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Misidentification of Newtonian physics

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Mainstream has misidentified Newtonian physics in its relationship to Einstein's relativity. There are at least two ways that Newtonian physics can be related to Einstein's relativity, and the mainstream has chosen the wrong one.

This article presents in summary where I am now at with regards to the mathematical connections between Einsteinian and Newtonian physics.

Newtonian physics#1 (NP#1)

As per how the mainstream deals with SR (special relativity) and NP (Newtonian physics) they have the Lorentz transforms as (n.b. just considering the 2 dimensions case to make it easy):

$x' = g(x - vt)$
$t' = g(t - vx/c^2)$
g = gamma factor = $1/(\sqrt{(1 - v^2/c^2)})$

for small velocity v

the gamma factor g tends to 1

so that x' tends to (x - vt)

and t' tends to $(t - vx/c^2)$

this is then treated as SR tends to NP at low
speeds call this NP#1

Now this is incorrect, it should be NP#2 as the connection between SR and NP.

Newtonian physics #2 (NP#2)

Treating what Einstein is doing as mere clock synchronization to keep light-speed as constant, we form the equation

$c^2 t^2 = (c'^2 - v^2)t'^2$

equation formed as follows:

Consider box of length c t, light moving from one wall to the other first travelling distance c t then hitting wall being reflected back and travelling c t in opposite direction.

The distance c t is then multiplied by itself

Now next the box is considered moving with velocity v relative to an observer, who then sees light move (c' +v)t' and then rebound and travel (c' -v)t' then we multiply both these together to form

$(c'^2 - v^2)t'^2$ and equate to $(ct)^2$

SR then takes c' = c and time dilation is formed from the equation

$c^2 t^2 = (c'^2 - v^2)t'^2$ see how by note below.

It is clock synchronization by what is called keeping the two-way speed of light as a constant.

But if do by NP#2 then treating t' = t and have c' not equal to c

Thus NP#2 and SR are looking at the same equation of $c^2 t^2 = (c'^2 - v^2)t'^2$ but in different ways.

Now Newtonian physics is really NP#2 not NP#1.

The justification for this is that prior to Einstein 1905 theory of special relativity – the maths that was used for special relativity which was called Lorentz transformations, named after Lorentz who was working on this maths before Einstein, had a longer history before even Lorentz. So, the earlier dealings of this maths in no way could be in the context of Einstein's use in his 1905 theory, it was in other words being used in the context of Newtonian physics. It then means there must be a bridge in how it was used in the context of Newtonian physics before 1905 special relativity, and I have provided it here with NP#2. Also, upon looking at what Einstein says in regard to synchronization of clocks (as being the same as Poincare) being used to keep light-speed constant it means he meant NP#2. Einstein was of course obscure, especially since he did not give enough citations as to what he was working from so it left the mainstream to misidentify the relationship between Newtonian physics and special relativity.

In other words, mainstream is falsely claiming Newtonian physics is NP#1 when it's not that. Its instead NP#2.

Given the exposure of how this misidentification of Newtonian physics occurred in relation to special relativity it should be clearer how the true connection is with general relativity. The mainstream also suffers from not being able to properly connect quantum mechanics with general relativity, this exposure should also make that connection now clearer.

Note

Given the equation $c^2 t^2 = (c'^2 - v^2)t'^2$

we can set $c' = c$ this gives us

$c^2 t^2 = (c^2 - v^2)t'^2$

then divide through by c

$t^2 = (1 - v^2/c^2)t'^2$

divide through by $(1 - v^2/c^2)$ and
square root gives

$t' = t / (\sqrt{(1 - v^2/c^2)})$ the
time dilation equation.

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Typo correction: 10 Oct 2018