Re: Circular motion in SR

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- *From*: PD <TheDraperFamily@xxxxxxxxx>
- *Date*: Mon, 24 Mar 2008 11:42:26 −0700 (PDT)

On Mar 24, 1:09 pm, rbwinn <rbwi...@xxxxxxxx> wrote:

> On Mar 24, 6:04 am, PD <TheDraperFam...@xxxxxxxxx> wrote:
>
> > On Mar 24, 7:20 am, rbwinn <rbwi...@xxxxxxxx> wrote:
> >
> > > On Mar 23, 10:53 am, PD <TheDraperFam...@xxxxxxxxx>
> > > wrote:
> > >
> > > > But
> > > > the
> > > > rotation
> > > > of
> > > > the
> > > > sun
> > > > is
> > > > not
> > > > the
> > > > standard.
> > > > The
> > > > standard
> > > > is
> > > > defined
> > > > in
> > > > terms
> > > > of
> > > > reproducible
> > > > physical
> > > > processes
> > > > that
> > > > can
> > > > be
> > > > replicated
> > > > locally.

Well,
The
Galilean
transformation
equations
can
be
referenced
to
the
rotation
of
the
sun,
but
not
to
reproducible
physical
processes
replicated
locally.

By
choosing
some
distant
reference,
one can
always
impose an
absolute
time,
sacrificing
all locally
consistent
behavior.
That,
however, is
not an
obviously
superior
position. It
leaves you
with the
situation
that, in

terms of rotations of the sun, an observer at rest can measure radioactive half−lives, the growth of trees, the population of bacteria, an AC−circuit resonance period; but as soon as you go to a frame in which the sun is moving, then you need to *first* redefine seconds to be in terms of that distant sun's rotation, and then after doing so you note that all your local radioactive half−lives, the growth of the trees, the population of bacteria, and the AC−circuit resonance period have all changed

in terms of
the new
second.
Seems
rather
stupid, just
to preserve
the rotation
rate of the
distant
sun and to
preserve a
Galilean
transformation.

If you make
this change
just to
preserve the
Galilean
transformation,
and as a
result you
find that all
local
physical
phenomena
now have
different
rates, then
this
normally
would be an
indication
that the
Galilean
transformation
is not a
good one to
insist on.
And in fact,
the Galilean
transformation
was thought
to have
value when
it was
believed
that you

would not
have to
do the
goofy
redefinition
of the
second you
propose.
When it was
found out
that you'd
have to,
most
reasonable
people
began to
look for a
better
transformation
than the
Galilean
one. You on
the other
hand, want
to preserve
the Galilean
transformation,
even though
it would
mean that
all local
physical
processes
would now
have
different
rates. Why
you think
that's better
is beyond
me.

I think that local physical
processes having different
rates is
reality,

> But there is no evidence for it. Note that all
> the local physical
> processes would have to have their local
> rates affected by *exactly*
> the same amount, even though they are
> completely different processes..

> Well, something you do not seem to have considered is that
> what you
> are calling the speed of light is the rate at which the elements
> react
> with each other at a certain place and time.

Uh, no. Many of the processes watched have nothing to do with electromagnetism or light.

> and if they are affected by
> velocity,

> They are NOT affected by velocity. I already
> tried to address this
> with you. The differential aging of the twins
> does NOT have to do with
> the speed of one of the twins.

> Well, you try to claim the twin is going through some kind of
> time
> warp or something.

Not at all. I don't know what gave you that impression. Comic books?

> I think the twins are the same age, whatever one
> twin might have been put through by science

You mean like −− movement?

> because they were born at
> the same time.

> And you assume that time is absolute since thatpoint. That's a mistaken assumption.

> There is nothing absolute about time that I can see. There are just different ways of measuring it. If time is measured by a common measurement such as the Galilean transformation equations show, then there is no distance contraction.

You've just talked about absolute time. ("common measurement" "no distance contraction")

> If time is measured according to
> transitions of cesium isotope molecules, then local physical processes remain the same. It seems to me that you have to decide which you are going to want to do.

Exactly. The decision has been made by consensus, as all standards are done.

> I believe that there
> may be other factors which
> also affect local physical
> processes. What
> I cannot understand is the
> position of scientists.
> Scientific time is
> the only measurement of
> time allowed. OK, so what
> about your twin
> theory? How do they ever
> get back together according
> to scientific
> time?
> If they do, then obviously,
> there is some measurement
> of time that
> includes the separation of

> the twins and their reuniting,
> which could
> be calculated in either frame
> of reference.

> No, sir. There is only frame−dependent time.
> There is no single time
> measurement that both both twins would
> agree on. (You also mention
> "either frame of reference" as though there
> were two. There are not
> two. There are at least three.

> Right. If you can't answer something, try to make it more complicated. Really there are at least 7,238. You say there is only
> frame−dependent time, but anyone can determine for themselves that the
> same event can be observed from two different frames of reference and
> used to measure time in both frames of reference, just as the Galilean
> transformation equations show.

> OK, so do the Lorentz transformations. The problem is that the Galilean transformations predict that the time elapsed will be the same for all frames. The Lorentz transformations say that the time elapsed will be different for all frames. The Lorentz transformations agree with measurement and the Galilean ones don't, with the exception being low−speed cases where the measurement sensitivity isn't high enough to detect the incorrectness of the Galilean ones.

> Well, n' in my equations as calculated from Galilean transformation equation distances shows that for every frame of reference, there will be a different rate of transitions of cesium isotope molecules. So the elapsed time as measured by cesium clocks in all frames will be different.

Well, interestingly enough, by your method, the physical phenomenon will take the same number of oscillations of the radiation from the transition of the cesium isotope, but it will take a different number of seconds, because for you the number of seconds per oscillations of the radiation from the transition of the cesium isotope has to depend

on the speed of the reference frame compared to the sun.

But it's not even as clean as that, because a laboratory that is *accelerating* will have its speed relative to the sun changing continually, and so by your prescription, the number of seconds per cesium isotope transition radiation oscillation will also change continually, and you'd have to track that change continually to even measure how many seconds a chemical reaction takes or how long it takes for a sample of americium to decay to half−activity or how long it takes for hair to turn grey.

> The Lorentz equations agree with my equations to several decimal places until very high velocities close to the speed of light are reached, whereas, the Galilean transformation equations using absolute time only agree to a couple of decimal places at 30 miles per second, the velocity of the planet Mercury.

> So, as the Galilean transformation equations show, there is not a different number of separatings and reunitings in one frame of reference as compared to the other.

OK

> And the twin does not leave and return in one frame of reference and then wait until he finishes returning in the other.

OK

> If time is measured by separatings and reunitings in

> > each frame of
> > reference,
>
> But it's not.

OK, so you refuse to consider the separating and reuniting of the
twins. That does not mean it does not happen.

> It's measured according to the number of seconds

> > elapsed, and the number of seconds elapsed
> > is determined by a standard
> > second that is defined in terms of local
> > physical standard, and
> > against which it is verified that all physical
> > processes behave the
> > same in every inertial reference frame. (That
> > is, trees grow in the
> > same way, thorium samples decay in the
> > same way, bacteria multiply at
> > the same rate, hair grays at the same rate,
> > etc.) And by those
> > standards, the interval of time between the
> > separating and reuniting
> > of the twins is *different* between the two
> > twins.

Well, if we are not allowed to count time any other way, I guess a lot
of people are going to be criminals by your standard. There are still
people who count days by the rising and setting of the sun.

Which is of course a problem for space shuttle astronauts who see sunrises every 90 minutes, or for that matter intercontinental air travelers. You do what you want and what works for welding. However, to use it as a universal standard leaves something to be desired.

> Well, it could still be used as a standard.

Sure it could. Doesn't seem particularly useful though.

> The people traveling in
> space shuttles and airplanes would have to do more mathematics than
> people on the ground, which might seem unfair to them.

> > then t'=t, just as the Galilean
> > transformation equations
> > show. The difference in
> > clock rates will not affect
> > how many times
> > the twin leaves and returns.
> > But you would have to
> > decide which clock
> > has the more meaningful
> > time in describing what took
> > place.

> > > No, you don't. You don't have to say, "Well,
> > > we have to choose one to
> > > be more correct and the other less correct."
> > > Likewise, when I tell you
> > > that your speed right now is either zero or
> > > 850 mph, depending on
> > > whether you are looking at a frame tied to
> > > the earth or one that isn't
> > > rotating with the earth, there is no need to
> > > say one is more "right"
> > > than the other. Your speed is simply a
> > > frame−dependent quantity, as is
> > > your kinetic energy, as is your momentum,
> > > and is a whole host of other
> > > completely useful and completely
> > > frame−dependent physical quantities..

> > I did not say one was more correct than the other, I said one
> > was more
> > meaningful than the other. If you want to measure
> > everything by

> transitions of a cesium atom, it seems to me that you are free to do
> it. Just don't try to tell me that you are more intelligent than everyone else because that is what you decided to do.

> It is not a matter of intelligence. It is a matter of what provides the broadest consistent applicability. That is the purpose of measurement standards and physical theory.

> Well, OK, but the problem you seem to have is a distance contraction.

Why is that a problem?

> That may not be too much of a difficulty for anything you are measuring on earth, but my belief is that it really gives you some wrong results when considering astronomical distances.

No evidence of anything wrong. Everything works. It's wrong if it gives wrong predictions of what you should see. It doesn't. I don't see what's wrong with it.

> Just my
> opinion. I get more and more sceptical about what scientists say every time they come up with a new idea. The latest ideas about what will happen to the universe that I saw published seemed totally idiotic to me.

Well, that's your perogative, of course. But then again, the point is not to convince you of the sense of it.

> If you want to opt for something with less broad, consistent applicability, and you like it because you came up with it, then by all means do so. It will be no slight on your intelligence to do so.

> Well, I just take scientific explanation of time for what I believe it is. It may be useful to scientists, but it is not totally accurate,

Sure it is. No evidence it isn't correct.

> and certainly is not a law that we all have to obey or else be punished.

Punished? Who says that there's a punishment involved if you don't subscribe?
It's simple, really. Scientists use standards that work most reliably and reproducibly. They use deduced natural laws that seem to have the broadest applicability with the most precision and which seem to have the highest success rate of predicting measurable phenomena.
If you don't want to use those laws or those standards, and the ones you would rather use work just fine for you, then go right ahead. There are lots to choose from and you can make up your own. You can choose to do so just because you don't trust scientists, if you like. No harm in that.
If you want to argue that others should adopt the same standards and laws that you use, THEN you have a bit more to demonstrate.

> You say that what I believe is too difficult for scientists to use.

No, not too difficult. Just not as useful.

> That may be entirely true, but it works for me, so I intend to keep distances in the Galilean transformation equations and transitions of cesium isotope molecules in equations that agree with the Michelson−Morley experiment, since I agree with Einstein about that unless someone proves him wrong. It may be that the concept I am using is too difficult for anyone else. All I can say, it is easy for me. I think that scientists are way ahead of themselves with regard to a good many things.
> Robert B. Winn

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