Re: answer to YBM's bell problem

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2008−09/msg00774.html

- *From*: rbwinn <rbwinn3@xxxxxxxx>
- *Date*: Thu, 11 Sep 2008 10:08:24 −0700 (PDT)

On Sep 11, 8:55ýam, YBM <ybm...@xxxxxxxx> wrote:

> rbwinn a ýcrit :
>
>> On Sep 11, 6:40 am, YBM <ybm
>>
>>> Funny : the same light rays have a different behaviour in A
>>> and in B !
>>> Here is what you pretend:
>>> They meet at the origin of A from the point of view of A (so
>>> the bell
>>> ring)
>>> They meet at the origin of B from the point of view of B (so
>>> the bell,
>>> which is NOT at the origin of B at this time, doesn't ring)
>>> AGAIN: This is a direct conclusion OF WHAT YOU JUST
>>> WROTE, not what
>>> I pretend, not what GT or LT pretend.
>>
>> A bell at the origin of A does not depend on light meeting in B. ýIt
>> depends on light meeting at the origin of A.
>
> These sentences are insanely meaningless... The bell at the origin of A
> depends on light meeting or not at the origin of A regardless of the
> frame you consider this event. It's why any decent theory could not
> predict, as yours, that it rings in a frame and not in another one.

Mine says that if the bell is at the origin of A, and two light rays
meet there as you specified, then the bell will ring in all frames of
reference.
If the bell is at the origin of B, and two light beams meet at the
origin of A, the bell at the origin of B will not ring unless two
beams of light are also meeting at the origin of B.

>> By your definition of

the problem, light meets at the origin of A because light is emitted
at −a and a on the x axis in frame of reference A at the same time.
The light meets at the origin of A in a time of t=a/c. ý

Right.

The bell rings
in all frames of reference when that happens.

It's true, BUT it's not enough to write it down to make your "theory"
says that. As a matter of fact your "theory" predict it won't in
B frame.

It can't do anything else in B. The mathematics as computed from
either frame of reference shows that in frame of reference A, light
met at the origin of A. The bell has to ring if it is working.

Now you want to talk about frame of reference B. ýTo make this easier
to see, we will put another bell at the origin of B. ýThe bells are
right next to each other when the light is emitted. ýBell A rings when
a time of t=a/c has elapsed in A. ýThe bell in B is now a distance of
vt from the bell in A. ý
Scientists have determined by experiment that
the clock in B is slower than the clock in A.

Nope. What experiment shows is :
− from the point of view of frame B, clocks in A are running slower
− from the point of view of frame A, clocks in B are running slower

Well, you specified in the beginning that B was moving relative to A,
so thus far, we are only looking at it from the point of view of frame
A.

Note that this is as well what LTs predicts.

The clock in B
continues to move away from the clock in A. ýWhen the clock in B reads
n'=a/c, the bell in B rings.

You're going more insane every day : what you just write implies this :
− For an observer in A, the bell at rest in A rings, the one at rest in
ý ýB don't

− For an observer in B, the bell at rest in B rings. the one at rest in
ý ýA don't

Well, if you are using the Lorentz equations, only one bell is going
to ring because of relativity of simultaneity. The rays of light will
not meet at the origins of both frames of reference. So from A, an
observer will only observe the bell in A to ring, from B an observer
will only observe the bell in B to ring.
With my equations, the bell in A will ring first, then the bell in
B. You will hear both bells in both frames of reference.

ý ý Now, YBM, explain the same events using the Lorentz equations.

I did here :http://groups.google.com/group/sci.physics.relativity/msg/a39fe2523de...

There is no such absurdities in SR : for SR, the bell
rings in both frames... It just happens that in frame
B they were emitted at coordinates
(−a/sqrt(1−v^2/c^2),0,0) at time va/(c^2*sqrt(1−v^2/c^2))
for the "left" light ray, and :
(a/sqrt(1−v^2/c^2),0,0) at time −va/(c^2*sqrt(1−v^2/c^2))

Uh huh. But if you put a bell at the origin of each frame of
reference, what will happen?
Robert B. Winn

So it is quite certain that you didn't read.

No, I read it, YBM. So explain what happens if there are two bells,
one at the origin of each frame of reference.

Robert B. Winn

The equation for n' is
n'=t(1−v/w)
You remember the equation for n', YBM.

Is there some kind of magic
making its clock change
whenever he consider
one light rays or the other
one ?

It is not a transformation equation, YBM. It just tells how far light has gone in B according to a clock that shows n'.

You way you evade questions is ridiculous...

FIRST : they is two light rays in the experiment, SO there is two "n'" :
n'=t(1−v/c) (for light ray coming from (−a,0,0))
n'=t(1+v/c) (for light ray coming from (a,0,0))
Why should the observer in B use two clocks, both of them being broken ?

Well, according to you, the observer in B only had one clock, which showed light to be traveling at a speed of c in B. ýThe observer in B knows that an observer in A has a clock that shows light to be traveling at a speed of c in A. ýYou specified in the beginning that B was moving with a velocity of v relative to A. ýThat makes A a preferred frame of reference because it is not moving. ý

There is nothing "preferred" for frame A in the problem I described.
There is indeed something special about A : the bell is at rest in A !

To transform coordinates, you use a clock in A. ýTo determine where light appears to be according to the n' clock, you use the n' clock. ýIn B light was emitted at x'=−a and x'= a at n'=0. ýThe light will meet at the origin of B at a time of n'=a/c, and the bell in B will ring when that happens. ýIt will ring in all frames of reference when it rings, not just in B.

There is always the problem you refuse to adress : there is two discinct "n'" clocks in B !

SECOND : You have a double language : You claim that n' give a time coordinate for obervers of events in B, so the equation for n' is part of a transformation (the fact I've proven is that this transformation is absurd), then you claim that this equation is NOT a part of a transformation,
but then you just support Galilean Transformations were

speed of light rays in frame B is no more c.

The speed of light in B is definitely c according to the n' clock.

There is always the problem you refuse to adress : there is two discinct "n'" clocks in B !− Hide quoted text −

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