

Re: why not this SR experiment?

## Re: why not this SR experiment?

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- *From:* bz <[bz+spr@xxxxxxxxxxxxxxxxxxxxxxxx](mailto:bz+spr@xxxxxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Fri, 2 Mar 2007 03:40:02 +0000 (UTC)
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David <[dseppala@xxxxxxxxxxxxxxxx](mailto:dseppala@xxxxxxxxxxxxxxxx)> wrote in  
[news:a30fu2lhh1h76kbr35qqojn8r41258ja6n@xxxxxxxx](mailto:news:a30fu2lhh1h76kbr35qqojn8r41258ja6n@xxxxxxxx):

On Thu, 1 Mar 2007 17:47:30 +0000 (UTC), bz  
<[bz+spr@xxxxxxxxxxxxxxxxxxxxxxxx](mailto:bz+spr@xxxxxxxxxxxxxxxxxxxxxxxx)> wrote:

David <[dseppala@xxxxxxxxxxxxxxxx](mailto:dseppala@xxxxxxxxxxxxxxxx)> wrote in  
[news:j8ldu2lfjn5bcq67b0i1pdafoei3ei7fm1@xxxxxxxx](mailto:news:j8ldu2lfjn5bcq67b0i1pdafoei3ei7fm1@xxxxxxxx):

The measurements are done in an inertial frame. The orbiting spacecraft is just a convenient way to get a speed difference between two objects. The same experiment can be done if the spacecraft leaves orbit and travels in a straight line with no acceleration. Or are you saying that if the light source happens to be an orbiting spacecraft the speed of an electro-magnetic pulse emitted from that craft depends on the velocity of the spacecraft (that is, the velocity of the source)?  
David

You don't need orbiting space craft. Look at the moons of jupiter. Calculate relative motion of those moons wrt earth.

You should see variations in light propagation time of over 1.7 seconds for some of the moons of jupiter.

I don't see how to measure such a variation in a meaningful way.  
David

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The positions of the various moons against the background stars can be rather exactly predicted. The predicted times and positions assume that photons travel at  $c$ . Systematic discrepancy from predicted values could be evidence of  $c'=c+v$ .

The position of our moon against the background stars and the planets and their moons can be accurately predicted. The moment that our moon should hide any particular moon of jupiter from sight (from any particular point on earth) can be predicted very accurately.

Photons that traveled at speeds other than  $c$  would throw off the times of accultation by a noticable amount.

Compare the orbits, as determined by orbiting spacecraft around jupiter, and earth based or hubble based measurements of orbits.

See if they are significantly different in a way consistent with  $c'=c+v$ .  
Get a Nobel if you can show they are.

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bz

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

bz+spr@xxxxxxxxxxxxxxxxxxxx remove ch100-5 to avoid spam trap

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