

Re: answer to YBM's bell problem

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On Sep 11, 6:40am, 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. It depends on light meeting at the origin of A. 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 $t=a/c$. The bell rings in all frames of reference when that happens.

Now you want to talk about frame of reference B. To make this easier to see, we will put another bell at the origin of B. The bells are right next to each other when the light is emitted. Bell A rings when a time of $t=a/c$ has elapsed in A. The bell in B is now a distance of vt from the bell in A. Scientists have determined by experiment that the clock in B is slower than the clock in A. The clock in B continues to move away from the clock in A. When the clock in B reads $n'=a/c$, the bell in B rings.

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

ý ý ý The equation for n' is

$$ý ý ý ý ý n'=t(1-v/w)$$

You remember the equation for n' , YBM.

Re: answer to YBM's bell problem

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'.

Your way you evade questions is ridiculous...

FIRST : they is two light rays in the experiment, SO there is two "n" :
 $t' = t(1 - v/c)$ (for light ray coming from (-a,0,0))
 $t' = t(1 + v/c)$ (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. The 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. You specified in the beginning that B was moving with a velocity of v relative to A. That makes A a preferred frame of reference because it is not moving. To transform coordinates, you use a clock in A. To determine where light appears to be according to the n' clock, you use the n' clock. In B light was emitted at $x' = -a$ and $x' = a$ at $t' = 0$. The light will meet at the origin of B at a time of $t' = a/c$, and the bell in B will ring when that happens. It will ring in all frames of reference when it rings, not just in B.

SECOND : You have a double language : You claim that n' give a time coordinate for observers 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.

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