

Re: So... Lerentz Contractions are *physical* not observed?

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- *From:* "kenseto" <kenseto@xxxxxxxxxxx>
 - *Date:* Tue, 3 Jul 2007 10:17:49 -0400
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"jem" <xxx@xxxxxxx> wrote in message [news:O2sii.3834\\$Zt6.53@xxxxxxxxxxxxxxxxxxxx](mailto:news:O2sii.3834$Zt6.53@xxxxxxxxxxxxxxxxxxxx)

kenseto wrote:

"Tom Roberts" <tjroberts137@xxxxxxxxxxxxxxxx> wrote in message [news:1Sjii.16683\\$2v1.8259@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:1Sjii.16683$2v1.8259@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

mgconsolidated@xxxxxxxxxxxxxxxx wrote:

Can anyone provide / point to a definitive answer on whether Lorentz contractions are physical or an observed effect.

This depends on what you mean by those words.

Here's an analogy: a ladder will fit through a doorway if it is oriented correctly, and won't fit if it is oriented differently -- is this difference "physical"? -- after all neither the length of the ladder nor the width of the doorway change in any way. This is an example of GEOMETRICAL PROJECTION -- if the projection of the ladder's length onto the doorway's width is small then it fits, and if that projection is large then it won't; this depends on their relative orientation.

Instead of the ladder we have a circular metal plate with a diameter of

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D_p

and the door in the barn is also circular with a diameter of D_b . D_p is

larger

than D_b . Now D_p is accelerated to a relativistic speed will it fit

through

the smaller D_b door???

Does IRT have an answer, Seto?

Yes IRT has an answer as follows:

D_p will not fit through the smaller D_b door.

Why?

In IRT the physical length of an object remains the same in all frames of reference.... even as viewed by different observers. In IRT the light path length of an object is different in different frames. The higher is the state of absolute motion of an object the longer is its light path length.

An IRT observer does not know if the rod moving wrt him is in a higher or lower state of absolute motion. That's why IRT has two sets of equations for the light path length of a moving rod. When the moving rod is in a higher state of absolute motion than the IRT observer then its light path length is longer than the light path length of the IRT observer's rod by a factor of (γ) . When the moving rod is in a lower state of absolute motion than the IRT observer then its light path length is shorter than the light path length of the IRT observer's rod by a factor of $(1/\gamma)$BTW this is the formula for the SR length contraction.

Ken Seto

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