

Re: What causes time dilation?

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From: Androcles (*androcles_at_nospamblueyonder.co.uk*)

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"Alex Green" <dralexgreen@yahoo.co.uk> wrote in message
news:42c8441.0409070212.2d350af1@posting.google.com...
| suzysewnshow@yahoo.com.au (suzysewnshow) wrote in message
news:<e0a23188.0408290327.2452d9f8@posting.google.com>...
| > "Bill Hobba" <bhobba@rubbish.net.au> wrote in message
news:<CO7Yc.11325\$D7.8992@news-server.bigpond.net.au>...
| > > "suzysewnshow" <suzysewnshow@yahoo.com.au> wrote in message
| > > news:e0a23188.0408280757.57d63067@posting.google.com...
| > > > "Bill Hobba" <bhobba@rubbish.net.au> wrote in message
| > news:<giRXc.10363\$D7.1015@news-server.bigpond.net.au>...
| > > > > "Mitchell" <macromitch@internetCDS.com> wrote in message
| > > > > news:9c3da975.0408271442.caf7aaf@posting.google.com...
| > > > > > Uncle Al and the rest have no mechanism for the physical
property
| > > > > > of the slowing of time.
| > > > >
| > > > > What causes the x coordinate of a rotating rod to change?
| > > > >
| > > > > Bill
| > > > >
| > > > > > I'll give you a mechanism.
| > > > > > If time moves then by speeding up you can catch up to it.
| > > > > > If it moves at the speed of light then it slows down as
| > > > > > you catch up with it.
| > > > > >
| > > > > > We talk about c. But it is more than just the speed of light.
| > > > > > It is the speed of time before there is any dilation.
| > > > > >
| > > > > > Mitch Raemsch
| > > > > > -- Light Falls --
| > > >
| > > > Time (in SR) dilates because the ether wind blows the bouncing light
| > > > off course as opposed mirrors move through the ether.
| > >
| > > You mean an aether that has never been detected and whose existence is
not
| > > assumed in SR, a theory that is fully in accord with experiment? You

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logic

|>> is obviously wrong.

|>>

|>>> Like it or not,

|>>> that is how most, but not all of the clocks in SR behave.

|>>

|>> Like it or not SR does not require an aether.

|>>

|>>> Since time

|>>> is a mathematical abstraction, clocks can't measure it... they can

|>>> only simulate its passage.

|>>> Kind regards,

|>>> Sue...

|>>

|>> Time is what clocks measure and is as real and as concrete as anything

in

|>> physics.

|> Concrete? Then it should not vary should it?

|>>

|>> Bill

|> The First postulate says that light must take the shortest time path

|> between opposed mirrors. If for any frame of reference, then for all

|> frames of reference.

|

| Modern relativity theory does not have this foundation. It is based
| on invariance and symmetry. The geodesics are derived from the concept
| of a (3+1)D universe.

|

| See:

| <http://www.users.globalnet.co.uk/~lka/conz2b.htm>

|

| For a simple intro. We have two competing theories here,

No... we have three.

in the first

| the universe is full of some substance 'the aether' and in the second

| the universe is a four dimensional manifold.

And in the third the universe is 3 dimensional with time independent
of space.

In the first, light's speed is medium dependent.

In the second, light's speed is observer dependent (subjective).

In the third, light's speed is source dependent (objective).

| The second theory has led to predictions from Quantum Theory

| (via de Broglie Waves and the Dirac Equation) to Black Holes.

A mishmash of poorly understood concepts.

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| The first theory was a complicated mass of
| unrelated empirical equations by 1900 and desperately needed to be
| replaced.

Agreed.

The third theory predicts that light from a moving source will have the velocity of light added to the velocity of the source. This will produce an apparent retrograde motion of a star in orbit, although we don't have sufficiently powerful telescopes to observe this.

However, this apparent retrograde motion has another effect, that of changing the intensity of the light as it reaches us.

In the empirical data below, the retrograde motion appears between the two maxima.

<http://www.britastro.org/vss/gifc/00918-ck.gif>

|
| Many people are committed 'presentists' and just will not accept the
| possibility that time has a geometric character.

That is correct. Time has no inverse and therefore cannot be a vector.

| I think it was the
| gifted art historian Gombrich who pointed out that if the present were
| just a durationless instant, a boundary between what has been and what
| is to come, we could not even hear the merest phoneme of a word or see
| a movement. Everything is frozen at any instant in Galilean
| Relativity. Motion itself would be impossible.

That argument is fallacious, 'now' is 'moving'. It has as much validity as a still photograph of a moving object 'proving' the object is stationary. Clearly Gombrich should stay with art and history and keep out of physics.

|
| However, that said, I think a gifted mathematician could tack bits on
| to Newtonian physics to account for all the discoveries of the
| twentieth century.

Well, thank you.

I'd rather strip off some ridiculous assertions, though, and quit pretending we know that which we do not.

The Seven Deadly Sins of Special Relativity.

For quotations following, reference:

<http://www.fourmilab.ch/etexts/einstein/specrel/www/>

("On the Electrodynamics of Moving Bodies" by Albert Einstein)

1) "light is always propagated in empty space with a definite velocity c which is independent of the state of motion of the emitting body", a totally unproven assumption without any evidence to support it.

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2) "In agreement with experience we further assume the quantity $2AB/(t'A-tA) = c$ to be a universal constant– the velocity of light in empty space.",

an admitted assumption that is quite worthless when there is any relative motion between A and B, yet essential to the derivation of the remainder of Einstein's nonsense.

3) The equation

$\frac{1}{2}[\tau(0,0,0,t)+\tau(0,0,0,t+x'/(c-v)+x'/(c+v))] = \tau(x',0,0,t+x'/(c-v))$,
the $\frac{1}{2}$ of which is derived from 2) above and is tantamount to saying $(1/3 + 2/3)/2 = 1/3$.

4) The missing $0'$ from that equation, since $x' = x-vt$, hence $0' = 0-vt$, and the equation should be

$\frac{1}{2}[\tau(-vt,0,0,t)+\tau(-vt,0,0,t+x'/(c-v)+x'/(c+v))] = \tau(x',0,0,t+x'/(c-v))$
at the very least.

5) The further assumption "IF we place $x' = x-vt \dots$ " without considering IF we place $x' = x+vt$, from which we derive (using Einstein's method)

$$\tau = (t+xv/c^2)/\sqrt{1-v^2/c^2}$$

$$\xi = (x + vt)/\sqrt{1-v^2/c^2}" \text{ --Paul B. Andersen}$$

6) The statements

"But the ray moves relatively to the initial point of k ,
when measured in the stationary system, with the velocity $c-v\dots$ "
and

"It follows, further, that the velocity of light c cannot be altered by composition with a velocity less than that of light. For this case we obtain $V = (c+w)/(1+w/c) = c$."

which are contradictory, the first being Galilean, the second being contrary to the vector addition of velocities, an axiom of a vector space.

7) The lack of a check to verify the theory is self-consistent by feeding the new PoR given in 6) into the equation given in 3) and finding a total failure.

Check:

$$(t1-t)/(t2-t)*[\tau(-vt,0,0,t)+\tau(-vt,0,0,t+x'/V+x'/V)] = \tau(x',0,0,t+x'/V)$$

| All that is needed is an ever increasing library of
| unrelated assumptions. Theories don't need to die, you can keep them
| going well past their natural lifespan with enough mathematical TLC.

|

| Best Wishes

|

| Alex Green

Or enough paint stripper.

Androcles