Re: What is LET?

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2006−01/msg02530.html

- *From*: "Russell" <russell@xxxxxxxx>
- *Date*: 30 Jan 2006 22:04:18 −0800

RP wrote:
> Russell wrote:
> > RP wrote:
> >
> >>Bilge wrote:
> >>
> >>> Martin Hogbin:
> >>>
> >>> >"Bilge" <dubious@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message
> >>> >news:slrndtkf64.5j.dubious@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
> >>> >> Martin Hogbin:
> >>> >> >
> >>> >> >"dej4" <clujdej@xxxxxxxxx> wrote in message
news:1138321586.235441.304020@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
> >>> >> >> Thank you, Martin
> >>> >> >>
> >>> >> >> What makes LET indistinguishable from SR? Who decided that? This group?
> >>> >> >
> >>> >> >No, the entire physics community. It is a well known fact.
> >>> >> >Although the term LET is not widely used, Lorentz's theory
> >>> >> >was well known to physicists. Both theories are result in
> >>> >> >the same Lorentz transformations (the clue is in the name).
> >>> >>
> >>> >> Actually, that isn't true if one insists on absolute simultaneity,
> >>> >> even in principle.
> >>> >
> >>> >It is for all observable quantities in LET. As for unobservable
> >>> >quantities, I have never seen one on my life.
> >>>
> >>> When someone wants to give me his/her definitions which suffice
> >>>to define absolute simultaneity, I'll point out the observable
> >>>differences.
> >>
> >>In the context of LET, which amounts effectively to different
> >>interpretation of the Lorentz transform, events that are simultaneous
> >>wrt an observer in K are indeed also simultaneous wrt an observer in K',
> >> despite what Tom Roberts seemed to imply. He started out ok, but
> >>that's all. He knows what he meant to say, but he say what he meant.
> >

> >
> > Well, it really boils down to "What is LET", doesn't it?
>
> In this particular instance it boils down to Roberts' incorrect
> statement (in a recent post to this thread) that the simultaneous events
> in K aren't simultaneous wrt K', when in fact they are.

If you define simultaneity to be simultaneity in the preferred
frame, yes. But then, what sense does it make to say events
are simultaneous wrt frame K'? The last three words are
superfluous. IOW, Roberts has a point. It disagrees with
your understanding of LET, but again, you can't really push
that very far unless you can produce a definitive reference
to back up your claim. This is an argument about convention,
and physics history, not physics.

> Seems he let his SR slop over into his LET and confused himself in an
> attempt to illustrate to Bilge his misinterpretation of the word
> absolute in the context of LET. Bilge, OTOH, misinterpreted nothing,
> time is absolute in exactly the sense that he understood it to be in the
> context of LET. That doesn't however make Bilge's conclusion that LET
> cannot be equivalent to SR correct. Galilean space−time and Lorentz
> space−time are not mutually exclusive. They are simply different logical
> premises. The difference between them lies completely in the
> differences in their respective definitions of time and distance. The
> best lesson to be learned from the LET/SR debate is that space−time
> isn't a thing at all, it's just a figment of our imagination, a free
> creation of the human mind, a conceptual model of what we think we see
> around us. There is thus nothing absolute about its actual metrical
> nature. We can arbitrarily choose any consistent geometry whatsoever as
> a basis, and thereafter simply stretch and skew everything within it
> into conformity. That is the stumbling block that Bilge is currently
> tripping over, and that is the one thing that I've known intuitively
> since long before ever taking an interest in physics, and the one thing
> that allows me to present my ideas without feeling intimidated by those
> with much more rote learning than myself. That's what this boils down
> to from my perspective. What this discussion means to you is however up
> to you.

I doubt Bilge is stumbling on anything, but it's quite possible
he has different opinions about LET's definition than Roberts has.

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> >
> >>Firstly we have to distinguish between a measuring stick and clock and
> >>an observer. Wrt an observation made in K' (using measuring
> >>instruments that have not been intentionally tampered with since their
> >>calibration while at rest in K) the events aren't simultaneous, yet wrt
> >>an observer in K' (a person who believes that K is the master frame)
> >

> >
> > But he has no reason to think that *is* the master frame,
> > as you point out later on.
>
> Yes he does. I'll repeat. Trace your acceleration history back as far as
> is possible. At some point in the past, the BB, there is one inertial
> frame. That is the de facto never accelerated frame, and the center of

Good grief. You can't do SR *or* LET with universes big banging.
This is completely off the point.

> mass of our universe necessarily still occupies that frame. If several
> clocks could have been set in that frame at the time of the BB, and if
> only one of them remained at rest in that frame throughout the history
> that followed, then that clock would have ticked off more seconds than
> any other clock in the universe, absolutely. Wrt it, and wrt all others,
> they would all be in agreement that only that one clock never underwent
> any physical alteration of ticking rate. They admit that it was they
> that accelerated here and there, and the fact that they register less
> elapsed time only servers to cement that fact. Now regardless of which
> frame is the actual de facto never accelerated frame, it follows that
> time is in fact absolute and it is immaterial whether we know which is
> the master frame. The fact that the Lorentz transform is symmetric wrt
> frames allows us to treat any frame as the master frame, and this isn't
> because they are all equal, it is instead because there isn't one, it is
> only because when working out the transformation between frames that are
> both in motion wrt the master frame, then the master frame cancels out
> of the equation. SR is simply a side effect of the existence of such a
> frame, and of the mathematical ironies that modeling frames of reference
> introduces. SR is thus emergent from LET, the latter having a connection
> to the origins of the universe, and a reasonable explanation for the
> Lorentz transform, while SR is seemingly "just because". Light is not
> independent of the universe, it is absolute wrt something, else there
> would be nothing but chaos or more likely nothing at all.

Well, that's a nice thought. But it has nothing to do with
science.

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> >
> >>they are simultaneous. IOW, the measurements that the K' observer obtain
> >>do not correspond to his knowledge that the events are simultaneous.
> >>This knowledge in term stems from his acceptance that K is an absolute
> >>frame, a master frame, and that time as measured in K is absolute for
> >>every observer, while his own measured time is not absolute. He regards
> >>these faulty measurements as arising from the fact that his meter sticks
> >>and clocks have been physically altered in conjunction with their
> >>acceleration from K to K'.
> >
> >

> > That is one way to talk about it. Roberts's is another way
> > to talk about it. Which one of them is LET? Do you have
> > a definitive reference that says one way or the other, or are
> > you just guessing?
>
> Roberts' way denies that Galilean space−time is equally as valid as
> Lorentz space−time, and is thus incorrect.

We were talking about what LET is, not what is valid
spacetime.

>
> >
> >>An important result of this interpretation is that we may chose a given
> >>inertial frame as master frame, and then by careful monitoring of
> >>acceleration (perhaps via an accelerometer) we can intentionally
> >>recalibrate our meter sticks and clocks so that they remain synchronized
> >>with the clocks in K wrt the observer in K. If we then use these
> >
> >
> > You would of course have to speed up your clocks as well
> > as reset them. This would make physics *really* hard to do.
>
> God never promised you a rose garden, probably because there isn't any
> such thing as a god. How much of a rose garden did you expect to be
> handed on a silver platter from the likes of chance and probability,
> which are equally as likely to kill or maim you as to cater to you? It
> is what it is, it isn't constrained to be pretty, much less
> aesthetically pleasing.

This is silly. Theories are made so that we can predict the
outcome of experiments. There's no reason at all to make
them harder than they have to be.

It's as if you were saying that when NASA launches a space probe
to Pluto, all of the calculations have to be done in the frame of Cape
Canaveral. It could be done −− but why?

>
> >
> >>purposely modified meter sticks and clocks to measure speeds and times
> >>and displacements wrt our frame, then we can use the Galilean transform
> >>to obtain accurate predictions, and moreover all observers how
> >>participate in this conspiracy against SR will also measure as
> >>simultaneous any events that are simultaneous in K.
> >
> >
> > Sure, but I predict there'd be a black market out there for
> > unadjusted meter sticks and clocks.
>
> That's immaterial.

>
> > What people would
> > end up doing is to use their black−market measuring tools,
> > and (in the rare cases that this would be coerced by some
> > policy) convert to "real" time via the Lorentz transform. That
> > would be much easier than tinkering with clocks all the time
> > and much *much* easier than changing the laws of physics
> > to be meaningful with those tinkered clocks.
> >
> > And not just physics. Imagine a doctor trying to take your
> > pulse, and then looking into some almanac to get the current
> > speed wrt the master frame, then looking up the pulse
> > reading (wrt the tinkered clocks) in some giant table to
> > determine whether that pulse was normal. I think that doc
> > would soon be getting a clock from the black market too...
>
> Immaterial.
>
> >
> >
> >>Thus space−time is truly Galilean wrt LET. It is however because we
> >>cannot determine which frame is master frame that we must go ahead and
> >>use our relativistically altered meter sticks and clocks as is, that is,
> >>since we don't know which frame with which to sync them, and as a result
> >>the Lorentz transform, which has these measurement adjustments already
> >>incorporated into them, is used instead. That is the difference between
> >>LET and SR. SR doesn't regard the Lorentz transform as just a Galilean
> >>transform plus necessary conversion factors, bur rather as.....hell I
> >
> >
> > I don't think LET regards it that way either, if I even know
> > what you mean by that. Certainly you don't get the
> > Lorentz transform by multiplying a Galilean transform
> > by some factor. Or "plussing" some factors either.
>
> Think back, how did Lorentz derive the theory?
>
> >
> >
> >>don't know what it regards the Lorentz transform *as* other than a way
> >>to get the right answer. It is no interpretation at all of the
> >>transform. :)
> >
> >
> > The Lorentz transform is a theorem of the SR postulates.
>
> The postulate was just a conclusion of Lorentz's!

Which postulate? Lorentz invariance of Maxwell's Eqn's was,
yes, a conclusion of Lorentz's. It was already well known that
the M.E. are *not* Galilean invariant.

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> >
> >>Another way to describe the difference is that it exists only in what
> >>each system of thought regards as true time and true displacement. One
> >>is no more correct than the other, it's a simple matter of a priori
> >>assumptions, that in turn lead to different philosophical positions,
> >>though the math is completely unaffected. Both of those philosophies
> >>have a high probability however of being "not even wrong", IMHO. That's
> >>why I state that the theories underlying these philosophies, since those
> >>theories are just the maths, are in actuality identical.
> >>
> >>There are many mathematical approaches to any problem whatsoever, yet it
> >>seems only in the LET/SR debate are they ever regarded to express
> >>different theories. I say farmer Joe has 3 cows because he had two when
> >>I met him, and then Bessy his cousin gave him another, but Joe took one,
> >>and then later brought it back. That is my theory of the 3 cows. Now
> >>you might come along and say well, I say he has 3 cows because I added
> >>all the legs and there were 12, then I divided by 4 and got 3, and that
> >>is why he has 3 cows. Your interpretation may differ, but the bottom
> >>line is that he has 3 cows, how we got there is really immaterial.
> >
> >
> > So if it doesn't matter, why are you making such a big deal over
> > what Roberts said?
>
> Why does anything matter?

Let's just say I just found your last couple of paragraphs ironic.

Look, a lot of things matter. Even scientific history matters. So, if you can produce something from Lorentz, say, to show that he defined a theory called "LET" with absolute simultaneity, that would convince me and I would get off your case. Talking about the big bang is all your stuff, and I'm sorry, you may be a nice guy and all but you're not the final arbiter of what LET is.

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- ***References***:
  - ♦ ***What is LET?***
    - ◊ *From:* dej4
  - ♦ ***Re: What is LET?***
    - ◊ *From:* Martin Hogbin
  - ♦ ***Re: What is LET?***
    - ◊ *From:* dej4
  - ♦ ***Re: What is LET?***
    - ◊ *From:* Martin Hogbin

- ***Re: What is LET?***
  - ◊ *From:* Bilge
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- ***Re: What is LET?***
  - ◊ *From:* RP
- ***Re: What is LET?***
  - ◊ *From:* Russell
- ***Re: What is LET?***
  - ◊ *From:* RP

- Prev by Date: ***Re: UNIFIED PHYSICS is the name of my physics paper (Peter D Rodgers)***
- Next by Date: ***Re: What is LET?***
- Previous by thread: ***Re: What is LET?***
- Next by thread: ***Re: What is LET?***
- Index(es):
  - ***Date***
  - ***Thread***