Re: Circular motion in SR

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2008−03/msg02240.html

- *From*: rbwinn <rbwinn3@xxxxxxxx>
- *Date*: Tue, 25 Mar 2008 20:44:16 −0700 (PDT)

On Mar 25, 6:13 am, PD <TheDraperFam...@xxxxxxxxx> wrote:

> On Mar 25, 12:20 am, rbwinn <rbwi...@xxxxxxxx> wrote:
>
> > On Mar 24, 11:42ýam, PD <TheDraperFam...@xxxxxxxxx> wrote:
> >
> > > On Mar 24, 1:09ýpm, rbwinn <rbwi...@xxxxxxxx> wrote:
> > >
> > > > ýIf time is measured according to
> > > > transitions of cesium isotope molecules, then
> > > > local physical processes
> > > > remain the same. ý ýIt 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.
> >
> > Oh, I didn't know it was by concensus. You mean the way people once
> > thought the sun revolved around the earth. Well, if it is by
> > concensus, then we have to abide by it.
>
> A standard is arrived at differently than a physical law, you'll note.
> Or perhaps you didn't note.
>
> > Still, a few questions tend
> > to come to mind. Your definition of time is an arbitrary value of

> transitions of a cesium isotope molecule at specific conditions of altitude, temperature, and pressure. Change the altitude, temperature, or pressure, and the cesium isotope molecule changes its rate of transitions anyway.

I don't know where you got that idea.

Why would they say standard temperature and pressure if it did not matter? That was all I was going by. So you are saying that a cesium isotope molecule on Mercury would have the same rate of transitions as one on earth?

> So with regard to these experiments run by scientists, do they adjust their results according to the altitude, temperature, and pressure that exist where the experiment is run?

No, nor do they have to. All of this information is openly available on the web, because the standards organization is a public group. Please refrain from guessing and do some homework instead.

Well, my homework was done on college graduates. What you are saying is that scientists are like lawyers because they have been to college. I already know what lawyers are like. They say, You are a fool to go into court without a lawyer. It does not bother me. Any time I go to court, I just say, I want a trial by jury.

> To be honest, the more I think about scientists, the more I am disinclined to believe tham.

Then don't try to be one, by posting on a scientific newsgroup with your notions of scientific ideas.

Science is the same to people who have not been to college as it is to people who have been there. You are like the lawyers in court who go into super−punishment mode whenever I ask for trial by jury. They are going to teach me a lesson. As soon as they find out I know how to appeal a case, they cannot get me out of their courtroom fast enough. Scientists impress me about as much as lawyers do. This one guy Eric Gisse spent every post telling me how much school he had taken. So then I posted the Galilean transformation equations and referred to S and S', and he wanted to know over and over what S' was doing relative to S.

I guess he was just too lazy to read the Galilean transformation equations.

I
believe
that
there
may
be
other
factors
which
also
affect
local
physical
processes.
ýWhat
I
cannot
understand
is
the
position
of
scientists.
ýScientific
time
is
the
only
measurement
of
time
allowed.
ýOK,
so
what
about
your
twin
theory?
ýHow
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. ýIf you can't answer something, try to make it more complicated. ýReally there are at least 7,238. ýYou 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. ýSo
> 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.

> No, not speed, velocity. And it does not have to be the sun. I just
> used the sun as an example of a common measurement of time.

My comment stands, regardless of which distant standard is used.

Well, my equation stands, t'=t. There is no distance contraction.

> t'=t
> means that S is a preferred frame of reference because S' is moving
> relative to S. But if you measure the speed of light in S' with a
> clock in S', the speed of light is c because a photon is traveling at
> c in S' as measured by a clock in S'. As measured by t'=t, it would
> not be traveling at c.

> 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.
>
> Well, no. You just use a clock in the laboratory
>
> Whose rate is *also* different compared to the rotation of the sun.

The rate of any clock is different than the rate of rotation of the sun. I would challenge you to find any clock that has been made that has the same rate of rotation as the sun.

> > to do that because
> > scientists say it has been determined by experiment that light travels
> > at a rate of c relative to a clock in the laboratory.
>
> That's correct. But the rate of the clock is different than that of the rotation of the sun, depending on the velocity of that clock relative to the sun.

Yes, I calculate that rate to be n'=t(1−v/c), where t is a clock that is not moving relative to the sun.

> > We just use the equation t'=t to keep distances straight. A distance
> > in S' is the same as a distance in S.
> > We can calculate the time of a clock in the laboratory from the
> > information in the Galilean transformation equations.
>
> Why calculate it when you have a local clock with which to *measure* it? If you *calculate* it using the Galilean transforms, you find the rate of the local clock doesn't agree, the rate of oscillations of the transition of cesium isotopes doesn't agree, the rate of radioactive decay doesn't agree, the rate of bacterial growth doesn't agree, the rate of hair going gray doesn't agree. If you use the local clock, these disagreements all disappear. The only thing that is different is that the local clock doesn't agree with the sun's rotations when it has a velocity relative to the sun.

Well, someone at the local clock might want to know how a second of his time compared to a second as measured by t'=t, a clock not moving relative to the sun. Or someone at the t'=t clock might want to know how fast the transitions of a cesium isotope molecule are in S'. Of course, scientists already know, but other people might be interested.

> Well, it does to me if I do not have to imagine a distance contraction the way scientists require.

Why is that a problem?

Well, for one thing, no distance contraction exists. It is like going into court and asking for trial by jury because the Constitution guarantees the right to trial by jury in all criminal prosecutions, and the judge and all lawyers say, You cannot have a trial by jury in this criminal case.
So what does that mean, my criminal prosecution is not included in all criminal prosecutions? The more people have been to college, the more untruthful they are.

> ýThe 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. ýThe difference in clock rates will not affect how many times the twin leaves and returns. ýBut 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−
Hide
quoted
text
–

Robert B. Winn

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