

Is there length contraction in SRT, uncle Ben?

Source: <http://sci.tech-archive.net/Archive/sci.physics.relativity/2008-07/msg02920.html>

- *From:* xray4abc <lemhenyil@xxxxxxxx>
 - *Date:* Tue, 29 Jul 2008 19:20:15 -0700 (PDT)
-

What SRT does say about length contraction?

Consider a rod along OX axis be resting in IRF K and moving in frame K'.

Consider 2 observers in the 2 frames, measuring the length of the rod, setting up measurements at their will, where they localize the endpoints in a simultaneous manner, each in his frame.

In frame K :

Measured values are: X1, X2 in moments T1=T2

Calculated values, from Lorentz transformations are X'1 and X'2

which give $L = L' \cdot \Gamma$

where L' is the calculated length for K

and L is the measured (and at the same time the proper) length of the object in frame K.

As $\Gamma > 1$

We get $L > L'$ that is : the length attributed to be valid

for frame K' (the moving frame) IS BIGGER than the measured length (that is the proper length)

(So far nothing new!)

In frame K' :

Measured values are : X'1, X'2 in moments T'1=T'2

Calculated values, from Lorentz transformations are X1 and X2

which give $L = L' \cdot \Gamma$

where L' is the calculated length for K (supposed to be the proper length)

and L is the measured length in K'.

As $\Gamma > 1$

we get $L > L'$, that is : the length attributed to be valid

for frame K IS BIGGER than the measured length in K' !!!!!!!!!!!!!!!

Comments:

1. We find from the Lorentz transforms that,

NO MATTER what state of motion an object has relative to

an IRF where the ACTUAL MEASUREMENTS are performed,

the measured value is ALWAYS smaller than the value CALCULATED

Is there length contraction in SRT, uncle Ben?

(NOT measured!) as applicable for the OTHER frame !

2. Obviously the 2 relations $L > L_0$ and $L < L_0$, can not be true at the same time, can they?

The only way out from this dilemma seems to me the strange (?) idea of duality or multiplicity of reality.

This would mean for example, that both relations hold true, but the pair of L and L_0 values ARE DIFFERENT IN EACH IRF where the measurements are done.....

3. Now, what can I say, this is what results from the LT which are the very basics of special relativity theory, aren't they?

Or not?

Best regards.LL

.