Re: The relativity of the distance.

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2006−11/msg01046.html

* *From*: "Stamenin" <tasko.s@xxxxxxxxxxx>
* *Date*: 13 Nov 2006 12:57:09 −0800

Dirk Van de moortel wrote:

> "Stamenin" <tasko.s@xxxxxxxxxxx> wrote in message
> news:1163366268.450755.90180@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
>
> > Dirk Van de moortel wrote:
> >
> > > "Stamenin" <tasko.s@xxxxxxxxxxx> wrote in message
> > > news:1163303696.738981.74800@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
> > >
> > > > .THE BEHAVIOUR OF
> > > > MEASURING−RODES AND CLOCKS IN
> > > > MOTION
> > > >
> > > > In page 37 0f his Relativity Einstein writes
> > > > about the relativity of
> > > > the distance. There is very strange
> > > > conclusion that the distance
> > > > becomes smaller when the speed v tends to
> > > > the light speed c.
> > > > He takes as a base the relation of the Lorentz
> > > > transformation:
> > > > x'=(x−v.t)/R which gives the distance x' in
> > > > K' (train) when we
> > > > know the x and t in K (embankment). Here
> > > > is what Einstein says in his
> > > > book:
> > > > "I place a metre−rod in the x'−axis of K' in
> > > > such manure that
> > > > one end (the beginning) coincides with the
> > > > point x'=0, whilst the
> > > > other end (the end of the rod coincides with
> > > > the point x'=1. What is
> > > > the length of the metre−rod relative to the
> > > > system K? In order to learn

> this, we need only ask where the beginning
> of the rod and the end of
> the rod lie with respect to K at a particular
> time t of the system K.
> By means of the first of the Lorentz
> transformation the values of these
> two points at the time t=0 can be shown to
> be:
> x(beginning of the rod)=0.R
> x(end of rod)=1.R
> R being the squares root of the Lorentz
> transformation"..
> In this way he finds that the distance
> between the points is
> D=R=(1−v^2/c^2)^0.5.
> When v=c, the distance D=0.
> For me is very strange that nobody observed
> that the rod gets in this
> case an infinite mass and a volume zero!!!
> On the other hand the above relation is
> wrongly used. The real
> relation which is valid for this case and
> allows us to resolve this
> problem, is the following:
> x=(x'+v.t')/R.
> So the distance D becomes bigger and for
> v=c distance should have an
> infinite value. That means that if the train
> travels with speed c the
> two ends of the rode should be one in the
> infinite and one still here
> near us.
> This could be a real possibility, isn't it?

No, it couldn't, because when you use this equation, you measure both end points of the rod simultananeously in the K'−frame, with both t' = 0, which means that you don't measure the distances at the same time in the K−frame, so you get nonsense.

If you measure the distance of the front of a moving train now and the distance to the back 10 minutes later, is the difference between those distances the length of the train? No, you just get a useless number.

That is why the other equation is used. The presence of t allows the measurements of the distances to cancel, if the values for t are the same (for instance t = 0).

By the way, the concept of relativistic mass is old fashioned:

http://math.ucr.edu/home/baez/physics/Relativity/SR/mass.html
Forget about it.

Dirk Vdm

In my topic I show two deficiencies of the Einstein theory:
1) The first is that Einstein uses the wrong relation for his demonstration that the distance becomes small by making the v tending toward c and for v=c the distance becomes zero. For this question none of you has given any answer.

I just have given you the answer.
The fact that you don't accept it as such, demonstrates that you don't understand the meaning of the variables in the equations you are using.
So, to get started, can you describe what the variables x, t, x', t', v physically represent in the equations
x' = (x − v t) / R
x = (x' + v t') / R.
?

Dirk Vdm

Einstein in his book Relativity in page 34 has represented the two coordinate systems K and K' With K' in motion to the right. But he hasn't represented the point M which usually represents a material body with mass (m). So the coordinate x is the distance to this point in the coordinate system K and x' the distance to the point M in the coordinate system K'.
I have to mention that this point M is the subject of the analisis done with the aid of the Galilei's principle of the relativity. Because the light has no mass the use of this principle is impossible and because of this Einstein has done a good mess in physics.
The relations,
x=(x'+vt')/R
t=(t'+x'v/c^2)/R
Are the relations that are used for the calculation of the x and t when we know x' and t' and the relations,
x'=(x−vt)/R
t'=(t−xv/c^2)/R
are the inverse relations. If you look atentively to these relations, you can't use them in an another way as Einstein did in his book with the demonstration showing tha the distance of 1m becomes zero when v=c.
I think that is better to stop teaching me and try to se wy all of you who believe in Eistein have so big different understandings about natural phenomena. I said in an another occasion that I believe in

Newton an this is the cause wy I have different opinions.

.