Re: Whence camest nullness?

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2009−05/msg00294.html

- *From*: PD <TheDraperFamily@xxxxxxxxx>
- *Date*: Wed, 6 May 2009 14:58:24 −0700 (PDT)

On May 5, 5:20 pm, b jones <crack...@xxxxxxxxx> wrote:

> Whence camest nullness?
>
> "Nullness" refers to light speed invariance.
>
> It did not come from Maxwell!
>
> If Maxwell's laws even hinted at nullness, then no one would have firmly predicted a positive result for the Michelson−Morley experiment, and yet all physicists were dead certain of a positive result.

You are incorrect. Maxwell's laws do hint, strongly, at nullness. However, additional assumptions are hard to let go of, and this was true of almost everybody at the time. You should keep in mind that Maxwell didn't even publish the equations until 1865, and the Michelson−Morley experiment was done in 1887, 22 years later. This is an eyeblink of time for new theories. Einstein published general relativity in 1915, and it showed practically zero further development for another 30 years before taking off. At the time that Einstein started examining Maxwell's equations at the turn of the century, 35 years after their publication, they were still not widely accepted and poorly understood. And in fact, the first true experimental support for Maxwell's equations didn't occur until Hertz's experiment in 1887, the very same year that Michelson and Morley did their experiment. Thus, at the time of the MM experiment, it wasn't certain that Maxwell's equations were reliable in any way.

If you are claiming that if Maxwell's theory really implied it, then surely someone would have found that out sooner, that's a poor argument and a bad assumption. Maxwell himself took quite a while before he could think of Faraday's fields as something other than a vortex in a fluid substance. These are assumptions, deep−seated proclivities that are very hard to shake. Witness your own assumptions about the material cause of all things.

It takes a rather bold move to abandon those preconceptions, and this is precisely what Einstein is credited with, doing what is not easy to do.

> Therefore, nullness did not come from Maxwell.
>
> We got our first taste of nullness from the famous Michelson−Morley experiment [the MMx].
>
> This showed round−trip nullness.
>
> But, contrary to popular opinion, the MMx did not even close the round−trip case, much less the one−way case.
>
> As John Wheeler said, there are actually two − count−em, two − independent round−trip cases. One is covered by theory A, the other by theory B (Wheeler's designations).
>
> Quoting Wheeler [_Spacetime Physics_ ©1963, p. 80]: "The two theories differed as to the effect of 'motion through absolute space' on the running rate of a clock. Theory A said, no effect. Theory B said that a standard seconds clock moving through absolute space at a velocity v has a time between ticks of sqr[1−v^2/c^2] seconds."
>
> "Thus the Kennedy−Thorndike experiment ruled out theory A (length contraction alone) but allowed theory B (length contraction plus time contraction) ...."
>
> This tells us that the MMx did not "do away with the aether" if we take this to mean "prove the invariance of light's round−trip speed."

This is a correct statement. There IS NO single experiment that singles out relativity as the correct one. It is the *combined* look at the experiment body of evidence that has ruled out most (but not all) classes of competitive theories put forward so far.

> The MMx did not close the round−trip light speed case. Light's round−trip speed could still have varied via the Kennedy−Thorndike experiment [KTx], as Wheeler stated.
>
> And if the MMx did not even close the round−trip case, then it certainly did not come close to closing the one−way case. And neither did the KTx.
>
> Just as the KTx differed fundamentally from the MMx by

the addition of a timing process, the one−way case differs fundamentally from the round−trip case by the addition of clock synchronization.

Given that man must synchronize clocks (since Nature cannot because She has no means of moving the hands of clocks), we see that it is not possible for Nature to give us a null result in the one−way case. That is, it is simply physically impossible to have an experimental one−way null result. Only if Nature can set clocks can there be _any_ natural law or result in the one−way case, and, as we said, Nature cannot set clocks. This shows the utter meaninglessness of the second "postulate." Equivalently, it shows the utter uselessness of Einstein's definition of "synchronization."

On the other hand, it was extremely simple for Nature to give us two − count−em − two round−trip null results! All She had to do was to control atomic clock rhythm and real (or intrinsic) rod length, as Wheeler said.

To reiterate, although we can and do have general laws of nature in the round−trip cases, we cannot have any laws of nature in the one−way case (because, as noted above, Nature simply has no control over clock synchronization).

This is exactly why no one has ever performed the one−way version of the MMx. (No one has ever used two nontransported or nonrotated clocks to measure light's one−way speed. No rotated or transported clocks are allowed because they run slow.)

Since no one−way experiment has ever been performed, the one−way case remains open.

What more can be said about the one−way case?

Plenty!

Although (as we said above) there cannot be a one−way law, there can be a correct measurement of light's one−way speed, but this requires absolutely synchronous clocks, the ones which Einstein joyfully discarded so long ago. (He tossed them aside like used rags. He then replaced them with clocks which he forced via definition to "obtain" a one−way "null result," which, as we know, is experimentally impossible. That is, it cannot happen experimentally or naturally, but only with man's intervention. Therefore, the Einstein's result is not a natural law, but is a man−made or artificial result, and is therefore not worth 2 cents!)

As even Einstein had to admit, given absolutely synchronous clocks, light's one−way speed will vary with frame velocity:

Quoting Einstein, re using classical physics' absolutely synchronous clocks to measure light's one−way speed:
"w is the required velocity of light with respect to the carriage, and we have

$$w = c - v.$$

The velocity of propagation of a ray of light relative to the carriage thus comes out smaller than c.

But this result comes into conflict with the principle of relativity.... For, like every other general law of nature, the law of the transmission of light in vacuo must, according to the principle of relativity, be the same for the railway carriage as reference−body as when the rails are the body of reference." http://www.bartleby.com/173/7.html
[This has nothing to do with closing velocities because they do not conflict with the PoR.]

Therefore, we have it from Einstein himself that correctly−related (i.e., absolutely synchronous) clocks will correctly measure the one−way speed of light, and it will vary with frame speed.

We can call this result a restricted or qualified one−way law; that is, if we are _given_ (by man) truly synchronous clocks, _then_ the one−way light speed result would be variance, not invariance.

This is a restricted law because it was not fully given by Nature, but was partly given by man, who controlled the clock synchronization part. Nature controlled how light moves through space.

Why are we able to use light to detect and to measure our absolute motion?

It is because light is an absolute frame.

As everyone should know, there are only two criteria for an absolute frame, viz., (a) it must have a constant (unchanging) speed in space, and (b) this speed must be known. Maxwell told us long ago that light's propagational speed in empty space is c. And thanks to light's source−independent nature, this speed is unchanging (constant).

Any and all discussions about an aether or aethers have been pure wastes of time, as have any and all discussions about special relativity, which is not a scientific theory

because it has no predictions. (It did not predict round−
trip invariance, but merely accepted it as a fact; it did
not predict one−way invariance because that cannot happen
experimentally.)

Even if there are those who (wrongly) still insist that
special relativity makes some sort of predictions, this
is irrelevant; all that matters are the simple facts that
we can detect absolute motion via the use of synchronous
clocks to measure light's one−way speed, and such clocks
will give us absolute time.

Fortunately, since no one can prove a negative, not
even Einstein could prove that absolutely synchronous
clocks cannot exist.

Given all of the above, it is unfathomable that anyone
would still wish to teach and preach special relativity;
it is equally unfathomable that any theoretical or even
experimental physicist would lack any desire to search
for a way to (truly) synchronize clocks!

−−b jones−−

.