Re: 1c+1c Closing Velocity of Light and Matter

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From: Tom Capizzi (*tom.capizzi_at_verizon.net*)
Date: 01/04/05

Date: Tue, 04 Jan 2005 23:25:26 GMT

"Henri Wilson" <H@..> wrote in message
news:4p3mt0h4jspkhpfacvidnjddjfqn1qp7cv@4ax.com...
> On Wed, 5 Jan 2005 05:54:40 +1000, Timo Nieminen
> <uqtniemi@mailbox.uq.edu.au>
> wrote:
>
>>On Tue, 4 Jan 2005, The Ghost In The Machine wrote:
>>
>>> In sci.physics, Sam Wormley wrote:
>>> > jgreenfield@seol.net.au wrote:
>>> >> Sam Wormley wrote:
>>> >>
>>> >>>jgreenfield@seol.net.au wrote:
>>> >>>
>>> >>>>Sam W states that a moving rod IS shortened
>>> >>>
>
> It's all bunkum.
>
> Question: If the speed of a rod is altered by the application of a force,
> does
> the rod become longer or shorter?
>
> Answer: Its velocity change can be + or −, depending on the observer.
> Therefore
> SR's gamma transform can also increase or decrease, depending on the
> observer.
> Therefore the 'apparent' length of the rod can either increase of
> decrease....but it obviously cannot do both simultaneously IN THE PHYSICAL
> SENSE.

In the same frame of reference. From different frames both conditions are possible.

> The SR effect is an observational illusion.
>
> Clearly, after the force is removed, the rod is exactly the same as it was

> *beforehand.*

Again, only in the frame of the rod itself. The application of a force must change
the velocity of the rod. To an observer in another inertial frame, the difference
in velocity becomes a difference in gamma, and a changed length.

> *Exactly the same argument applies to clock rates.*
>

Ditto.

> *Conclusion: Neither rod lengths nor clock rates are physically altered by*
> *the*
> *application and subsequent removal of a force.*
>

Again, only in the frame of the moving rod itself.

I don't like the predictions of SR either, but when confronted by evidence, I am
forced to accept reality. There is a classic experiment involving the decay rate
of some subatomic particle (muon, I think). At non−relativistic speeds these
particles have a known half life. Detectors are situated at the top and bottom
of a mountain. It takes a known amount of time for these high speed particles
to travel to the ground level. Based on the half−life, a certain fraction of them
are expected to decay. In fact, fewer particles decay than their half−life would
justify. According to SR, the observer in the stationary frame can attribute this
observation to time dilation as experienced by the particles. In the moving frame
of the particles, there is no time dilation. However, the particle frame experiences
length contraction of the height of the mountain, and simply doesn't travel as
far to the ground. To the stationary observer, the mountain doesn't shrink and
to the moving observer time does not dilate. However, when the particles arrive
at the detector, more of them have not decayed than their half−life requires. Both
observers correctly predict the percentage of decayed particles using SR, even
though their explanations couldn't be more different. So, are the effects of SR

real or illusion? Ask the surviving particles!