how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Shubee - 2010/01/31 11:17

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It is alleged in a few forum threads that visible interference patterns can be produced with an inexpensive laser pointer. Is this true? How do you easily create a suitable 3-line diffraction grid with the ideal spacing? Has anyone here actually tried the famous double slit experiment with a low cost laser pointer?

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Posted by PD - 2010/01/31 11:17

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It is alleged in a few forum threads that visible interference patterns can be produced with an inexpensive laser pointer. Is this true? How do you easily create a suitable 3-line diffraction grid with the ideal spacing? Has anyone here actually tried the famous double slit experiment with a low cost laser pointer? Yes, it's pretty easy. The easiest way to obtain a diffraction grating is to order one. They're cheap. You can also make one with a trio of single-edge razor blades taped together, scratching parallel lines on a microscope slide painted black.

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Androcles - 2010/01/31 11:17

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It is alleged in a few forum threads that visible interference patterns can be produced with an inexpensive laser pointer. Is this true? How do you easily create a suitable 3-line diffraction grid with the ideal spacing? Has anyone here actually tried the famous double slit experiment with a low cost laser pointer? Trivially true, a CD or DVD is available to all. Reflect the beam off one and onto the ceiling, you'll see a spread of spots.

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Androcles - 2010/01/31 11:17

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========== The EASIEST way is to use a CDROM or DVD, numbskull.

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Uncle Al - 2010/01/31 11:17

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How do you easily create a suitable 3-line diffraction grid with the ideal spacing? Has anyone here actually tried the famous double slit experiment with a low cost laser pointer? It is 2010. Do oou know where your anus is? idiot

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by eric gisse - 2010/01/31 11:17

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Has anyone here actually tried the famous double slit experiment with a low cost laser pointer? Undergrad labs on the subject are done with a 20$ laser diode.

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Marvin the Martian - 2010/01/31 11:17

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experiment with a low cost laser pointer?

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by eric gisse - 2010/01/31 11:17

It is alleged in a few forum threads that visible interference patterns can be produced with an inexpensive laser pointer. Is this true? How do you easily create a suitable 3-line diffraction grid with the ideal spacing? Has anyone here actually tried the famous double slit experiment with a low cost laser pointer? Forgot about this bit of context: Isn't it amusing that physicists are able to pontificate eloquently about the specific nature of physical reality and believe that they are about to figure out how the universe exploded into existence out of nothingness but are totally confused about fundamental questions in physics?

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Mike Jr - 2010/01/31 11:17

It is alleged in a few forum threads Note absence of citation by the moronic OP. that visible interference patterns can be produced with an inexpensive laser pointer. You'd need be an imbecile not to pull it off, requiring but a laser pointer and a stretched handkerchief. Lace does particularly well. Is this true? Is the Pope, God's rotweiler, a Nazi? How do you easily create a suitable 3-line diffraction grid with the ideal spacing? Has anyone here actually tried the famous double slit experiment with a low cost laser pointer? It is 2010. Do oou know where your anus is? idiot

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Mitchell Jones - 2010/01/31 11:17

It is alleged in a few forum threads that visible interference patterns can be produced with an inexpensive laser pointer. Is this true? How do you easily create a suitable 3-line diffraction grid with the ideal spacing? Has anyone here actually tried the famous double slit experiment with a low cost laser pointer? ***{The easy way to do it is to punch two pinholes in a piece of aluminum foil. I did the experiment with a ruby laser pointer that projected a red beam which was 3 mm in diameter. I stuck two pinholes in a small square of aluminum foil, separated by a distance of 1 mm, so that both would fit into the laser spot. I slipped a short piece of plastic tubing over the end of the laser pointer so that it projected out by about a centimeter, and affixed it to the tubing with tape so that the laser beam hit both pinholes. For a ruby laser, w = 694 nm, or 6.94x10^-4 mm. The approximation formula that describes the result is y = nwx/a, where y is the distance between the center of the pattern and the nth interference fringe on the screen where the pattern is projected, a is the distance between the pinholes, w is the wavelength of the light, and x is the distance from pinholes to screen. By the formula, if you project the beam through the pinholes to a distance of 3 meters, the distance from the center of the pattern to the first fringe (all units converted to mm), which is also the distance between fringes, will be y = nwx/a = (1)(6.94x10^-4)(3000)/1 = 2.1 mm. When I did this at home back in Nov. 2002, I got a nice, round, red spot about 1 inch in diameter, projected on the side of my clothes dryer, with the fringes separated as predicted. The pattern showed a dim diffraction pattern consisting of dark concentric circles, with an array of very black interference bars superimposed upon it, perpendicular to the line connecting the pinholes.

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Benj - 2010/01/31 11:17

Forgot about this bit of context: Isn't it amusing that physicists are able to pontificate eloquently about the specific nature of physical reality and believe that they are about to figure out how the universe exploded into existence out of nothingness but are totally confused about fundamental questions in physics? You can start with yourself, Gisse.

Does anybody here have any idea where a diffraction pattern comes from if one say shines a laser pointer on a pattern of holes of some sort in an aluminum foil? Could Uncle Al predict the resultant light patterns at some distance from the foil? Could Gisse even give a hint of what kind of mathematics would be used to get the answer? Can anyone explain why two round holes don't give the same pattern as two vertical slits? What about two parallel rectangular holes as slits? What is going on? Are there any of you brains here who can explain this beyond some 19th century hand-waving? Yeah, I thought not. Idiots. (Especially Uncle Al...but at least Al has an excuse. He's a Chemist!) But luckily just like Evolution, the Big Bang is fact . I heard it on PBS.

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Androcles - 2010/01/31 11:17

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========== Idiots. (Especially Eric Gisse...but at least Goose has an excuse. He's an ineducable moron just out of the egg!)

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Posted by PD - 2010/01/31 11:17

Chemist!) But luckily just like Evolution, the Big Bang is fact . I heard it on PBS.

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by eric gisse - 2010/01/31 11:17

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Shubee - 2010/01/31 11:17

You can also make one with a trio of single-edge razor blades taped together, scratching parallel lines on a microscope slide painted black. That's too much trouble. I want to buy an optimized double slit for the typical red laser light pen. Where can I get it? Here's a great video on the double slit experiment using pencil leads, but I suspect that the presenter, Jack Maxwell, is using a powerful laser and who knows how long he had to play with it in front of the camera to get it right. Time is valuable to me. I certainly don't want to waste time fiddling around during a physics lecture. http://www.youtube.com/watch?v=UANVMIajqlA

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Marvin the Martian - 2010/01/31 11:17

That's too much trouble. So is trying to help a lazy, ignorant bastard.

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by PD - 2010/01/31 11:17

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but I suspect that the presenter, Jack Maxwell, is using a powerful laser and who knows how long he had to play with it in front of the camera to get it right. Time is valuable to me. I certainly don't want to waste time fiddling around during a physics lecture.http://www.youtube.com/watch?v=UANVMIajqlA

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Here's a great video on the double slit experiment using pencil leads, but I suspect that the presenter, Jack Maxwell, is using a powerful laser and who knows how long he had to play with it in front of the camera to get it right. Time is valuable to me. I certainly don't want to waste time fiddling around during a physics lecture. http://www.youtube.com/watch?v=UANVMIajqlA A powerful laser? Are you fucking kidding me? That's a 1mW pen laser. That setup takes about fifteen seconds to do. I have the equipment in my mechanical pencils and pen laser. What's your excuse?

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Benj - 2010/01/31 11:17

Of course it can be explained. The pattern that was mentioned using pin holes in foil is the superposition of single-slit diffraction and multislit interference. If you use slits, you'll see (diffraction) bands that reflect the shape and orientation of the slits, superimposed on the bands from the side-by-side pattern of the slits. If you use holes, you'll see round (diffraction) circles that reflect the shape of the holes, superimposed on the bands from the side-by- side pattern of the holes. If you need pictures, this obviously isn't the place to do it, though most introductory books have pictures that illustrate both cases and explain where it comes from. Thank you for making my case for me. Sorry, but that is just some freshman approximate stuff to explain some 19th century theory. Perhaps we'd better ask a professional (loser) like Gisse what the relationship is between the intensity of light at the diffraction slits and the light observed some decent distance (far field) away? Oh wait. I believe he can't answer because his fat ass is stuck in his armchair!

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Benj - 2010/01/31 11:17

Yes, I can. Such things were a repeated part of my physics coursework, which you would know if you had ever taken a course on the subject. I am not an armchair physicist the way you are. Say, wait a minute, Eric . I thought that to actually be a physicist, first, one actually has to graduate? Isn't that true? Doesn't that kind of let you out?

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Benj - 2010/01/31 11:17

That's too much trouble. I want to buy an optimized double slit for the typical red laser light pen. Where can I get it? Here's a great video on the double slit experiment using pencil leads, but I suspect that the presenter, Jack Maxwell, is using a powerful laser and who knows how long he had to play with it in front of the camera to get it right. Time is valuable to me. I certainly don't want to waste time fiddling around during a physics lecture.http://www.youtube.com/watch?v=UANVMIajqlA So what did you learn, Shubee doo? The guy making the video

learned that a double slit makes a diffraction pattern and also that a single slit does too for some reason ! Do you know the reason? Are pencil leads a good way to make a double (or single) slit? Why? Why not? What might be the problems. Will the black leads actually absorb the light to make a nice slit? Does the video actually show a true diffraction pattern? Why or why not? There's lots of good stuff to think about here!

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by Benj - 2010/01/31 11:17

A powerful laser? Are you fucking kidding me? That's a 1mW pen laser. That setup takes about fifteen seconds to do. I have the equipment in my mechanical pencils and pen laser. What's your excuse? Heh. Let's name this the Gisse nerd pack diffraction demonstration ! :-)

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how many centimeters is in 3 meters The Double Slit Experiment With A Laser Pointer

Posted by PD - 2010/01/31 11:17

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Yes, I can. Such things were a repeated part of my physics coursework, which you would know if you had ever taken a course on the subject. I am not an armchair physicist the way you are. Say, wait a minute, Eric . I thought that to actually be a physicist, first, one actually has to graduate? Isn't that true? Doesn't that kind of let you out? Since it won't change anyone's opinion about me, why would I bring it up? I occasionally jab Henri Wilson with it tho.

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That's too much trouble. I want to buy an optimized double slit for the typical red laser light pen. Where can I get it? Here's a great video on the double slit experiment using pencil leads, but I suspect that the presenter, Jack Maxwell, is using a powerful laser and who knows how long he had to play with it in front of the camera to get it right. Time is valuable to me. I certainly don't want to waste time fiddling around during a physics lecture.http://www.youtube.com/watch?v=UANVMIajqlA So what did you learn, Shubee doo? The guy making the video learned that a double slit makes a diffraction pattern and also that a single slit does too for some reason ! Do you know the reason? Are pencil leads a good way to make a double (or single) slit? Why? Why not? What might be the problems. Will the black leads actually absorb the light to make a nice slit? Does the video actually show a true diffraction pattern? Why or why not? There's lots of good stuff to think about here! You don't really know how the diffraction pattern is formed, do you?

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