

Re: re:Can Light Propagate without Space??

Source: <http://sci.tech-archive.net/Archive/sci.physics.relativity/2005-03/2619.html>

From: TomGee (*lvlus_at_hotmail.com*)

Date: 03/11/05

Date: 10 Mar 2005 20:51:08 -0800

PD wrote:

> *TomGee wrote:*

>> *PD wrote:*

>>> *TomGee wrote:*

>>>> *OmegaX7 wrote:*

>>>>> *I stand corrected on point one. I'm afraid I didn't phrase*

what

> *I*

>>>> *ment*

>>>>> *correctly at all. Thank you. One the second point; to think*

space

>>> *and*

>>>>> *time can be seperated seems unacceptable. One governs the*

other.

>>>>> *There may be exceptions near black holes or quasars. Can you*

offer

>>>>> *any examples of either without the other; space or time, I*

mean.

>>>>> *L8R*

>>>>>

>>>>>

>>>>> *Yes, of course. I have posted an extended explanation in this*

ng,

>>> *but*

>>>> *it may be better to start this discussion with this simple*

claim:

>>>>

>>>>> *P 1. Matter exists in the space of our universe and so does the*

dimension of time. In physics, a dimension is a property or

magnitude,

>>>>> *or groups of such, that collectively define a physical*

quantity.

>>>

>>>> *Disputed. Back it up.*

>>>

>>>

>> *Sure, soon as you note the basis of your dispute so that we can*

know

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> > *what it is you dispute.*

>

> *A dimension is better described as one of the counted independent
> degrees of freedom within a space, where a space consists of elements
> that can be described as related by a set of mathematical rules.*

>

> > >

True, when it refers to math. However, this is physics, not mathematics.

>

> > >

> > > *P 2. According to SR, time is a property of matter*

> > >

> > > *Disputed. Back it up. This is the linch pin.*

> > >

> > >

> > *Sure, soon as you note the basis of your dispute so that we can know*

> > *what it is you dispute.*

>

> *OK, see below, as well. Time is not a property of matter. The claim
> that it is, is based on a false chain of logic. Time is one of the
> dimensions in spacetime, in which events live.*

>

>

No, sorry. Events do not "live" anywhere. Events "occur" in time. And time is a real dimension of the universe and not of fantasy spacetime. If time was a dimension of space, space could not be dependent on time then, could it? And time cannot be a dimension of time, can it?

>

>

> *Events can be separated
> in time, and there exists a region of time in which no events occur.*

>

>

That would depend on your definition of "event", would it not? In Relativity, it is a single point in space-time, which is chosen by whomever is making the s-t diagram. However, events do not occur on the whim of humans, nor are they confined to single events. The orbiting of the moon is a single event, to some, but to others, it is continual succession of events because it is a continuous acceleration of the moon which keeps it in its orbit. For us, each of those tiny little events is of utmost importance because if just one fails to occur, we're done.

S-t, however, ignores those little intricate events which together make up larger events, in saying that if nothing significant occurs, it is not an event. Fortunately for us, s-t does not define our reality. Our reality takes into account the relatedness of events to other events which makes up the "now" and leads into the future. S-t is a

math construct which only accounts for the distances traveled by objects within certain time spans. It is a tool for theoretical physicists and as such it cannot be taken as a real place like our universe.

>
>

It

> *therefore makes no sense to say that time exists only in the presence of matter.*

>

>>>

Then SR is wrong in saying that the twins will age differently?

>

>>>

>>>> *and it passes for*

>>>> *discrete objects or systems inversely proportional*

>>>

>>> *Disputed. "Inversely proportional" has a definite meaning, and*

> *using*

>> *it*

>>> *here is an error.*

>>>

>>>

>> *So give us your definite meaning and how it conflicts with the way*

I

>> *use it here. I have had one poster who also said I was using it*

>> *wrongly and I should make that statement read better. I tried it*

for

>> *awhile but then I forgot how I was using it wrongly and it crept*

back

>> *in again. I didn't bother with it anymore, I confess, because it*

did

>> *not seem germane to the issue in which I used it. No one else but*

> *you*

>> *has been bothered with my use of it, but if you will state your*

>> *argument about my use of it, I will try to let you win one.*

>

> *Understand that "winning one" means that you must then revisit your*

> *model and revise it to be correct, right. Saying that "you won one"*

and

> *then changing nothing about your thinking accomplishes nothing.*

>

>

Ha Ha! You wish! I can let you win your contention that I am using it wrongly, but not that I am wrong in what I mean.

>

>

> *Inversely proportional implies a specific mathematical ratio. A is*

> *inversely proportional to B if increasing B by a factor of m*

decreases

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> A by a factor of m, where m is a nonzero number. For example, time
> would have to dilate by a factor of 2 if the "state of motion"
> increased by a factor of 2. It does not.

>

>>>

And how do you know it does not? How do you determine A if A is the
time rate and B is the state of motion of the object? Let's say, e.g.,
that the time rate of A is 9, B is 20, and m is 2. Increasing B by m
gives us 40 and decreasing A by 2 gives us 8. Is that not an inversely
proportional change? If not, why not?

>

>>>

>>>> to their states of

>>>> motion.

>>>> C 1. Therefore, without space, matter cannot exist and without

>>>> matter,

>>>> the dimension of time cannot exist.

>>>

>>> The last statement is disputed. Back it up.

>>>

>>>

>> Sure, soon as you note the basis of your dispute so that we can
know

>> what it is you dispute.

>

> I did, above and below.

>

>>>

I responded to that above in this post and to that below in my previous
post.

>

>>>

>>>> P 3. However, space can exist without matter and matter's

> property

>> of

>>>> time, as evidenced by areas where no matter can be observed.

>>>> C 2. Therefore, since matter cannot exist without space and

time

>>> cannot

>>>> exist without matter, time is dependent on space.

>>>

>>> This is how you maintain that SR says that time is dependent on

>> space?

>>> Deep, deep misunderstanding here.

>>>

>>>

>> Obviously, but only on your part. The above is NOT what SR says,
but

>> simply my attempt to show how I conclude that the relationship of

> time

>> to space is one of dependency and not one of interdependence, since

> > *space has no dependence on time.*

>

> *You misunderstand SR's statement about interdependence. According to*

> *your approach, two things could never be interdependent, because A*

> *being dependent on B would rule out B being dependent on A.*

>

>

It is you who does not understand the meaning of "interdependence", obviously. A being dependent on B does not rule out B being dependent on A. That is in fact what constitutes interdependency – the fact that each depends on the other for its existence. A can depend on B, but if it is so that B does not depend on A, there is no interdependent relationship because there is no mutual dependency.

>

>

> *What is the proper statement is that space and time *coordinates* of an*

> *event depend on the inertial frame of reference. Both are *connected**

> *quantities in spacetime.*

>

>

Yes, but quantities are not physical things, they only refer to physical things but they themselves are not such. Quantities are math constructs used in s–t diagrams to plot world lines and such. They cannot prove that s–t is a real place.

>

>

> *An analogous statement is the location of something in a plane. The*

> *values of the x and y coordinates depend on the origin and*

> *orientation*

> *of the axes chosen. It is improper to say that x depends on y or that*

> *y*

> *depends on x, but the values of x and y depend on the choice of*

> *coordinate axes. As well, if that choice should be, say, rotated,*

> *then*

> *both the values of x and y coordinates of that something will*

> *change.*

>

>

No one has said that, AFAIK. AE made or propounded the claim that space and time are interdependent in our universe or in his fictitious universe of s–t, and in either universe his claim is patently untrue.

Sorry.

>

>

> > *My model explains space as filled*

> > *with particles having negative matter and energy which makes them*

> > *invisible to us and we see through them. Since time is a property*

> *of*

> > *visible matter, being matter having positive matter and energy, and*

> *the*

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> > *rate of its passage depends on motion, time is not a property of*
> > *negative matter and energy since such matter has not the property*
of
> > *motion. Thus, time does not pass for invisible matter, or more*
> > *probable, not so we can discern it.*
> > >
> > >
> > > *C 3. Therefore, since space exists empty of matter, space does*
> *not*
> > > *depend on matter and thus, not on time either, which shows that*
> *the*
> > > *two, space and time, are not related in an interdependent*
> > > *relationship.*
> > > >
> > >
> > > *Tom, note the following.*
> > > *1a. It is not solely true that time is the only thing that*
changes
> *in*
> > > *viewing from a relatively moving frame of reference.*
> > >
> > >
>
>

I have said nothing about viewing time changes, in any ref. frame.

>
>
> > *No one I know has made such a statement. What relevance has it?*
>
> *Look up length contraction. Distance (space) changes in viewing from*
a
> *relatively moving frame of reference.*
>
> > >

Oh? And how do you know it is space that changes and not just the distance. That is what SR claims happens in the TP, that because space and time are interdependent, when time dilates, so must space. my model claims that time dilation is our term for an effect which gives us the impression that time and space warp in order to account for some counter-intuitive events. My model shows that there really is no actual warping of time or space; it only appears that way to us.

>
> > >
> > > *1b. SR also maintains that distance (length) ALSO changes in*
> *viewing*
> > > *from a relatively moving frame of reference.*
> > >
> > >
> > *OK, so what?*
>
> *You said that time must depend on matter because its magnitude*

depends

> *on the state of motion of the matter.*

>

>

No, I said that time rates must depend on that, not on the magnitude of time, whatever that means.

>

>

> *Well, space must then also depend*

> *on matter (or neither time nor space depends on matter) by the same*

> *argument, because its magnitude depends on the state of motion of the*

> *matter. There is no asymmetry between time and space in this respect!*

>

>

No, not so. If space depended on matter for it to exist, we could have no space where there is no matter. You are using the term wrongly in calling time rates a magnitude. Time is different than time rates.

Time is a dimension of the universe. It is a property of discrete objects/systems which accrues to them dependent upon their states of motion, meaning that the rate of the passage of time or, the time rate, for each discrete object/system varies in relation to their own particular and current state of motion. Your premise above also assumes, wrongly, that time and space are interdependent wrt each other.

>>>

>>>

>>> 2. *Neither of these statements require the presence of matter to be*

>>> *true, though the *events* used to mark time and space positions*
> *often*

>>> *happen to include some tangible object.*

>>>

>>>

>> *Um...How can you have an event without visible matter involved?*

Oh,

> *I*

>> *forgot – you can imagine such a thing. Is that why you marked*

> *"events"*

>> *with asterisks? You are talking theoretical physics; when you're*

> *ready*

>> *to discuss real physics, let us know.*

>

> *You know, I find that last remark funny, since you are the one that*

> *says that theorists deal in abstract ideas only, and pay no heed to*

> *empirical results. Perhaps you're having a change of heart?*

>

>

Those terms do not depend on a change of heart. My views of theoretical physics are the views of authorities in the field. There is a part of science called theoretical physics and I am sure it is there to make a significant distinction between those ideas and those

of physics. It should be plain to see that there is hardly any distinction between the men who toil in both disciplines, as all are either one at some time and even both at other times. The only way to distinguish the difference between the two disciplines is to review the work proposed for it relative descriptions of reality, or lack of them.

Anyone who proposes a theory being on math constructs and lacking any relations to reality is a theoretical scientist, while the same person can relate it to empirical research as a physicist. Until Relativity underwent confirmations of its theories, AE was a theoretical physicist.

>

>

> *Fine, then, let's suppose that all events (like a firecracker going
> off, my birthday party, you sneezing in the hallway) are associated
> with tangible things. This does not mean that time *depends* on those
> tangible things or resides in them, for the same reason that space
does*

> *not. There can be empty space (or, said a different way, two tangible
> things can exist at finitely separated distances) between things, and
> there can be empty time between events.*

>

>

Yes, but you see, you are still talking about the time dimension and not the different time rates ascribed to the twins by SR.

>>>

>>>

>>> *3. Therefore, SR (note SR, not GR) declares that both space and
> time*

>>> *are affected by the state of motion of the reference frame, and
> that*

>>> *neither of these depend on the presence of mass.*

>>>

>>>

>> *So you agree that SR claims space and time are interdependent even
in*

>> *an imaginary ref. frame, right?*

>

> *In the sense that I described above, yes. And not just in imaginary
> reference frames --- real reference frames.*

>

>

Ref. frames are made up by observers in our heads, they do not exist as physical entities.

>

>

>> *Things you make up in your mind never*

>> *require anything you don't want them to require; did you not know
> that?*

>

> *I see, and yet your test of a valid theory is whether it makes
logical*

> *sense. Your model that you made up in your mind never required anything*

> *you didn't want it to require; did you not know that?*

>

>>>

I just said that was so and you agree.

>

>>>

>>> *4. Therefore, both space and time are dependent on the state of*

>> *motion*

>>> *of the reference frame.*

>>>

>>>

>> *And so when you are no longer imagining the empty ref. frame, does*

> *time*

>> *and space disappear from reality and us with it, since they cannot*

>> *exist without the ref. frame to which they depend upon?*

>

> *I don't know where you get the idea that reference frames are*

> *imaginary.*

>

>

Yes, I understand that is the basis of your confusion. You have not learned to distinguish the real from the fantasy.

>

>

> *If you stop imagining a cube, do the three space dimensions that are*

> *occupied by that cube disappear?*

>

>

Yes, of course, because the 3 dimensions were imaginary in the first place.

>

>

> *Define for me "reference frame".*

>

>>>

Why? So you can argue interminably about its definition? Sorry, not relevant.

>

>>>

>>> *5. Therefore space and time can be seen to be connected.*

>>>

>>>

>> *Yes, just like I said, in your imagination.*

>

> *Indeed, space and time are merely separate dimensions in the real*

> *entity, spacetime.*

>

>

Yes, they are, but s-t is imaginary while our universe is not. In our

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universe we have space and time dimensions but they are not interdependent. Wishing your s-t was real cannot make it so.

>

>

> *You decide how imaginary that makes them. If I take two events and I determine *experimentally* that the spatial distance between them is not independent of the state of motion of the observer,*

> *and *experimentally* that the time duration between them is not independent of the state of motion of the observer, and*

> **experimentally* the ONLY quantity that is independent of the motion of*

> *the observer is the spacetime interval, then you tell me which one should be taken to have more reality.*

>

>

Which one of what? I agree with the first two posits, and the third one is about quantity, not a real thing, and the s-t interval, a math construct, neither of which have much to do with reality.

TomGee