Re: relativity vs velocity addition

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- *From*: "Ahmed Ouahi, Architect" <ahmed.ouahi@xxxxxxxxx>
- *Date*: Fri, 1 Dec 2006 15:16:20 +0200

Big whorls have little whorls
Which feed on their velocity

And little whorls have lesser whorls
And so on to viscosity

−− Lewis F. Richardson

−−
Ahmed Ouahi, Architect
Best Regards!

"Sue..." <suzysewnshow@xxxxxxxxxxxx> wrote in message
news:1164977770.613315.231540@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

> lkoluk2003@xxxxxxxxx wrote:
>
>> lkoluk2003@xxxxxxxxx yazdi:
>>
>>> Hi,
>>> Although the symmetric twin paradox can be explaied by
>>> ALT(Aether
>>> theory with Lorentz Transformations) , I am a relativist. So
>>> after I
>>> was sure SR(special relativity) is incorrect, I started to search
>>> explanation(s) of the paradox in a relativist way. According
>>> to me the
>>> starting point ought to be the velocity addition rule, because
>>> every
>>> huge leap in physics is achieved by understanding the secrets
>>> of
>>> velocity. Galileo set up a new phsics by the concepts of
>>> inertia and
>>> independence of velocities in different axes(vector addition).
>>> SR and
>>> GR(General Relativity) is also set up by claiming the

velocity
addititiion rule is not a simple algebraic sum. I don't try it, but it
seems that the lorentz transformations can be derived from the

velocity

addition rule which is (v+w)/(1+vw/c^2) if v and w have the same
direction. Now I will try to show that if relativity principle(i.e.

if

there is no absolute inertial frame) is true, then the speed of light
must be a constant relative to the source.

Let there are two platforms A and B and within each platform there are
two observers Oa and Ob respectively. Let the platforms are two trains
and Ob is in the middle of the train B with a detector D. On each of
the two far sides of the train there is a clock and a light source.
When the clock ticks a predefined times, the light source fires a

light

beam such that it will hit the detector on the middle of the train.
I.e. the light source Sf fires light beam from left to right and Sb
fires in opposite direction as shown in the following.

−−

| | | Sf −−−−−−−−>

D <−−−−−−−−− Sb |

| Oa | | Cf

Ob

Cb |

––

Train A Train

–––––>x axis

The distance between each light source and detector D is the same.
Detector gives two results: the two light beams hit at the same time
or in different times.

My postulates are the followings:

1. The experiments within a train does not affected by the outside
objects which have a constant speed relative to it.
2. The speed of light is direction independent within a train.

Experiment1:
Synchronize the clocks and set up such that the light sources will be
fired after n ticks. So they will fire at the same time according to
observer Ob. The relative speed of trains A and B is zero. So the same
thing is true for observer Oa. Of course , from the Ob's reference
frame the two lights must hit the detector at the same time with the
given postulates. This is the same for Oa.

Experiment2:
Synchronize the clocks and set up such that the light sources will be
fired after n ticks. Place the clocks and light sources on the two far
sides of the train B as mentioned. The relative speed of trains A and
B is zero. So the clocks are synchronized according to both Oa and Ob.
Now let train B accelerates and reach a constant speed v relative to
train A after a while along the x axis. Then wait for the

experiment
to be completed. According to Ob the experiment gives the same

result.

I.e. the lights hit at the same time. Now examine what Oa see with the
assumption that the speed of light is always the same according to the
observer.

From Ob's reference frame: The clocks are still synchronized since

they

share the same movement and so get the same affects. So the two light
beams are fired at the same time. The speed of the light train fired
from Sf is c and from Sb is −c. Still the distance between Sf and D is
the same with the distance between Sb and D although they are shorter
now. Let this distance be x. So, the travel time of the light beam
fired from Sf would be x/(c−v) and the travel time of the light beam
fired from Sb would be x/(c+v). Since v is greater than zero these
times are not equal and Oa predicts a different result from that of

Ob.

So relativity principle conflicts with the postulate that the speed of
light is always the same according to the observer.

Actually what above experiments show that if the relativity principle
is true and the speed of light is direction independent, then the

speed

of light is direction independent relative to the source. Since the
direction independence of light speed is a proven

fact(Michael&Morley
experiment and others), any theory conflicts with this also
conflicts
with relativity principle. This means that the Lorentzian
velocity
addition law conflicts with relativity principle.

Lokman Kolukisa

Hi,
I think I have managed to find a relativistic speed addition formula which gives the correct result for the symmetric twin problem. The formula is v+w−v.w/c where v and w are relative speeds in the same direction. By relative speed(is this a correct name for this?), I mean the following. Let x be the distance between two objects at a moment. After a time interval t, let the distance be x'. Then (x'−x)/t is the avarage relative speed of these two objects. A velocity addition formula based on a coordinate system should easily be derived from this formula. Now I will explain how I got it.

As I have said before, the direction independent time dilation gives inconsistent result in the twin problem. So either there should not be a time dilation or it must be dependent on the direction of the speed. Let t1 and t2 are the total times spend by the twin A in outbound and inbound movement respectively. While twin A is in outbound movement, twin B is also in his/her outbound movement. The same thing is true for inbound movement also. The acceleration affects are ignored. Then let t1' and t2' are the total times spend by twin B as measured by twin A in outbound and inbound movements respectively. For the result to be consistent t1+t2=t1'+t2' must be true. The outbound relative speed of the twin need not be equal to the inbound relative speed. So we can write

t1'=t1.B(v1), t2'=t2.B(−v2)

where v1 and v2 are the outbound and inbound relative speeds and B(v) is the dilation factor. Then we get

t1+t2=t1'+t2'=t1.B(v1)+t2.B(−v2)
(x/v1) + (x/v2) = (x/v1).B(v1) + (x/v2).B(−v2)

where x is the longest distance between the twin A&B. It seems that the only formula which satisfies this equation is B(v)=1+b.v where b is unknown.

Now back to the experiment testing speed addition formulas. With this experiment, it is shown that the light speed must be direction independent relative to the source.
Note that this result does not exlude the time& length dilation. The only difference is that the dilation factor must be applied to all

coordinates now not just x and t. Let k(v) is the speed of light relative to the source. Of course k(0)=c and if k(v)=c then the correct transformations would be that of the Galilean type. For an observer in the train B the time required by a light beam to travel a distance x is x/c. From the point of view of the observer Oa, the time required is t=x'/k(v) for the same event where x'=x.B(v). Since x'/t'=c , the formula becomes t=t'.c/k(v) where t' is the time measured by the observer in the train B. From this and t'=t.B(v), we get c/k(v)=1/B(v) and then k(v)=c.(1+b.v). So the speed of light with respect to the observer Oa would be as v+k(v)=v+c.(1+b.v)=v+c+b.v.c.

To obtain speed formula, do the same experiment but replace light sources with identical guns which gives a speed w' to the bullets when fired. By using two identical guns directed to opposite directions and identical bullets, we avoid a change in the speed of the train B due to a momentum change. However, we only need one bullet for the calculations. By similar logic, we find w'=w(1+b.v) where w' is the speed of the bullet relative to the source with respect to the observer Oa. Thus the speed of the bullet relative to the observer is found as v+w.(1+b.v)

Now what is the value of b? The phsicists say that there are many experimental evidences showing c as an upper limit for the speed. So the formula would be

v+w−v.w/c

It also has the associative property. So if the calculations and the logic I have used are correct, this is the relativistic speed formula. However, if E=m.c^2 could not be derived from it, it has no value. One way of doing is to repeat the Einstein's study in his 1905 paper. However, to do this one needs the energy formula of light. As now the light speed is varying with respect to the observer, I wonder whether the correct formula is known. Anyway, I neither have sufficient experience to go beyond nor desire to go. Also I don't deal with a career in Physics. This is a relativistic solution to the twin paradox and as a logician and relativist it seems sufficient to me. However, in any case, I will form a full text consisting of what I write about this subject here and put somewhere. After the formula is verified by someone(s), I may send it to a journal.

Why are you comparing bullets to light? If you have some success don't send it to a journal, send it to the Nobel committe.

<<Now, does not the prize to Einstein imply that the Academy recognised the particle nature of light? The Nobel Committee says that Einstein had found that the energy exchange between matter and ether occurs by atoms emitting or absorbing a quantum of energy,hv .

As a consequence of the new concept of light quanta (in modern terminology photons) Einstein proposed the law that an electron emitted from a substance by monochromatic light with the frequency has to have a maximum energy of E=hv−p, where p is the energy needed to remove the electron from the substance. Robert Andrews Millikan carried out a series of measurements over a period of 10 years, finally confirming the validity of this law in 1916 with great accuracy. Millikan had, however, found the idea of light quanta to be unfamiliar and strange.

The Nobel Committee avoids committing itself to the particle concept. Light−quanta or with modern terminology, photons, were explicitly mentioned in the reports on which the prize decision rested only in connection with emission and absorption processes. The Committee says that the most important application of Einstein's photoelectric law and also its most convincing confirmation has come from the use Bohr made of it in his theory of atoms, which explains a vast amount of spectroscopic data. >>
http://nobelprize.org/physics/articles/ekspong/index.html

Sue...

Lokman Kolukisa

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