

Re: Basics series proposed

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Timo Nieminen wrote:

> *On Mon, 2 Jan 2005, jgreenfield@seol.net.au wrote:*

>

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> > > > *Timo Nieminen wrote:*

> > > > > *On Sun, 1 Jan 2005, jgreenfield@seol.net.au wrote:*

> > > > >

> > > > > *Astute readers will understand that Doppler changed frequency*

> > > > *(light in*

> > > > > *vacuum) is due to more or less photons arriving at the receiver*

> > *per*

> > > > > *TIME.*

> > > >

> > > > > *Counterexample: Rotational frequency shift. Photon flux is unchanged.*

> > > > > *Frequency is.*

> > > >

> > > > *Photon flux is energy/area/time?*

> > >

> > > *No, number of photons per area per time. Energy per area per time would be*

> > > *energy flux. In rotational Doppler shift, photon flux is unchanged,*

> > *energy*

> > > *flux is changed.*

> >

> > *Pedantic? The assumption seems to be that individual photon energy does*

> > *not change.*

>

> *Whose assumption? Yours? Why would you assume that? Your emission theory*

> *appears to suggest an increase in energy if the velocity increases*

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- > *(although you've consistently refused to try to quantify the change).*
- > *Currently accepted theory explicitly assumes it changes – change in*
- > *frequency means there must be a change in photon energy.*

You refer to doppler in air regularly as a correlation with light propagation; so where is the energy of sound? in the frequency or the AMPLITUDE?

- >
- > > > *Highly likely that there are LESS photons which have GREATER energy*
- > > > *(frequency) leaving flux unchanged.*
- > > >
- > > > *Same number, either more or less energy each, depending on whether or*
- > > *not*
- > > > *the frequency is increased or decreased.*
- > >
- > > *"Energy flux is changed" (above): so if we have the SAME number of*
- > > *photons/time which individually have more energy, then they are going*
- > > *FASTER with the same separations (wavelength)ie increased frequency.*
- >
- > *According to your theory. Not according to currently accepted theory.*
- > *Perhaps if you were to quantify your theory, then it might be possible to*
- > *test experimentally. So, to be productive, why not tell us the following*
- > *results from your theory:*
- >
- > *In terms of speed, wavelength, and frequency:*
- >
- > *What is the energy of a photon?*

increased if given greater linear motion (KE/Newton0

- >
- > *What is the momentum of a photon?*

" " " spin rate "

- >
- > *What is the angular momentum of a photon?*

as above

- >
- > > *It is so ingrained in the DHR psyche that c NEVER alters, that you*
- > > *continually overlook the fact that there are 3 variables in*
- > > *c= wavelength x frequency ie you CANNOT calculate one without KNOWING*
- > > *BOTH the others, and c IS variable according to the motion of its*
- > > *source (vacuum)*

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- >
- > *Since when is "vacuum" a source? How do you suggest that the motion of*
- > *vacuum be measured (isn't that an ether theory idea, anyhow?)?*

Infantile idiot! How childish is it to deliberately misconstrue a reminder?

(vacuum) was put in to remind you that at all times I discuss light propagation in absence of any other material-----which you either knew and are deliberately deceitful to suggest otherwise, or are just plain stupid.

- >
- > *But it's irrelevant with respect to rotational frequency shift, the*
- > *closing\receding velocity of the source is zero.*
- >
- > *If you disagree, feel free to come up with a quantitative prediction*
- > *for*
- > *rotational frequency shift based on your theory.*
- >
- >> *Photon angular momentum is independent of frequency. This is both*
- > *an*
- >> *experimental result, and a theoretical result. Straight from*
- >> *classical*
- >> *theory, angular momentum flux for circularly polarised light is*
- >> *power/(angular frequency), which means that the angular momentum*
- > *per*
- >> *photon is independent of frequency.*
- >>
- >> *As R disclaims a photon having ANY mass, referring to its angular*
- >> *momentum with classical connotations is oxymoronic.*
- >
- > *You think the Maxwell equations are oxymoronic? Angular momentum of*
- > *electromagnetic fields is a fully classical result. If you're*
- > *unwilling to*
- > *learn, it's only your loss.*

DHR's will be calling Mills and Boon "classics" next

- >
- > *Relativity alone says nothing about photons – SR and GR are classical*
- > *(ie*
- > *non-quantum) theories.*
- >
- > *What relativity does do is provide an answer to how massless photons*
- > *behave. What answer does Newtonian mechanics provide?*
- >
- > *From the experimentally measured ratio of energy to momentum fluxes*
- > *of*
- > *light, what is the Newtonian prediction for the mass of the photon?*
- >
- > *What does your theory say? What is the mass of a photon?*

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Enough, that a beam of them can support (overcome the gravity acting on) a massive particle. FYI that just confirms the KE of the photons, and conservation of energy.

>

> > *I suspect a photon acts like a bar magnet, exercising 'push-pull' as it*

> > *approaches/passes a receiver. More spins/time=>frequency.....more*

> > *velocity, same spin rate=>frequency*

>

> *Go ahead, define "spin", as you mean it, precisely. Provide a quantitative*

> *version of your above hand-waving.*

>

> *And think of a better term – "spin" is already used to mean the intrinsic*

> *angular momentum.*

The Pakis could do with another "rotational" bowler, since the "spin" word has apparently been copyrighted by AE!

>

> > > > *Do note that the usual Maxwellian non-relativistic classical*

> > *Doppler*

> > > *shift*

> > > > *says nothing about photons. Inserting the basic semi-classical*

> > > > *photon, the*

> > > > *astute reader will realise that Doppler shift of frequency is not*

> > *due*

> > > > *to*

> > > > *the change in rate of reception of photons.*

> > > >

> > > > *Recommendation: Learn some classical wave theory.*

> > > >

> > > > *A machine gun approaching a target causes a higher frequency of strikes*

> > > > *than one which is stationary. This is because the velocity of the*

> > > > *bullets has increased, and the wavelength (distance between them)*

> > > > *remains the same (rate of fire and muzzle velocity ref gun).*

> > >

> > > *And yet, sound waves, which have speed independent of the motion of*

> > *the*

> > > *source, also show Doppler shift. Clearly, Doppler shift doesn't*

> > *require*

> > > *constant velocity with respect to the source, or constant wavelength.*

> >

> > *For the nth time; what has a compression front in a gas got to do*

with

> > *photons travelling through a vacuum???????????*

>

> *What do machine-gun bullets have to do with photons travelling through a*

> *vacuum?*

>

> *If you believe that a bullet is a suitable model of a photon, please, tell*

> *us the mass of a photon. Please, give a quantitative description of the*

> *relationship between speed, frequency, and rate of receiving photons.*

>

> > > *To state that Doppler shift of light *requires* constant wavelength*

> > *is*

> > > *just plain wrong.*

> >

> > *As above, the spin rate may change, but otherwise the wavelength won't*

> > *change- the c will*

>

> *As above, that has nothing to do with the point that examples abound where*

> *Doppler shift does not require changing velocity and constant wavelength.*

>

> > > *Why not try to test it experimentally?*

> > >

> > > *Consider a diffraction grating. Angle of diffraction depends on the*

> > > *wavelength, not the frequency. So, the position of a spectral line*

> > *should*

> > > *not change as the closing velocity of the source changes,*

according

> > *to*

> > > *your theory.*

> >

> > *If the wavelength changes, but NOT the frequency, c has altered!!!!*

>

> *Sure, but what's that got to do with anything we've been discussing?*

> *Currently accepted theory states that both the wavelength and frequency*

> *change, and you say your theory states that the frequency changes and the*

> *wavelength is constant.*

>

> > *...and no, the POSITION of the Spec line doesn't alter, as ALL the*

> > *light shifts.*

>
> *Absolute position. As in, at what angle relative to the plane of the*
> *grating will I find a particular spectral line.*
>
> *Your theory appears to imply that the absolute position will not*
change.
> *Care to test that experimentally?*
>
>> *Say EMR ranges from A.....G, and we see C–D. If the whole*
system
>> *speeds up ref us, we now see what was formerly B–C (blue shifted*
and
>> *same position of spec lines)*
>
> *No, you miss the whole point. The angle of diffraction with a*
diffraction
> *grating depends on the *wavelength*. If the wavelength doesn't*
change,
> *then , then the spectrum *will not move*. Measured with something*
that
> *depends of frequency, then one should observe the frequency change.*
Now,
> *wouldn't that be incontrovertible evidence supporting your theory?*
>
> *And yet, you keep on refusing to even try to design such an*
experiment,
> *preferring to bemoan the lack of cooperation from NASA.*
>
> *Well, if that's the fate you *want* for your theory, that's your*
business.
>
>>>> *Now, to believe frequency change (Doppler) for light is NOT due*
to
>>>> *motion of the source, one must accept the breath–taking magic*
that
>> *the*
>>>> *light source KNOWS that it is moving ref the target, and*
adjusts
>> *its*
>>>> *"muzzle velocity" accordingly.....or else accept*
space=jello
>>>> *(aether)*
>>>
>>> *So, if frequency of light depends on the rate that photons are*
>> *received at*
>>>> *(a dubious proposition, easily overturned by simple experiment,*
but
>> *since*
>>>> *it's the basis of your argument, we'll make use of it), where do*
the
>> *extra*

- > > > *photons go in gravitational redshift?*
- > >
- > > *They don't "go" anywhere! They have had their emission velocities*
- > > *reduced while escaping the grav field, and there are more of them*
- in*
- > > *transit at any instant.*
- >
- > *You have been stating repeatedly that the frequency of light depends*
- on*
- > *the rate that photons are received at. How does the flux of photons*
- change*
- > *when the source is stationary?*
- >
- > *To use your favoured machine–gun analogy, a stationary machine gun*
- firing*
- > *upwards at a stationary target at 600 rpm will hit that target at 600*
- rpm,*
- > *as long as the bullets reach.*
- >
- > *So, explain gravitational redshift in terms of your theory.*
- >
- > *Actually, it would be useful if you could quantify the effect of*
- gravity*
- > *on photons (ie on their speed, energy, and momentum) in your theory.*
- This*
- > *would tell us what your theory predicts the rest mass of a photon to*
- be.*
- > *Are you brave enough to subject your theory to testing?*
- >
- > --
- > *Timo*

A certain radio crystal emits a certain wavelength, right?
Now take the crystal on a moving spaceship, and the frequency alters.
So, as the wavelength CANNOT alter, and the received frequency DOES,
how DOES c not alter????????????????

Jim G
 $c'=c+v$