

Re: Testing the SR Concept of Mutual Time Dilation

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- *From:* bz <bz+spr@xxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Thu, 12 Jul 2007 12:09:04 +0000 (UTC)
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"Sue..." <suzysewnshow@xxxxxxxxxxxx> wrote in
news:1184221608.625688.324060@xx:

On Jul 11, 7:20 pm, bz <bz+...@xxxxxxxxxxxxxxxxxxxxxxxx> wrote:

[...]

Actually, the electrons in the beam of electrons from an electron gun can be weighed. Or, to be more precise, the m/e (mass to charge ratio) can be determined, and has been determined to rather high accuracy by running the beam through magnetic and electric fields. This can be done with different amounts of energy on the electron beam.

Once you have m/e , all you need is e and you can compute m .

This was done over 100 years ago.

<http://www.davidparker.com/janine/electron.html>

See?

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NoSee

To be even more precise, the calculation makes some *assumptions*

Yes. ALL Calculations make some assumptions. When you step on the bathroom scale, you are making many assumptions. So what?

When I step on a bathroom scale, the assumption that the measured interaction is with the *entire* planet is rather safe assumption. because an *entire* moon has 1/6 the pull on the same bathroom scale.

Only if the scale is transported to the moon. At the current distance, the moon's pull is considerably less.

that the electron would deflect in some manner similar to a neutral particle.

No. We do assume that placing a charge on a 1 gm weight will not effect the mass of the weight 'significantly',

That assumption is necessary to claim a measurement of gravitaional interaction.

Yep.

You just discredited the 100 year old experiment for the purpose you offered it.

Nope. Surplus or deficit of electrons on a 1 gm mass is much less effect, per centa total weight than the weight[mass of] a beam that is [almost] pure electrons.

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but we do NOT assume that electrons are deflected like neutral particles by magnetic and electric fields.

So we shouldn't treat the mass value quite the same way we treat the inertial or gravitational mass of a bullet.

of course not.

You are making my argument. Not a contrary argument.

Perhaps we are saying the same things in different words. With the way you wrap your keyboard around phrases and reference, it is often difficult to find out what your viewpoint is.

A neutral particle beam would not be deflected by an electric field, as far as I know.

A neutral particle beam would not be deflected by a magnetic field, as far as I know, [though it might be effected by such a field [spin resonance frequency for example], under some circumstances, such an effect should NOT result in deflection of a beam of neutral particles.]

Since you have never measured the weight of a bottle of electrons

If the figures for the rest mass of the electron are very wrong, [like if it were a massless particle], many of the calculations done every day would be wrong. I am not even sure that life, as we know it, could exist.

If you mean the rest-mass in contrast to relativistic-mass then the term is invariant-mass. No..

So you are saying that a change in rest mass of the electron would have no effect on physics in the universe?

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"many calculations"
are not done with relativistic mass and hopefully no electrons
that are supporting your life, need to move at a significant
fraction of the speed of light.

They all are, from the iFoR of the 'Oh My God' particle [and many others of
similar ilk].

If you have secret knowledge of the 'true mass' of the electron, or
lack thereof, please present it.

$0.511/c^2$ MeV seems an acceptable value
...but will it be $1/6$ that value if measured
on the moon ?

It better be. Of course, someone riding along with the 'Oh My God' particle
would measure something very different.

and I have never seen Elmer
Fudd make anode connections to Bugs Bunny
we both have reason to question the assumptions.

Assumptions should always be questioned. I question yours.

Ya think Elmer needs to charge the bunny to shoot it?

I have heard that in some countries the relatives of the executed person
get charged for the bullets used. It would seem difficult to charge the
bunny, however, for bullets used to shoot him. Like what would happen if he
gives a bad check?

Maybe he does that by combing the bunny's hair and
that scene always ends up on the cutting room floor. :o)

The Barbar of Ella? Sounds like a role for Jane Fonda.

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Do you have any evidence of deflection of neutral particle beams by magnetic or electric fields?

If I did I would be on your side of the argument because most neutron experiments attest to the difficulty. The Einstein–Mach view of induction would consider a falling bullet a magnet–like or London–like force so I will offer that as an example.

Well, those are too macro to be much use. The vending machines use magnets to calm hysterical coins to avoid getting slugged but don't really deflect beams of coins or arguments thereby.

<< A side–effect of this experiment is its sensitivity for gravity–like forces at length scales below 10 m. In light of recent theoretical developments in higher dimensional field theory [2,3], gauge fields can mediate forces that are 10⁶ to 10¹² times stronger than gravity at submillimeter distances. >>
[Institut Laue–Langevin in Grenoble, neutrons]
http://www.ill.fr/AR-02/site/areport/fb_76.htm

Sue...

Should that be 10⁶ to 10¹² or 106 to 1012?

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bz

please pardon my infinite ignorance, the set–of–things–I–do–not–know is an infinite set.

bz+spr@xxxxxxxxxxxxxxxxxxxxx remove ch100–5 to avoid spam trap

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