The wave must travel a certain distance to get to the screen.

All light is annihilated.

W = width of the slit.

m = Integer or order of the minimum or maximum.

$$W \sin \theta = m \lambda$$

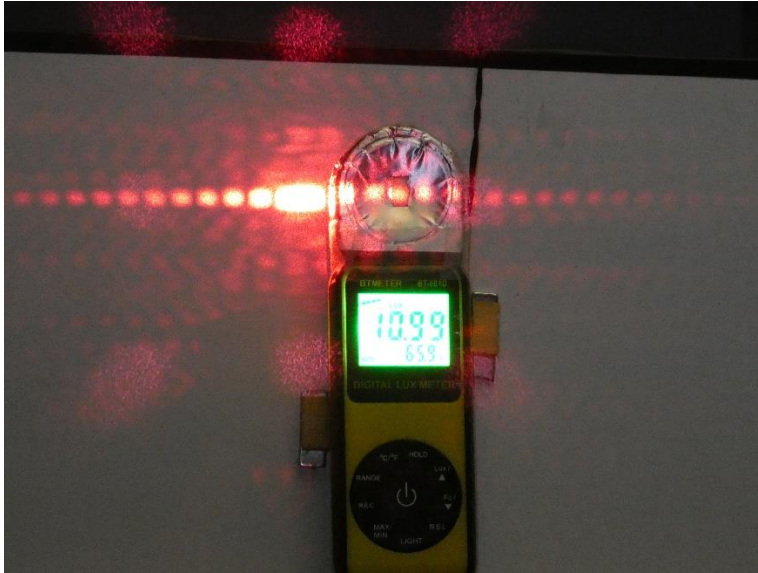
They're not using the path length difference. They solved the equation, and it canceled out.

DIFFRACTION LINE FROM JUST 1 EDGE.

After the precisely aligned interference pattern was established, the left edge is removed resulting in a single line. The intensity reading is taken. Note the sensor has not been moved. The 9 patches of reflections were from the camera and could not be removed.

The intensity before and after an edge is removed is measured and the difference is compared. The intensity of a maxima position is nearly 4 times greater. If only 2 diffraction line patterns are adding how can the intensity become 4?

If you look closely at the left side of center, you will see a very small spacing undefined interference pattern. It is an interference pattern from the reflection of the edge colliding with the incoming beam.



SINGLE SLIT INTENSITY READING

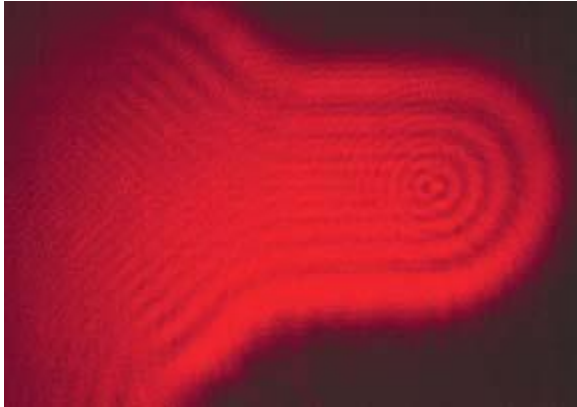
The intensity reading is taken only on the 3rd maxima position as shown. Note: The sensor is masked off to measure only the 3rd maxima position.

So, we have these variations: Where the intensity energy can either double or quadruple.

1. Interfering water waves in a ripple tank slosh water from the destructive region into the maxima to increase energy 4 times.
2. Shining two common flashlights at the same spot on the screen simply doubles the intensity or energy and no visible interference occurs. The two beams have superimposed.
3. When light is forced to interfere, the maxima become 4 times greater.

So, there is some difference between water and light waves. Water waves slosh water back and forth from the nearby destructive region into the maxima resulting in an increase of 4. How then can a light maxima position become 4 times greater? Some say the magnetic field and the electric field are separate and one moves into the maxima. I say the photons simply collide at the slit and redistribute into the pattern. If you look back into the experiments that lead to un-reality situations simply replacing superposition as described today with wave-to-wave collisions, the experiments results become reality again. Simply put, almost like a mechanism, under special circumstances, wave to wave collisions make photons temporarily appear as solid objects and having the appearance of a solid or particle they will bounce off another distributing into an interference

pattern with maxima of 4. If you have followed closely this should be your conclusion, else your probably not thinking for real and should check to see if your cat is still alive.



Single Edge Razor Blade Diffraction.

Georga State University

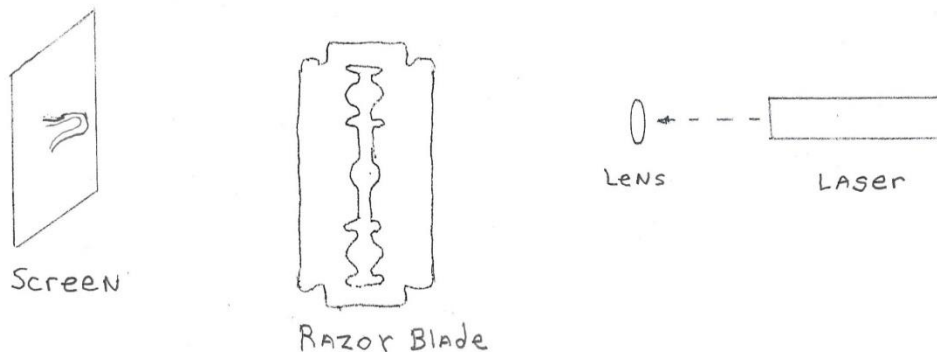
<http://hyperphysics.phy-astr.gsu.edu/hbase/phyopt/bardif3.html>

This image is of the light directly within the razor's center convoluted opening.

This image shows wave to wave collisions. Knowing how the image was taken gives evidence of the collisions. Interference only occurs at the barrier (razer blade). Placing a lens in and out gives a minute clue to wave collisions. Is a lens required to produce the pattern?

This is normally called diffraction but it also has an interference pattern. This fact is not considered when jumping to the double slit.

See below drawing of this setup.



Setup for Single Edge Razor Blade Diffraction and Interference. Screen is 3-4 meters from blade. The image at the screen is the magnification of the light within the grooves of the razor. The interference is

not occurring at the screen. So there is a error in how the single slit pattern is calculated. The single pattern is calculated by calculating by using the distance to the screen.

The interference occurs at the blade either on the side facing the light source, or between the blades convoluted groove, and not behind it. This knowledge is often left out when advancing to the double slit experiment.

The interference within the convoluted groove of the razor blade is nearly invisible to the human eye, but you can see something similar by looking over the top edge of your eyeglasses.

SEE ALSO THE INTERFERENCE OF THE CARDBOARD BOX.

REFERENCES and SUPPORT:

The Delayed Choice Quantum Eraser, Debunked by Sabine Hossenfelder

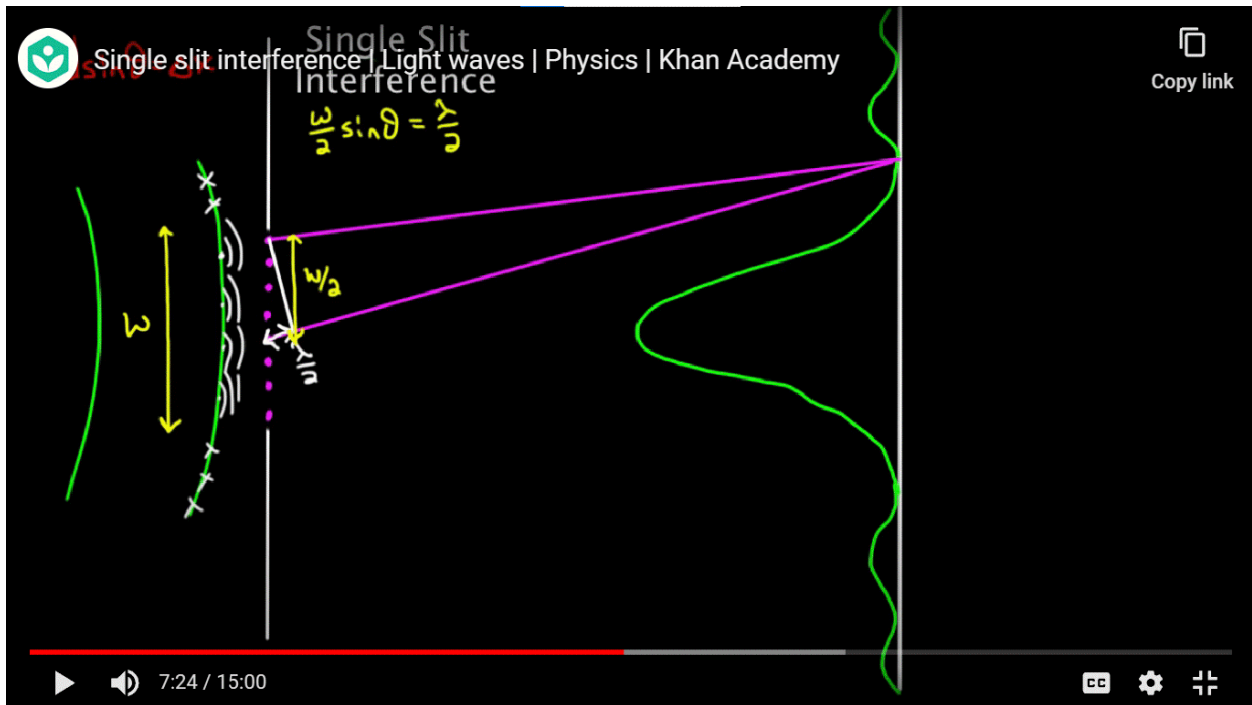
<https://www.youtube.com/watch?v=RQv5CVELG3U>

see Theory file at SynodicGravity.com

Ship in the soup and time tries everything reference. Time dilation and Lorentz contraction explanation.

CONSTANT VELOCITY OF LIGHT:

HOW INERTIA APPLIES: SHIP IN THE SOUP



How the spacing of the pattern is calculated.

The diagram explains the basic concept. Looking at the difference in distance to a particular point on the screen from two sides of the slit. If that path length difference is equal to a whole number of wavelengths, you get destructive interference, and if its equal to a factor of a half a wavelength, then it becomes constructive interference fringe.

PUT YOUR DRAWING IN:::::::::::::::::::

The correct answer is arrived at but for the wrong reason.

The distance to the screen is misinterpreted as to where the destructive interference occurs.

Because of this misconception the conclusion becomes destructive and constructive interference and even the term annihilation is used.

The reality is light wave collisions occur at the slit and the photons redistribute and align into the interference pattern well before the screen. Nothing is destroyed or annihilated, the photons are simply bouncing apart into new directions. They can only collide at a barrier. Any edge causes interference.

REQUIRED

Cite Kahn Academy

David SantoPietro, "What happens when there's only one hole?" Accessed 04/15/2023

<https://www.khanacademy.org/science/physics/light-waves/interference-of-light-waves/v/single-slit-interference>

THIS ONE SHOWS THE CONFUSION WITH CONSTRUCTIVE and uses cancelation word.

<https://www.khanacademy.org/science/physics/light-waves/interference-of-light-waves/v/more-on-single-slit-interference>

[Wave particle duality Action Lab](#)

<https://www.youtube.com/watch?v=ny6fPSibyOo>

[does the The photoelectric effect have to be a particle? Why cant it be a wave?](#)

[Failure of the wave theory](#)

Kahn university: PhotoElectric Effect.

<https://www.bing.com/videos/search?q=why+cant+the+photoelectric+effect+be+a+wave+only&docid=603522160147780120&mid=C45F9B09A7552715F749C45F9B09A7552715F749&view=detail&FORM=VIRE>

The photoelectric effect can be explained by wave collisions. Because waves can collide they appear as particles.

Looks obvious to me that's the way it should be. This seems to be proving there are only waves not the reverse. Wave absorption is normal and common. Why do you need a particle? You're only making a wave look like a particle because of a lack of understanding of the full attributes of wave mechanics.

[Why do we assume a wave can't cause the photoelectric effect. Or Why can't a wave cause the photoelectric effect.](#)

The photoelectric effect may be like the correct length of an antenna absorbing a radio signal or a wave from a tuning fork that resonates with another same sized tuning fork. They are tuned to one another.

BELOW Very Good Explanation

how to find the constructive points on a single slit:

[https://phys.libretexts.org/Bookshelves/University_Physics/Book%3A_University_Physics_\(OpenStax\)/University_Physics_III_-_Optics_and_Modern_Physics_\(OpenStax\)/04%3A_Diffraction/4.02%3A_Single-Slit_Diffraction](https://phys.libretexts.org/Bookshelves/University_Physics/Book%3A_University_Physics_(OpenStax)/University_Physics_III_-_Optics_and_Modern_Physics_(OpenStax)/04%3A_Diffraction/4.02%3A_Single-Slit_Diffraction)

DRAW A GIANT SLIT AND SEE IF YOU CAN calculate THE COLLISIONS ANGLES. Dumbbells or lobes.



White Light Interference

Incandescent light shining down through the flaps of a common corrugated box. Note the dark lines in the center of the shadow from the small slit. This is an interference pattern. A natural phenomenon happening all the time. The double slit only makes things more complicated wo we should reevaluate the phenomenon.

Bells Theorem Debunked? A stack of 100 polarizers will still allow the light to pass through. The poles of light internally bounce within each polarizer turning the pole slightly as it passes through consecutive polarizers.



Thin Film Interference SOAP BUBBLE

Light waves totally canceled. Or is the missing light on the back side of the bubble.

<https://www.youtube.com/watch?v=BP3a9SeeufE>

HYPOTHESIS:

The missing light can be found on the back side. The back side of the bubble will be white. The light is not canceled, it's on the back side of the bubble. Also, the pattern is shifted on the back side. You must show both sides of the bubble to reach proper conclusions on the experiment. If you change the camera angle you may see the light from the canceled area.

Harvard

<https://www.youtube.com/watch?v=4I34jA1fDp4>

The soap film shown here consists of 2/3 cup of Dawn liquid dishwashing soap, 3 tablespoons of glycerol, and 1 gallon of water. We guess that the average index of refraction of the solution is close to that of water (about 1.33). The footage was taken July 16, 2014—the third consecutive day of rain and high humidity in Cambridge, MA. The light source is a portable fluorescent light box with a color temperature of between 4500 and 5000 Kelvin.

STUDY.COM

https://study.com/academy/lesson/single-slit-diffraction-interference-pattern-equations.html?src=ppc_bing_nonbrand&rcntxt=aws&crt=&kwd=SEO-PPC-ALL&kwid=dat-2329040505669481:loc-190&agid=1235851302596746&mt=b&device=c&network=o&_campaign=SeoPPC&msclkid=dd4efcd7be3414bc725598f680784253

Interference by Division of Amplitude (VERY GOOD)

<https://www.youtube.com/watch?v=dRoZJFjwuXw>

<https://www.youtube.com/watch?v=xXbsM4ufDF0>

Was the universe made for us – Just interesting on planks constant.

Physics is Wrong: Interesting

<https://www.youtube.com/watch?v=qH5KyzyN1F0&t=16s>

Action Lab wave particle duality 6th minute

<https://www.youtube.com/watch?v=ny6fPSibyOo>

It does not have to be a particle if wave to wave collisions can occur.

Cornu's Spiral, or Euler Spiral. To evaluate single slit

Spiral slit

<https://www.degruyter.com/document/doi/10.1515/nanoph-2018-0214/html>

Vortex Beam Generator

<https://www.bing.com/search?q=how+to+make+vortex+beams&FORM=R5FD1>

ORBITAL ANGULAR MOMENTUM IMPARTS A FORCE

https://www.youtube.com/results?search_query=vortex+beams+orbital+angular+momentum

Opens up new dimensions of light

https://en.wikipedia.org/wiki/Optical_vortex

Explanation^[edit]

In an optical vortex, light is twisted like a corkscrew around its axis of travel. Because of the twisting, the light waves at the axis itself cancel each other out. When projected onto a flat surface, an optical vortex looks like a ring of light, with a dark hole in the center. The vortex is given a number, called the [topological charge](#), according to how many twists the light does in one wavelength. The number is always an integer, and can be positive or negative, depending on the direction of the twist. The higher the number of the twist, the faster the light is spinning around the axis.

This spinning carries [orbital angular momentum](#) with the wave train, and will induce [torque](#) on an [electric dipole](#). Orbital angular momentum is distinct from the more commonly encountered [spin angular momentum](#), which produces [circular polarization](#).^[1] Orbital angular momentum of light

Optical tweezer and how it can relate to this paper. Twisting light reveals a force. Supports wave impinge. Superposition cannot create this type of wave. Superposition must have another attribute.
<https://www.youtube.com/watch?v=WFAKQINQ8T4>