

Re: SR cannot determine Contraction

Source: <http://sci.tech-archive.net/Archive/sci.physics.relativity/2008-02/msg02141.html>

- *From:* PD <TheDraperFamily@xxxxxxxxxx>
 - *Date:* Sun, 24 Feb 2008 20:45:24 -0800 (PST)
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On Feb 24, 10:31 pm, Dono <sa...@xxxxxxxxxxxx> wrote:

On Feb 24, 8:25 pm, PD <TheDraperFam...@xxxxxxxxxx> wrote:

On Feb 24, 10:09 pm, Dono <sa...@xxxxxxxxxxxx> wrote:

On Feb 24, 7:36 pm, "Artful" <art...@xxxxxxxxxxxx> wrote:

Nicely put. Now we've just got to convince dono that an object *does* 'physically' have a shorter spatial length (ie take up less physical space;

I had a hunch that you will not get this. This is what happens when you are more interested in being always right instead of getting it right <shrug>

Let's put it this way. Length is a result obtained through a prescription, one that typically involves recording two spatial locations simulataneously. Length is a physical property. However, because simultaneity is frame-dependent, the physical property length is also frame-dependent. There is, however, no physical process or interaction occurring to or in the rod to change its length.

PD

Correct.

–This is why one can't close the doors simultaneously in the barn frame without hitting the pole.

In the frame in which the barn is at rest, you can.

–This is why the pole in the barn, being a thought experiment, is a very poor illustration for length contraction.

I don't follow this.

–This is why, to date, we have no experimental test for length contraction (http://www.edu-observatory.org/physics-faq/Relativity/SR/experiments.html#Length_Contraction)

I don't follow that, either. What does the frame-dependence of length do to prohibit measuring that effect, when the frame-dependence of just about any other frame-dependent quantity has certainly been measured? (E.g. muon lifetime in $g=2$, angular distributions of secondary particles in hadron-hadron collisions, etc.)

PD

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