

# Re: The physical motions of photons in free space!

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*Source:* <http://sci.tech--archive.net/Archive/sci.physics.relativity/2005-11/msg00672.html>

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- *From:* "Harry" <harald.vanlintel@xxxxxxx>
  - *Date:* Fri, 11 Nov 2005 16:18:11 +0100
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<surrealistic--dream@xxxxxxxxxxxx> wrote in message  
[news:1131712101.771816.89030@xx](mailto:news:1131712101.771816.89030@xx)

>

> Harry wrote:

>> "Gerald L. O'Barr" <globarr@xxxxxxxx> wrote in message

>> [news:1131661749.939496.19980@xx](mailto:news:1131661749.939496.19980@xx)

>>> The physical motions of photons in free space

>>> are absolutely equal!

>>>

>>> Yes, let us take a fixed inertial line in free

>>> space, and let points A and B be fixed points upon

>>> this line. At point A, let there be two objects

>>> moving upon this line at two different velocities,

>>> positioned such that they will cross point A at the

>>> same instant of time. At the instant they cross

>>> point A, let them both send a photon towards point B.

>>> Both photons will physically reach point B at the

>>> same instant of time.

>>> (Sub note: Each 'object' that simultaneously met at

>>> point A can each actually represent a whole inertial

>>> reference frame, in which they are each at rest. And

>>> we will let each frame extend to both points A and B

>>> and beyond. Thus, each photon emitted by each

>>> object are each traveling in their own different inertial

>>> reference frame at all times.)

>>> Now please note, at any point on this original

>>> line, as measured by any object on this line, no

>>> matter what velocity any object might be moving on

>>> this line, will show that at any meeting of any one

>>> of these photons, will instantaneously include the

>>> meeting of the other photon. Thus, step by step, at

>>> every point, by all observers (by all inertial

>>> frames), moving or not moving one way or the other,

>>> they will all confirm that these two photons, sent by

>>> two differently moving objects, moving in different

>>> reference frames, will be physically moving together

>>> in an absolute way across the space they are using.

>>>

## Re: The physical motions of photons in free space!

>>> Thus, something exists in this space, that  
>>> controls the rate at which all photons physically  
>>> move, no matter what their original source might have  
>>> been, and no matter what reference frame they are in.  
>>  
>> Upto here, both Lorentz and Einstein would have agreed.  
>  
> A photon is a quantum object and nobody knows what it does when it is  
> not being observed. All we know in SR kinematics is that its measured  
> speed in an inertial frame in a vacuum is the fixed number  $c$ . See  
> Feynman's QED for more on this.

Sure; nevertheless I'm pretty sure that Lorentz and Einstein would have agreed that a photon's speed is a property of space, and not of the photon. Perhaps Einstein even stated that, do you know if he did or not?

>>> This concept is absolute, and it absolutely  
>>> tells us that there is an absolute reference that  
>>> controls these physical acts.  
>>  
>> This is where Einstein disagreed, but AFAIK he didn't explain his reasoning.  
>  
> You're right. Einstein would not have agreed to any such thing post his  
> SR paper.  
>  
>> Is there someone here who is able to explain Einstein's reasoning on this?

> Einstein made it very clear in his essays, even if SR books do not. To  
> Einstein, such an absolute space (i.e., inertial frame) would imply  
> that Nature has arbitrarily selected one inertial frame out of an  
> infinite number of them to be special (i.e., the laws of  
> electrodynamics are "true" in that frame only because measuring rods  
> and clocks are undistorted in that frame). Einstein regarded such a  
> possibility as a violation of his philosophic notion of the harmony of  
> nature and the egalitarianism of inertial frames (PoR). He also claimed  
> that nature does not seem to reveal any such frame in practice: Neither  
> the mechanics of Newton nor any experiment in electrodynamics seems to  
> reveal that any inertial frame is any different for the invention of  
> the laws of physics from any other inertial frame. So, to Einstein, at  
> heart Nature acts to rigorously maintain the PoR and the Light  
> Principle (locally), but not the dependence of light speed on the  
> source's motion. I emphasize that when I say "speed," I mean actual  
> measured speed, not some hypothetical, unmeasurable speed.

I also read all that. But what I meant, can you clarify the physical light propagation model that Einstein had in mind? Don't forget that Einstein believed that photons really travel from A to B, and that light speed is dictated by space.

Harald

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- **Follow-Ups:**
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◇ From: surrealistic-dream
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◇ From: Gerald L. O'Barr
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