

## Re: answer to YBM's bell problem

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- *From:* rbwinn <[rbwinn3@xxxxxxxx](mailto:rbwinn3@xxxxxxxx)>
  - *Date:* Thu, 11 Sep 2008 16:23:11 -0700 (PDT)
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On Sep 11, 2:12pm, YBM <[ybm...@xxxxxxxx](mailto:ybm...@xxxxxxxx)> wrote:

rbwinn a ícrit :

On Sep 11, 12:34 pm, YBM <[ybm...@xxxxxxxx](mailto:ybm...@xxxxxxxx)> wrote:

...

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.

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

I did here

[:http://groups.google.com/group/sci.physics.relativity/msg/a39fe2523de...](http://groups.google.com/group/sci.physics.relativity/msg/a39fe2523de...)

There is no such absurdities

Re: answer to YBM's bell problem

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.

Is there something you don't understand above ?

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

Re: answer to YBM's bell problem

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.

Look carefully at the coordinates of events I've provided above. Then figure out yourself :  
– at what time in B does both light rays have been emitted ?  
are they the same ?

Because of relativity of simultaneity that the Lorentz equations require, the beams of light are not emitted at the same time in B.

right.

Therefore, according to you only the bell at the origin of A will ring as observed by the observer in A.

– are the positions of the points of emission in frame B symmetric with respect to the origin of B ?

The points of emission are equal distances from the origin of B.

right.

– given that velocities of the light rays are  $c$  and  $-c$  in B are they going to meet at the origin of B ?

I say they will, but the Lorentz equations say they will not.  $\dot{y}$

At least you should notice that the Lorentz equations are perfectly coherent.

If you have a bell at the origin of A and a bell at the origin of B, only one of the bells will ring.

You mean according to LT, right ?

So, now you "theory" says : both bells will ring, right ?  
(even if this not what your formulas implies).

Re: answer to YBM's bell problem

This is soooooo utterly absurd that I suggest you to take a rest and think a bit about it.– Hide quoted text –

Well, I have thought about it. The Lorentz equations say both bells will ring, but only if you consider the problem from both frames of reference, the same way I did with the Galilean transformation equations, treating each frame in turn as a preferred frame of reference.

Both bells will ring by anyone's equations. But the objections you make to my interpretation of the Galilean transformation equations can also be applied to the Lorentz equations because under their current interpretation, an observer in one frame of reference cannot see both bells ring without a consideration from the other frame of reference.

Robert B. Winn

Robert B. Winn

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