

Re: Are *observed* SR effects real?

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- *From:* Shubee <e.Shubee@xxxxxxxxxx>
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On Jul 5, 6:13 am, mluttg...@xxxxxxxxxx wrote:

Are *observed* SR effects real?

PD:

False dichotomy. Both of the alternatives you present, which you assume to be the only ones available, are incorrect.

SR does not say that there is something physical that happens to the clock that alters the way they work. Nor does SR say anything about this being a permanent affect.

However, SR does not dismiss it as a perspective effect or an illusion, either.

You have falsely presumed that if it is not one, then it must be the other.

PD is correct up to this point but I question his reluctance to call time dilation a perspective effect.

What is in fact the case is that physics is about measurement and a theoretical structure that allows you to predict what will be *measured*.

It does absolutely no good to have a theory that tells you that what is going on is one thing, but that that's not what you'll measure.

Zero points for valueless tripe.

The interesting thing about SR is that it

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emphasized (not revealed nor added, but emphasized) that there are certain assumptions that are built into the *definition* of measurements. For example, simultaneity of two events is intrinsic to the *meaning* of measured length.

I derive special relativity by first defining an inertial frame of reference to be a Euclidean space where clock time is defined at each point so as to satisfy a minimal set of "inertial properties." There, measured length is defined by the metric of Euclidean space. Requiring a definition for simultaneity doesn't even seem necessary to me, unless you believe that the laws of physics require that clocks be synchronized, which strikes me as an absurd notion. Most certainly the simultaneity of two events is NOT intrinsic to the *meaning* of measured length.

<http://www.everythingimportant.org/relativity/special.pdf>

So if simultaneity is frame-dependent, then so is length, as length is *defined*.

Geometry is the study of invariants. Sadly, physicists believe that special relativity is the study of frame-dependent quantities. <shrug>

It does absolutely no good, then, to insist that length should be a frame-independent quantity, as it is impossible to define length as a *measurable* quantity that separates it from simultaneity.

That's a very naive belief system that you have there. Have you never heard of a metric space?

So then insisting that length be frame-independent in some underlying reality is to either
a) say that the underlying reality is unmeasurable,

That would be my preference.

or
b) define length in a self-contradictory way,

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making it a one-word oxymoron.

No thank you. I reject Einstein's self-contradictory, oxymoronic emphasis.

Shubee

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