

Re: What is Proper Time?

Source: <http://sci.tech--archive.net/Archive/sci.physics.relativity/2008-03/msg00892.html>

- *From:* The Ghost In The Machine <ewill@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Sat, 8 Mar 2008 16:48:26 -0800
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In sci.physics.relativity, HW@....(Dr. Henri Wilson)
<HW@>

wrote
on Sat, 08 Mar 2008 22:58:20 GMT
<ip46t3tv3bcshga4dpc4gnpc3cel289fqg@xxxxxxx>:

On Fri, 7 Mar 2008 18:38:22 -0800, The Ghost In The Machine
<ewill@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote:

In sci.physics.relativity, HW@....(Dr. Henri Wilson)
<HW@>
wrote
on Fri, 07 Mar 2008 22:08:00 GMT
<8u

That's what aether theory
states.
There is no aether, therefore
it's wrong. Why do you even
bother with the
maths?

You will, of course, have alternate maths for
BaTH, I trust?

the math is obvious.
In BaTh the whole MM apparatus may be considered 'at rest'.

$$t_{AB}=L/c$$
$$t_{BA}=L/c$$

A little more complicated than that, as the MMX measures
(or attempts to measure) crabwinds versus headwinds;
however, both BaTH and nBat can (and do) assume that the
MMX apparatus is at rest, since the aether "surface" (if

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there is one) is essentially frictionless.

BaTh assumes no classical style aether exists.

Hence my terminology of "hockey pucks", and any "aether wind" is ignorable since the puck's velocity is not affected thereby.

For its part SR isn't quite as simple to characterize, as the light photon is moving at c no matter who's observing it; time and space twist in odd fashions (and are provable from this hypothesis more or less alone, as Einstein showed long ago) in order to assure this constancy. It turns out, mathematically anyway, that the "aether wind" doesn't affect the photon either, in SR.

Ghost, you must be able to see the funny side of this.

In pure desperation, Einstein found that space and time had to be distorted in order to maintain constant light speed.

However,
TWLS
shows
nothing
regarding
nBaT (and
presumably
BaTh); the
frictionless
hockey
puck
encounters
only the
reflecting
mirror and
is always
moving at
speed c .

Light normally moves at c
wrt its source. ...and all
components of the
interferometer.

Only if the source is not moving with respect

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thereto, in BaTH.

Of course the bloody light source of an interferometer is not movingr.

I would assume that someone's done a variant where MMX is pointing towards, say, Venus. I'll admit I can't say without looking though, and proper setup would be difficult unless the MMX is performed outside of the influence of Earth's gravity. Low earth orbit might be good enough -- though of course Gravity Probe B was looking for far subtler effects anyway.

Even if the source was moving it would make no difference. It would simply mean that the light speed around the apparatus was c+v instead of c.

If one uses a spinning device to feed the MMX, of size about 10cm in diameter and running at 12,000 RPM, the edge speed is about 63 m/s, or $2.1 \times 10^{-7} c$. Bouncing light off this device (assuming the edge is rotating in the opposite direction of the beam, in an attempt to slow it down) should result in something like the following:

$$\lambda/\lambda_0[*] \nu/\nu_0 c/c_0$$

$$\text{nBAT: } 1 \pm 2.1 \times 10^{-7} \quad 1 \pm 2.1 \times 10^{-7}$$

$$\text{SR: } 1 + 2.1 \times 10^{-7} \quad 1 - 2.1 \times 10^{-7}$$

$$\text{Androcles: } 1 - 2.1 \times 10^{-7} \quad 1 + 2.1 \times 10^{-7}$$

$$\text{BaTH: } ???$$

Shouldn't you double the value?

Nope. Mathematically, $v = \lambda * \text{frequency}$.

BaTh says the same.

It can't say the same. All other theories are distance-independent. In other words, for both nBAT and SR the values of lambda and nu are the same regardless of whether I'm 1 meter, 1 lightyear, or 1 billion lightyears away (assuming no other artifacts exist that slow down or speed up light using gravity or other such).

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Since BaTH is clearly distance–dependent from your statements, I can't say it's equal to anything.

Measuring doppler shift tells us nothing except the speed of the wheel.

If the above wheel was set up on top of a high mountain and used to reflect a pulse from a laser 30 km away, the reflected pulse would travel at $1.0000042c$. The travel time difference when the wheel was and was not rotating would be about $4E-11$ seconds.

This experiment might just be possible with the latest lasers, PMs and clocks.

OK. And if the laser was 15 km, 60 km, or 400,000 km away?

In BaTH the question marks are because the values are distance– or time–dependent (I have no idea which). Over short distances I presume BaTH approximates nBAT; over long distances it approximates SR.

It doesn't even go close to SR. Maybe it approximates an aether theory when light travels in a dense medium.

The question I have is how short and how long "short" and "long" are. One presumes a priori that these have a wavelength dependency, since light is an oscillatory motion.

For
christ's
sake
will
you
give
up
this
aether
nonsense.
You
are
supposed

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to
be
a
ballistician,
remember

But SR is
an aether
theory;
Androcles
has
"proven"
that. ;-)

Well he should know, he's a
great believer in aether
theories.

No no...he doesn't believe in SR. If anything,
he vehemently disputes
it. He's more in line with BaTH.

Have you seen his silly animation of tAB and tBA.

No, I haven't. Of course since he assumes $t_{AB} \neq t_{BA}$, but refuses to
say how they *are* related, I can't draw many useful conclusions.

His animation uses a source 'at rest' and two observers moving in opposite
directions. Naturally, they measure different times for light to travel the
same distance.

As they should, if the observers are moving at different speeds.

What Androcles has really done is use a source that is moving at different
speeds wrt the two observers. He has no idea of what Einstein was talking
about.

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Einstein's Relativity is easy to understand if one has the IQ of a parrot and a gullibility index >0.95.

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#191, ewill3@xxxxxxxxxxxxxx
/dev/signature/pedantry: Resource temporarily unavailable

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