

Contradictions in Special Relativity

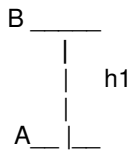
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People make different hidden assumptions when working within the context of Special Relativity's standard maths, hence they can derive contradictory results. However, the contradictions are themselves hidden, and most are unaware that whatever version of belief in Special Relativity (SR) they have it is not the same as other peoples.

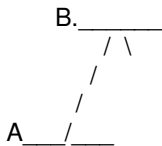
Considering light bouncing between two mirrors A and B.

In SR standard maths we have the following-

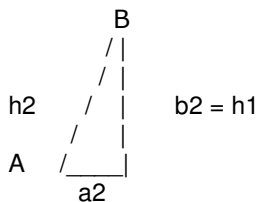


O frame observing its own light clock, light travels distance h_1

In O' frame observing O

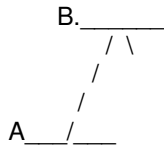


triangle being-



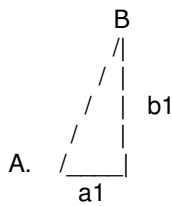
i.e it takes side b_2 of this triangle as equal to h_1

Now if we change angle of O set up, so slopes also at

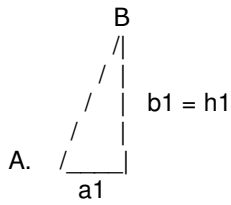


where is h_1 now?

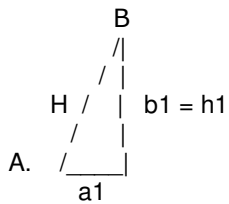
The triangle is



If we are going by what it did with O' triangle then it has to be that $b_1 = h_1$



So we have a new hyp for this triangle, let us call H.



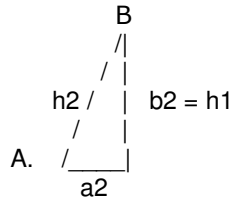
Now this H by Pythagoras is:

$$H = \sqrt{a_1^2 + b_1^2}$$

If we rotate this triangle to a specific angle it should eventually equal the O' triangle.

ok so far I hope.

Now with standard SR in the O' frame we have-



if we put the times in namely $\frac{1}{2} \Delta t_2$

(I am taking Δt_2 as complete roundtrip of light, and $\frac{1}{2}$ it for half that journey.)

$$h_2 = \frac{1}{2} c \Delta t_2$$

$$b_2 = \frac{1}{2} c' \Delta t_2$$

$$a_2 = \frac{1}{2} v \Delta t_2$$

c = speed of light

c' = projection of speed of light onto the vertical, and is less than c

v = velocity of motion of O according to O'

now using $b_2 = h_1$ gives us

$$b_2 = \frac{1}{2} c' \Delta t_2 = \frac{1}{2} c \Delta t_1$$

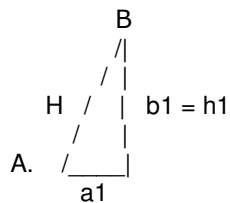
where $\frac{1}{2} \Delta t_1$ is time interval according to O frame.

Now since $c' \neq c$, it is $\sqrt{c^2 - v^2}$

we can do the usual thing and get time dilation.

That's standard SR maths.

Now back to the O frame triangle we rotated-



We can do the same here put distances in terms of speed and time interval.

The time interval here is $\frac{1}{2} \Delta t_1$

so distances are-

$$b_1 = h_1 = \frac{1}{2} c \Delta t_1$$

$$a_1 = \frac{1}{2} w \Delta t_1$$

$$H = \frac{1}{2} u \Delta t_1$$

w and u are just unknown speeds

By Pythagoras we have velocity triangle--

$$u^2 = w^2 + c^2$$

BUT!!! c is by postulate a constant speed of light, and this speed u is now greater than c for w being nonzero.

The maths violates the postulate of the constancy of light speed.

Hence --- rotating a triangle in standard SR maths cannot give the same triangle as for an observer O' observing O.

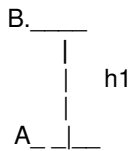
i.e. there is no rotational symmetry with standard SR math's triangle for an observer O' observing O.

But from standard maths and still in the context of Newtonian physics adding the postulate of lightspeed, that would be a contradiction-- an invalid piece of maths.

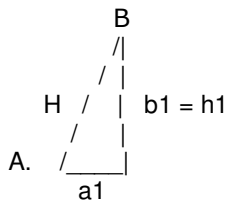
Hence Newtonian physics would have the hyp of the triangles being equal. And to do the maths the way Einstein did would be an error within the context of Newtonian physics. And in the context of SR, SR can give more than one answer to questions posed to it i.e gives two solutions in numerous scenarios which are contradictory.

The way SR would seek to solve this problem is to keep adding hidden assumptions.

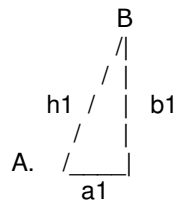
In the case of rotation, instead of rotating



to form



it might assume that rotation forms-



i.e. this time h1 has not switched over to equal the vertical of the triangle.

But because these assumptions are hidden, different people are doing different things --- hence mathematical mess.

c.RJAnderton2008