

Re: Finally, Special Relativity Is Proven False

Source: <http://sci.tech-archive.net/Archive/sci.physics.relativity/2008-07/msg01515.html>

- *From:* PD <TheDraperFamily@xxxxxxxxxx>
 - *Date:* Wed, 16 Jul 2008 05:22:36 -0700 (PDT)
-

On Jul 15, 3:28 pm, Strich 9 <Strich.9.2c2e...@xxxxxxxxxxxxxxxxxxxx>
wrote:

–For those unable to appreciate the proof against SR, based on the Muon experiment above, I am analyzing the experiment again, and then posit an explanation why it is erroneous. It may take you ten or twenty minutes to pick this up, but the payoff is big: you can now argue solidly against SR with any physics professor who would take its side. (You may also need the David Arguments in an earlier post).–

Muons are posited to have a half-life of about 2 microseconds in the resting state. They are formed in the upper atmosphere and travel towards the earth at speed $\sim c$. One reference frame is as good as the other, and we look at both.

Let us first analyze this in the *–muon frame–*. The muon observes the earth travelling at $\sim c$, and covers a distance of $c \times 2\mu s \sim 600m$ prior to decay of the muon. Note that while the moving earth frame may be contracted, the distances covered in the stationary muon frame are not.

Let us analyze this in the *–earth frame–*. An observer on earth perceives a muon also travelling at $\sim c$, and reaching 6000m, implying a moving half-life of $\sim 20\mu s$. This appears time dilated by a factor of ~ 10 from the posited resting muon half-life and is invoked as experimental proof of SR. Note that while the moving muon frame may be contracted, the distance it covered in the stationary earth frame is not.

But wait a minute, in the first analyses, the muon–earth distance is decreased by 600m, and in the second analyses, by 6000m.

No, that's wrong.

Both
represent –non–contracted– distance.

Re: Finally, Special Relativity Is Proven False

That's wrong, too.

Would you like to have cosmic ray muons explained to you?

In the –first analyses–, the muon –does not– reach the lower atmosphere, while in the second it does. We know that the muon does reach the lower atmosphere. So where is the error?

In your understanding of the analysis. You haven't presented the facts correctly at all. Would you like to try again? Do you need some references to read up on it? Have you even considered reading up on it?

The error must then be somewhere in the –first analyses–. Since the computations are straightforward, the error must be in the single variable that is used, namely the half–life of the muon. Let us repeat the analyses using a new value, say $\sim 20\mu\text{s}$.

Again, let us first analyze this in the *–muon frame–*. The muon observes the earth travelling at $\sim c$, and covers a distance of $c \times 20\mu\text{s} \sim 6000\text{m}$ prior to decay of the muon. Note that while the earth frame may be contracted, distances in the muon frame are not. So far so good.

Again, let us analyze this in the *–earth frame–*. This is tricky so take it slow. An observer on earth perceives a muon travelling at $\sim c$ and reaching 6000m. The moving half–life is calculated at $\sim 20\mu\text{s}$. From the earth perspective, the muon's internal clock is running slow, and only registers $\sim 2\mu\text{s}$ during this journey.

Note that this value is not the half life of the resting muon, as the muon is not resting, and the clock that measured it is slow.

By reversing the time dilation factor, it is easily calculated that the muon's internal clock would tick $20\mu\text{s}$ in the *–muon perspective–* prior to its decay. Everything is fine and dandy.

Of course, we made the *–assumption that the muon's half life is really $20\mu\text{s}$, moving or not–*. If true, the error then lies in the measurement of the half life. Really?

As we speak, a muon detector at CIT is measuring 'resting' muon half–lives. A quick review of the data reveals a range of ~ 1 to $\sim 10\mu\text{s}$. How exactly does one obtain a *–resting–* muon? Well, the muon is assumed to be at rest if it is captured by the detector. What is meant by *–capture–*? The muon does not simply stop. It is picked up by a large nucleus, where it reacts with a proton to produce a neutrino and neutron. It does not really sound like our muon just stopped, more like our muon was lassoed in. There are many potential sources of

Re: Finally, Special Relativity Is Proven False

error in this set-up. *–One–*, a resting muon is not the same as a muon in bed with a proton. *–Two–*, even if they may be the same, the reaction of the muon with the proton may speed up its decay. We all know that bound and unbound neutrons have different half lives. *–Three–*, this set-up only captures the low energy muons, which creates the statistical folly of a sampling error. *–Finally–*, why would a resting muon and a muon at constant velocity have different half lives? Is it not the basic principle of SR that the laws of physics are the same in all reference frames. A frame with the resting muon ought to see the same half life as the frame of a moving muon.

The muon experiment is not proof of SR. Assuming it is so yields a contradiction. As a matter of fact, it is in fact proof that time dilation did not occur, and that it is meaningless to assume the muon would disintegrate differently in different inertial frames. Yes, different observers would note different half-lives, but the muon would always have the same intrinsic half-life.

Of course, the fact that time dilation did not occur is not proof it does not occur. However, how does one prove that an imaginary concept does not exist? How can one prove that there are no unicorns? One cannot. One might choose to wait for a positive proof of an actual unicorn, but what about the negative proof? The counterproof must rely on logic. That is what I have done in the David Arguments above. It proves that real time dilation, and its sibling length contraction, are illogical premises, and are to be applied only as computational tools.

—

Strich 9