

Re: Photons shapeshifting to wave prior to measurement

Source: <http://sci.tech-archive.net/Archive/sci.physics/2005-04/msg00166.html>

- *From:* bz <bz+sp@xxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Thu, 31 Mar 2005 00:36:31 +0000 (UTC)
-

RP <no_mail_no_spam@xxxxxxxxxx> wrote in
news:3b0tu3F6am14qU3@xxxxxxxxxxxxxxxxxx:

>
>
> bz wrote:
>> RP <no_mail_no_spam@xxxxxxxxxx> wrote in news:3aup5fF6dk5o9U1@individual.net:
>> @individual.net:
>>
>>
>>>Sam Wormly posted an article recently about
>>>single photons being detected for the first time, so I take this as
>>>evidence that the authors of that paper were previously of the opinion
>>>that it had never been done, eh? I didn't read the paper, but I have
>>>no doubt that they're fooling themselves if they believe it.
>>>
>>
>>
>> there have been MANY single photon experiments. I don't know what
>> frequency/wavelength Sam's post might addressed, but as for visible
>> light, it was done long ago.
>>
>> In fact, one can do the double slit experiment under single photon
>> conditions and interference patterns are still observed[once enough
>> single photons have been collected]
>>
>> http://www.teachspin.com/products/two_slit/experiments.html
>> and an interesting, somewhat related site.
>> http://web.phys.ksu.edu/vqmorig/tutorials/online/wave_part/
>
> Quote:
>
> "A Dramatic Demonstration of the "Essential Quantum Paradox"
>
> The "essential quantum paradox" can be shown dramatically by a simple
> experiment. The detector slit is positioned, in turn, at the three
> empirically determined positions of the -1 minimum, the central
> maximum, and the +1 minimum of the interference pattern, marked in

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- > Figure 4 as P-1, P0, and P+1. Photon count rates are measured for the
- > slit-blocker set to permit light to pass through only one slit,
- > through both slits, or through only the other slit.
- >
- > At the central maximum, going from one to two slits quadruples not
- > doubles, the count rate. And, contrary to the logic of classical
- > particles, at either minimum, opening a second slit markedly reduces
- > the count rate."
- > _____
- >
- > If this doesn't convince you that it is only transitions in the
- > detector are being counted, then I don't know what will.
- >
- > There is indeed a single wave emitted from an atomic transition event,
- > but this wave isn't a photon, it is a wave. Granularity of radiation
- > isn't evidence of photons, it is evidence of discrete waves.

- > One wave
- > can induce more than one transition,

Then everyone from Einstein till now has been wrong about the photo electric effect?

- > and 100 waves can induce one
- > transition.

Demonstrably WRONG. It doesn't matter how many photons hit the photocathod, as long as the energy (frequency low/wavelength high) is too low, no electrons are emitted.

- > It just depends on the pumped state of the detector and
- > upon the beam intensity.

How come one wave excites one electron in one location and the next wave excites an electron in a widely different location, etc., etc., etc.,

Only one electron. In locations separated by millions of wavelengths at the frequency of the light in question. How does all that spread out energy get 'reconcentrated' into a small package?

How can a beam of photons pass through a succession of small openings? If they were a wave, the first opening would change the plane wave into a spherical wave and the beam would be disrupted.

--
bz

please pardon my infinite ignorance, the set-of-things-I-do-not-know is an infinite set.

bz+sp@xxxxxxxxxxxxxxxxxxxx remove ch100-5 to avoid spam trap

Re: Photons shapeshifting to wave prior to measurement

- *Follow-Ups:*

- ◆ *Re: Photons shapeshifting to wave prior to measurement*
◇ *From: RP*

- *References:*

- ◆ *Re: Photons shapeshifting to wave prior to measurement*
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