Re: Galilean transformation explanation of MMX

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2008−11/msg01311.html

- *From*: rbwinn <rbwinn3@xxxxxxxx>
- *Date*: Tue, 11 Nov 2008 19:58:50 −0800 (PST)

On Nov 11, 7:08ýpm, xxein <xxe...@xxxxxxxxxxxxx> wrote:

> On Nov 10, 9:56ýpm, rbwinn <rbwi...@xxxxxxxx> wrote:
>
> > On Nov 10, 6:23 pm,xxein<xxe...@xxxxxxxxxxxxx> wrote:
> >
> > > On Nov 9, 8:51 pm, rbwinn <rbwi...@xxxxxxxx> wrote:
> > >
> > > > On Nov 6, 6:31
> > > > pm,xxein<xxe...@xxxxxxxxxxxxx> wrote:
> > > >
> > > > > On Oct 12, 6:28 am, rbwinn
> > > > > <rbwi...@xxxxxxxx> wrote:
> > > > >
> > > > > > When
> > > > > > Michelson
> > > > > > and Morley
> > > > > > conducted
> > > > > > their
> > > > > > famous
> > > > > > experiment,
> > > > > > they
> > > > > > expected to
> > > > > > prove the
> > > > > > existence of
> > > > > > ether. We
> > > > > > will use a
> > > > > > set of
> > > > > > Cartesian
> > > > > > coordinates

S to
represent
the frame of
reference of
the
imaginary
ether and a
set of
Cartesian
coordinates
S' to
represent
the
frame of
reference of
the
interferometer,
which the
experimenters
thought
would be
traveling
through S
with a
velocity of
v. So in a
more
modern
context we
can say that
S represents
the frame of
reference of
the Milky
Way
galaxy, and
S'
represents
the
interferometer,
which is
moving
with a
velocity of
v relative to
S.
Light is
directed
down the
arm of the
interferometer

where it is reflected by a mirror at the end of the arm and returned to the point where it was split in the interferometer, which we will call the origin of S' . So we can say that light is emitted at the origins of S and S' when they coincide. In S the light proceeds from x1=0 to x2, where it is reflected by the mirror. In S' the light travels a shorter distance x' to the mirror, If x2−x1=x, then

$$x'=x-vt$$
$$t'=t$$

A cesium clock in S' will not show t'

because t' is defined to be t'=t. We know from the results of the experiment that light in S' is traveling at c=186,000 miles per second as measured from S', therefore a cesium clock in S' will have a slower rate than t'=t. t'=t refers to events in one frame of reference. If we are referring to an event at the origin of S and an event at another point in S, then t'=t.. For instance, if light is emitted at the origin of S and travels to the mirror, then the time it takes to travel from the origin of S to the mirror is

t'=t as seen from either frame of reference. When talking about two cesium clocks, one in each frame of reference, which show light to be traveling at c relative to either frame of reference, we have a different situation. The cesium clock in S' is not measuring the speed of light from the origin of S to the mirror. It is measuring the speed of light from the point where light was emitted in S', which was the origin of S', to the mirror. Consequently, the time it takes for the light to reach the mirror

is less in S' than in S. If n' is the time it takes for light to reach the mirror in S, then we calculate n' by

w= velocity of light
x=wt
x'=wn'

x'=x−vt
wn'=wt−vt
n=t(1−v/w)

Since the light going to the mirror has a velocity of c in both frames of reference, n'=t(1−v/c). To compare times on cesium clocks in each frame of reference with regard to the arm of the interferometer, instead of shortening the arm by means of a length contraction

the way
Lorentz and
Einstein
did in their
interpretations,
we leave
distances
the same in
both
frames of
reference.
We will
compare the
time it takes
for the light
to go from
the point
where it
was emitted
in S, the
origin of S,
to
the mirror,
and back to
the origin of
S', with the
time it takes
for
the light to
go from the
point where
it was
emitted in
S', the
origin
of S', to the
mirror, and
back to the
origin of S'.
We already
have the
times for
the light
going to the
mirror.
t1=(x2−x1)/c=x2/c
n'=t1(1−v/c)
When the
light is
reflected by
the mirror,

its velocity
is
changed
from +c to
−c relative
to S and S'.
In S' the
light will
travel the
same
distance it
traveled on
the way to
the mirror,
x'.
However,
the velocity
of the light
is negative,
so the
distance
from
the mirror
to the origin
of S' is
(−c)n'.

−cn'=
−ct2−vt2

where t2 is
the time it
takes for the
light to go
from the
mirror to
the origin of
S' as shown
by a cesium
clock in S.

cn'=ct2+vt2
cn'=t2(c+v)
t2=ct1(1−v/c)/(c+v)
t2=t1(c−v)/(c+v)

So for the light to go from the origin of S to the mirror and back to the origin of S' takes t1+t2. For the light to go from the origin of S' to the mirror and back to the origin of S' takes 2 n'.

$$t1+t2=t1+t1(c-v)/(c+v)$$
$$2n'=2t1(1-v/c)$$

So the Galilean transformation equations account for the difference in times on cesium clocks in different frames of reference without a length contraction.
Robert B. Winn

xxein: You have it exactly opposite. Trust me.

All the local clocks beat the same with the same general velocity of S (xor S').

But the lightpaths are different within the moving framework of the interferometer.

To make them appear the same, physical length contraction is the only possible factor.

Same math formula −−− same effect.

Why do people think that the mathematical farts out of their ass replace a physically based logic?

Another way of looking at this is to consider why we are discussing this. Nobody knows the essence of the physics they are talking about. Do you? If the label of "physicist" implies a genuine physical knowledge, how come there are such diverse thoughts expressed

as a/the theory? And they all try to describe the same core process.
What do you think is wrong here?

Do you (or anybody reading this) think you (or they) belong to such a major league?

I'm not in favor of shutting down speculation because we clearly don't understand the physic (and we probably never will), but to constantly pick rotten apples and still declare them perfectly ripe is a belief syndrome wrought of a math. The math came in accordance with the rotten apple to make it seemingly ripe.

We have to keep guessing, but we must do so by using a baser logic.
We can't build it upon a subjective measurement. Einstein already tried that. It had a relevant and workable physics, but not the physic, itself. Neither does any other current/pop theory.

We have to shitcan subjective measurement and work with the whole cosmology from the top

down. It is probably greater than that but that will fill our plate sufficiently for now.

This is not a trickle down process. We allowed and provided for the bus that will run us over (physically or economically). Although we have some local control (our physics), the physic is beyond. It is both + iterative and − iterative. We are in a + area and a − area at the same time. Universal expansion and a gravity. We don't really know why that is.

We can see all sorts of behavior in our local thought of the universe. We see supernovas and BH's. How about quasars? I haven't seen a single theory that can encompass all 3. Have you?

This is where we have to think anew. This is what will distinguish a physicist from a sheepskin acceptor.

Yes, we rely on measurements, but we have to know what they represent. Is it local or global. Is it just subjective measurement

> or does it represent the
> objective behavior of the
> physic? The physic
> can certainly provide for a
> local and subjective
> measurement. Who, in
> their right mind, would
> suggest the reverse?
>
> You are certainly wrong in
> your analyzation of MM.
> Try again with
> some physical logic
> attached.− Hide quoted text
> −
>
> − Show quoted text −
>
> Well, that is certainly a lot of words to say
> that you have nothing to
> say. If you think I am wrong in my
> analyzation of the Michelson−
> Morley experiment, prove it.
> Robert B. Winn− Hide quoted text −
>
> − Show quoted text −

xxein: Actually, philosophically and physically you have to prove I
am wrong. How does that grab you?

A math salad can only describe it's own reflections. Z=3. Oh! That
explains the universe, huh? A Z?

Get off the math. It's the same as we should live with this belief or

another. The math is only applied to a belief and how we choose to
express that belief.

If you think math is some sort of physical entity, you are sadly
mistaken.

Math is useful but it only describes what we measure in a subjective
mode. Some math supersedes this when we consider a cosmology. Other
math can be totally misleading in the more subjective mode of
relativity or Q theories.

So which math do you wish to profess? A belief or a physical
continuity?− Hide quoted text −

− Show quoted text −

OK, well I just describe a cosmology with the Galilean transformation
equations. ýSorry that upsets you.
Robert B. Winn− Hide quoted text −

− Show quoted text −

xxein: ýSorry, but the cosmos doesn't quite work that way, either..

There is a dynamic function at work here. ýNothing is completely
inertial, even though on the lesser scales, we can find something
cloaked as close in some notion of a physics.

Can you find something in this universe that is not moving non−
inertially? ýTry your house that is rotating and revolving as the
Earth does. ýHow about the silverware in a kitchen drawer? ýNo atomic
activity within? ýIt all maintains a shape to a great extent but there
is a tidal function caused by gravity that will distort shape. ýEven

the shape of a fork. ýWe know it is true but are unable to detect such a small change.

The Galilean does not address a time dilation nor length contraction. Lorentz did not address a gravity but at least he superseded Galileo. Einstein canned them both with a math to include a gravity and forgot to include a physical logic. ýHe simply told us of his math framework to describe a greater activity and called it a relativity theory.

Why was that insufficient to address what a quantum theory tries to explain? ýHow about the simple existence and behavior of the cosmos that seems to be wanting or needing a dark mass or energy to comply?

Einstein merely gave us a sophisticated bus schedule that neither maintains the bus nor can describe it outside of its local route. Still, it's nothing to sneeze at though. ýI can give him his credit but I cannot give him the physic.

It seems that the "real" physicists understand this or else they wouldn't have been questioning it or proposing alternate solutions and theories.

The Galilean works fine for crossword and jigsaw puzzles but cannot approach the needed physical explanation for this universe or beyond. Up the ladder, no theory provides anything near what we are able to see and measure. ýCloser, maybe. ýBut only if we choose the correct logic. ýOnce we find a correct logic, we can apply a math to it. ýIt doesn't work in reverse.

Enjoy your visit to Oz, but sooner or later you will return to Kansas. ýThe book says so.

More psychology. Can you explain what is going on with YBM's problem?
x=900,000km
t=1sec
v=.8c

YBM says that the Lorentz equations show that t' is −2.4sec. With the Galilean transformation equations I get that t' is 1 sec, and a clock co−moving with the frame of reference in motion shows .2 sec., regardless of where it is in the moving frame of reference. Could you tell us all what −2.4sec means?
Robert B. Winn
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