

Re: On the uncertainty principle for photons. An experimental counter

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Source: <http://sci.tech-archive.net/Archive/sci.physics.research/2007-12/msg00127.html>

- *From:* ilper@xxxxxx
 - *Date:* Mon, 17 Dec 2007 11:27:40 -0500 (EST)
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On 11 ¥:, 08:29, DRLunsford <antimatte...@xxxxxxxxxx> wrote:

On Dec 4, 3:08 pm, kvblake <kvblake2...@xxxxxxxxxx> wrote:

Do you mean that when a photon is created there emerges a EM field at once in the whole universe or the existing EM field changes at a constant value immediately everywhere?
I read about localized photons in Mandel's quantum optics.

Regards: Kevin

No, I mean exactly what relativity implies – things that go at C cannot be localized in any way. The electromagnetic field already exists everywhere in the universe, and can absorb and release energy–momentum anywhere and any–when. The photon as a thing, a localized object, does not exist, and can't possibly exist.

You refute the idea of Einstein about photons (explanation of photo effect) by his own special relativity theory. I've never heard that Einstein had claimed anywhere the photons dont exist because they are bound to move at c .

I have read some textbooks about relativity though am not a specialist. I havent seen anywhere in some textbook of SRT to stand refutation of photons.

In fact the entire idea of propagation is what is at issue here. In relativity, the world is 4–d, and propagation is a primitive fact, like distance in Euclidean geometry, and can't be reduced. So the EM field absorbs energy here, and releases it there, with the difference of here and there being an interval lying on the light cone. Photons are the units of absorption and release. The 4–d–ness of the world really has to be taken at a face value.

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I dont think the field just releases pure momentum any-where and any-then.

If you deny propagation how would you explain

1. the light doesnt go though object (cancellation of propagation)
2. final speed

The conflict between relativity and QM is stark enough without making it worse. Neither ceases to be t