

Re: Is Einstein's Principle of Equivalence true?

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From: Bill Hobba (*bhobba_at_rubbish.net.au*)

Date: 11/03/04

Date: Wed, 03 Nov 2004 22:39:00 GMT

"John C. Polasek" <jpolasek@cfl.rr.com> wrote in message news:is9io09qd063oh4g297gmg261jc8breqe@4ax.com...
> On Tue, 02 Nov 2004 22:30:53 GMT, "Bill Hobba" <bhobba@rubbish.net.au>
> wrote:
>
>>
>> "John C. Polasek" <jpolasek@cfl.rr.com> wrote in message
>> news:pp5fo05eahiutpm801jlqumufm67r1tre@4ax.com...
>>> On Tue, 02 Nov 2004 07:38:10 GMT, "Bill Hobba" <bhobba@rubbish.net.au>
>>> wrote:
> GIANT SNIP
> Speaking of the rationale for the Pound Rebka experiment:
>>> Well, let's wrap it up. As you say:
>>> "But regardless of if you accept it or not the other derivations
>>> (including the one I gave) all lead to the same result – the change in
>>> frequency is proportional to the difference in potential – specially
>>> $\Delta f = (\Delta U)/\lambda_0$.
>>>
>>> From this we get $f' = f(1-z)$ from a loss of energy (potential)
>>>
>>> and from Shapiro we get $c' = c(1+z)$ on the way up
>>
>> Please detail that derivation and show how it impacts on the derivation I
>> gave and the other derivations ie why we need to use that value of c in
the
>> non inertial frame rather than what is measured in an inertial frame.
For
>> example in my derivation because the velocity of the local inertial frame
>> was small and gravity weak we can approximate $ds^2 = g_{\mu\nu} dx^\mu dx^\nu$ (1) by
 $dx^2 =$
>> $g_{00} d\tau^2$ where by definition $d\tau = ct$ and c_0 is the speed of light in an
>> inertial frame. The derivation of (1) comes from in an inertial frame
 $ds^2 =$
>> $ct^2 - x^2 - y^2 - z^2$ and doing a transformation to new coordinates $t', x',$
 y'
>> z' (that such is possible locally is the principle of equivalence).
Since

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- > >it is $t', x', y' z'$ than is transformed the value of c is not affected.
- > >That is the reason the differing speed of light in the $t', x', y' z'$
- > >coordinate system is of no relevance – it does not appear when one does the
- > >transformation to get (1) – or in fact in any of the other fundamental
- > >equations of GR such as the EFE's.
- > >
- > >Bill
- > >
- > >SNIP SNIP
- > >Bill, Bill, look at the katzenjammer explanation you have written,
- > >taken from what you know of general relativity to explain the Pound
- > >Rebka experiment. This borders on incantation. What is the model?

The model is GR.

- >
- > Here's how it is done in Dual Space theory. The velocity of light is
- > reduced in a gravity field according to
- > $dc/dr = MG/r^2c$
- > which I derived from scratch. It means that c increases going out of
- > the well and in this case accounts for stretching the wavelength.

Mind repating that deirvation here?

- >
- > Furthermore, the frequency of the source signal remains the same. And
- > there is no time dilation.

Then you violate exprimental fact.

- >
- > So for a path $h = 22.5$ meters, we find dc given by:
- > $dc = h * dc/dr = h * MG/r^2c = h * g/c = 7.3e-7$ m/s
- > $dc/c = h * g/c^2 = z = 2.45e-15$
- > $L = c/f$
- > $L' = (c + dc)/f = c(1 + dc/c)/f = c(1 + z)/f$

Learn some kiddy math will you. We have from experiment (and my derivation and the derivations I linked you to –

<http://scienceworld.wolfram.com/physics/GravitationalRedshift.html>) $\Delta f = (\Delta U/c^2) f_0$ (where f_0 is the frequency in a local inertial frame, U is $-GM/r$ so ΔU is the difference between the top of the tower and the bottom and Δf is the change in frequency as it travels the distance of the tower.). This is derived from $f/f_0 = (1 + U/c^2)$ You claim $L' = c(1+z)/f$ where according to your terminology L' is the wavelength, z is the U/r times h – whatever that is. But (according to you) $L' = c/f'$ thus you have $1/f' = (1+z)/f$ or $f = (1+z)f'$ (where you are rather vague what f' and f are) – and you define $z = h MG/r^2c^2$ – which is of course not $-GM/rc^2$ – what it is physically I have no idea.

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As usual you jumble incorrect concepts in the most atrocious way, use mathematics like a primary school student that has no idea what they are doing, and arrive at rubbish.

Bill

- >
- > *The term hg/c^2 is identical to relativity's with the difference that*
- > *gh is not a potential or an energy, which is a defective concept. h*
- > *simply multiplies the dc/dr derivative to stretch the wave. There is*
- > *no change in frequency. EM waves don't drop in gravity.*
- >
- > *This same rule can be use to explain the Huyghens portion of*
- > *deflection by the Sun.*
- > >
- > *John Polasek*
- >
- > *If you have something to say, write an equation.*
- > *If you have nothing to say, write an essay*