Re: Relativists cannot count to three.

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2004−12/8191.html

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From: Androcles (*dummy_at_dummy.net*)
Date: 12/28/04

Date: Tue, 28 Dec 2004 17:39:44 GMT

"Todd" <nope@nospam.com> wrote in message
news:U2gAd.650614$D%.568024@attbi_s51...
> −−−−− Original Message −−−−−
>
> From: "Androcles" <dummy@dummy.net>
>
> Newsgroups: sci.physics.relativity,sci.physics
>
> Sent: Tuesday, December 28, 2004 3:07 AM
>
> Subject: Re: Relativists cannot count to three.
>
>>
>> "Todd" <nope@nospam.com> wrote in message
>> news:TM%zd.574417$wV.242935@attbi_s54...
>>> "Androcles" <dummy@dummy.net> wrote in message
>>> news:fC_zd.63636$ef5.48925@fe1.news.blueyonder.co.uk...
>>>
>>>>
>>>> "Todd" <nope@nospam.com> wrote in message
>>>> news:3YZzd.28519$k25.6716@attbi_s53...
>>>>>
>
> [snip some of the earlier parts]
>
>>>>> With this in mind and letting A, B, and C denote the events of
>>>>> emission, reflection, and reception, respectively, of the light
>>>>> signal, then we can write Einstein's formula as
>>>>>
>>>>> (1/2)[tau(x'_A,0,0,t_A)+tau(x'_C,0,0, t_C)] = tau(x'_B,0,0,t_B)
>>>>
>>>> That's right. Well done.
>>>>
>>>>
>>>>
>>>>> This equation merely expresses Einstein's clock synchronization in
>>>>> frame K.

>>>> Well, not really. That half at the beginning is nonsense. It
>>>> certainly wouldn't be true if I threw a ball against the wind and i
>>>> never caught up with the wall.
>>>>
>>>
>>> But Einstein was considering a light signal where the equation above
>>> does indeed express that the clocks in the moving frame are
>>> Einstein−synchronized.
>>
>> I don't care what he was considering, he doesn't get to say the
>> journey
>> time out equals the journey time back when two different speeds are
>> used.
>> If I fly to New York and get a rowboat back to London I don't
>> estimate
>> 7 hours + 193 hours divided by 2 = 100 hours each way. The half is
>> pulled out of a hat and no self respecting mathematician or physicist
>> would fall for such a silly story. I'm certainly not going to. He can
>> keep his idiotic method
>> of sychronization.
>>
>
> That's not what Einstein does. I've already shown how the (c−v) and
> (c+v) quantities occur in Einstein's expressions. These quantities do
> no represent the speed of light relative to either frame. They simply
> represent the rate at which the distance between the light signal and
> the origin of the moving frames is changing as observed in the
> stationary frame. You have to understand the meaning of the x−primes.
>
>>>>>
>>>>> Now x'_A represents the x−distance (as measured in frame k)
>>>>> between the point of emission of the light signal and origin of
>>>>> frame K.
>>>>
>>>> Yep, that's right.
>>>>
>>>>
>>>> This is
>>>>> clearly zero since the signal was emitted from the origin of K.
>>>>
>>>> No no, you are still getting your frames crossed over.
>>>
>>> Yes, I switched the notations k and K compared to Einstein
>>> throughout my post. Again, sorry for the inconvenience. If you
>>> like, I can repost it with the notation fixed.
>>>
>>>> Quote:
>>>> From the origin of system k let a ray be emitted...
>>>> Unquote. Reference
>>>> http://www.fourmilab.ch/etexts/einstein/specrel/www/
>>>>

>>>> It is zero in the stationary frame K, though, so you are almost
>>>> right.
>>>>
>>>>>
>>>>> Likewise, x'_C represents the x−distance (as measured in k)
>>>>> between the point of reception of the light signal and the origin
>>>>> of frame K. Again this is clearly zero since the signal was
>>>>> received at the origin of K.
>>>>
>>>> I can't really answer that since you have your frames crossed over.
>>>> I did provide a diagram, though.
>>>> Ao−−−−−−−−−−(v+u)−−−−−−−−−−− emission*
*>>>> *−−−−−−−−−−−−−−−−−−−−−−−−−−oB reflection*
>>>> <==vt==>Co−−−−−−−−−(v−u)−−−−−−−−−−−− reception*
>>>>
>>>> As you can see, C is displaced from A by a distance vt.
>>>>
>>>
>>> OK, but in looking at Einstein's equation we need to keep in mind
>>> that he uses the symbol t to stand for the time in the stationary
>>> frame that the light signal was emitted. So, to be more precise, it
>>> might be better to say that C is displaced from A according to the
>>> stationary frame by the distance
>>>
>>> x_C − x_A = v(t_C − t_A).*
>>
*>> That's (0,0,0) − (0,0,0) = v * (anything at all)*
>> According to those that cannot count to three, C = A. Hence v = 0
>> and trivial.
>>
>
> No. x_C does not equal x_A.

Well done. They are not equal.

> But the corresponding primed quantities are equal (each is equal to
> zero).

> Again, you must distinguish the meaning of the primed and the unprimed
> x's.

We already know the meaning. x' = x−vt.
The origins of the two systems are displaced by vt.

YOU must distinguish which frame you are using to calculate
time in the other frame.

>
>>>> Putting that into your equation
>>>> (1/2)[tau(x'_A,0,0,t_A)+tau(x'_C,0,0, t_C)] = tau(x'_B,0,0,t_B)
>>>> we have

>>>> (1/2)[tau(x'_A,0,0,t_A)+tau(x'_A−vt,0,0, t_C)] = tau(x'_B,0,0,t_B)
>>>>
>>>
>>> No, by definition we have
>>>
*>>> x'_C = x_C − v*t_C and*
>>>
*>>> x'_A = x_A − v*t_A*
>>>
>>> Using these relations in x_C − x_A = v(t_C − t_A) merely yields*
>>>
>>> x'_A − x'_C = 0 or x'_A = x'_C.
>>
>> That's right, I fully agree.
>> The origin of the k−frame doesn't move from the origin
>> of the K−frame while the tip of the ray is in flight, so either
>> a) v = 0
>> or
>> b) the speed of light is infinite.
>> or
>> c) both of the above.
>> Relativists cannot count to three, as you have now demonstrated.
>>
>
> The origin of the k−frame certainly does move relative to K while the
> ray is in flight.
> It seems to me that you are not understanding the meaning of the
> primed x's.

It seems to me that I understand what x' = x−vt very well, and you seem
to think x' = 0.

quote:
 But the corresponding primed quantities are
  equal (each is equal to zero).
unquote.

>
>>
>>>
>>> But we already know this since, in fact, x'_A and x'_B are both
>>> zero.
>
> Whoops − another unfortunate typo on my part. I meant x'_C rather
> than x'_B. The value of x'_B is definitely NOT zero as it measures
> the distance of separation between the origin of the moving frame and
> the point of reflection of the light as measured in the stationary
> frame.

Oh good. At least that is cleared up.
Now, it is true that x'_C = x'_A, and x_C differs from x_A.

It is NOT true that the speed of light bouncing between
x'_A, x'_B and x'_C is anything other than c.
It IS true that the speed of light bouncing between x_A, x_B' and x_C
is c−v, c+v.
It is also true that Einstein is using x'_A and x'_B
with the wrong speed of light.
>>
>> Not wise. The idiot wants to differentiate his equation, so he says
>> "Hence, if x' be chosen infinitesimally small"
>>
>> f(x+h) − f(x)
>> f'(x) = −−−−−−−−−−−−−−−−−−−−−
>> h
>> doesn't work if h is already zero.
>>
>>
>
> To say x' is infinitesimal is not the same as saying it is zero.

Then I advise you against it.
quote:
But the corresponding primed quantities are
equal (each is equal to zero).
unquote.

>>> But you mangled my equation by substituting x'_C = x'_A−vt which is
>>> clearly incorrect.
>>
>> Only if you cannot count to three.
>>
>>>
>>>> but obviously Einstein doesn't have your equation, does he?
>>>>
>>>
>>> Well, he naturally doesn't have your incorrect modification of my
>>> equation.
>>
>> That's why I said relativists cannot count to three. The picture
>> clearly shows
>> a separation between A and C which you've said above is zero.
>> Quote:
>> x'_A − x'_C = 0 or x'_A = x'_C.
>> Unquote.
>
> Again, you are not understanding the meaning of the primed x's.

x' = x−vt. How difficult is that?

The
> relation x'_A = x'_C does not mean that there is no spatial separation
> between the events A and C in the stationary frame. x'_A = x'_C does

> not imply x_A = x_C.

x'_C = x'_A implies x_C = x_A

>>>
>>>>
>>>>> Thus, x'_A = x'_C = 0.
>>>> No no, that is why I use a ball instead of light and said that
>>>> relativists
>>>> can't count to three. x'_C =0−vt , x'_A = 0.
>>>>
>>>
>>> Even with the light replaced by a ball, we would still have
>>> x'_A=x'_C=0.
>>
>> Fine.
>> tau = (t − vx/(ball speed)^2) / sqrt (1 − v^2 / (ball speed)^2)
>
> Sorry, that went right past me.

Ok, I'll elaborate. Einstein's equations apply as much to the speed of
a ball as they do to the speed of light. Hence if they were correct
(which they are not, but it is your claim that they are) the equation
above is then valid.

>
>> I don't like to be deliberately obtuse, but I'm not the crackpot, I
>> can count to three.
>>
>>> Remember, Einstein uses x' to denote the x−distance (as measured in
>>> the stationary frame) between an event and the origin of the moving
>>> frame. Since A and C for the ball both occur at the origin of the
>>> moving frame, we must have x'_A=x'_C=0.
>>
>> Really?
>> We are trying to find tau in the moving frame as seem from the
>> stationary frame, so the parameters of the function tau() are all
>> coordinates in K.
>
> Einstein clearly states that tau is a function of x' rather than x.
That's right, and x' = x−vt.

You
> have to understand the meaning of x'. x' is not the x−coordinate in
> K.

It is a moving coordinate in K, x' = x−vt. It isn't a fixed coordinate
in k
either, since xi = x' * beta. The parameters to the function tau are ALL
K− frame parameters.
You have to understand the meaning of x', it is given as x' = x−vt and

x, v and t are all K−frame parameters.

>
>> We don't get to use moving frame parameters in the calculation, which
>> is what you are doing.
>> |__A _____x'__| k−frame tau = 0
>> |__C _____x __| K−frame t = 0
>>
>>
>>
>> |__A_____x'__| k−frame tau = 1
>> <−vt1−>|__C _____x __| K−frame t = 1
>>
>>
>> |__A_____x'__| k−frame tau = 2
>> <−−−−−vt2−−−−−−>|__C _____x __| K−frame t = 2
>>
>> Placing A = C.
>> |__A_____x'__| k−frame tau = 2
>> |__C_____x __| K−frame t = 2
>>
>> v = 0.
>>
>
> Nobody is saying that A and C are spatially coincident in K.

Einstein is. He uses the same K−frame position for the return of the
light
and the source of the light.

> x_A does not equal x_C even though x'_A = x'_C.

Nonsense. x'_A = x_A−vt and x'_C = x_C−vt.
Hence if x'_A = x'_C then x_A = x_C.

> It is important to understand the meaning of x'=x−vt.

Then try it.

>
>> You've also said x'_B = 0 as well, and called it a fact.
>> Quote:
>> "But we already know this since, in fact, x'_A and x'_B are both
>> zero.
>
> As I noted above, I meant to say x'_A and x'_C are both zero. x'_B is
> not zero. Sorry for the confusion.

That's ok, we are past that.

x'_A = x_A−vt and x'_C = x_C−vt.
Hence if x'_A = x'_C then x_A = x_C.

Androcles.

>
> *Todd*
>
>> *Unquote:*
>> *I gotta be honest with ya. You are one of those that cannot count to*
>> *three.*
>> *Androcles.*
>>
>>
>