

Re: Does the Electron Neutrino Have Mass and Charge?

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From: kenseto (kenseto_at_erinet.com)

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"Bjoern Feuerbacher" <feuerbac@thphys.uni-heidelberg.de> wrote in message news:cbtue4\$ig4\$1@news.urz.uni-heidelberg.de...

> kenseto wrote:

> > "Bjoern Feuerbacher" <feuerbac@thphys.uni-heidelberg.de> wrote in message

> > news:cbs1n3\$g33\$1@news.urz.uni-heidelberg.de...

> >

> >>kenseto wrote:

>

>

>

>

> [snip]

>

>

>

>

> >>>>> $f' = f(Fab/Faa)$

> >>>>>Where Faa =frequency of a standard light source in A's frame.

> >>>>> Fab =frequency of an identical light source in B's frame as

> >>>>>measured by A.

> >>>>

> >>>>1) What is a "standard light source"?

> >>>>

> >>>>

> >>>>How about H-Alpha

> >>>

> >>"H-alpha" is a certain spectral line of hydrogen, not a light source.

> >

> >

> > That's OK it will still show the shift

>

> And that still does not answer my question what a "standard light

> source" is.

<sigh> ...hydrogen is the light source.

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>
>
> >>>>2) Where in the above formula do I put in the absolute motion of the
> >>>>detector?
> >>>>
> >>>>
> >>>>There is no need for the absolute motion.
> >
> >
> >>You said above (quote for convenience):
> >>"If the point is moving (absolute motion of the detector) then you will
> >>detect frequency shift."
> >
> >
> > So?
>
> Read on. My question comes directly below. You ignored it.
>
>
> >>I then asked you to give a formula for this.
> >>>
> >>>So why did you give a formula now which doesn't involve absolute
> >>>motion???
>
> See? That is my question. Try reading all of these sentences again,
> together, and then please answer that question.

<sigh> frequency shift is a direct measure of the state of absolute motion
of the
observer.

>
>
>
> >>>>Besides you would not know
> >>>>the value of absolute motion of the detector.
> >>>>
> >>>>Well, couldn't I measure the absolute motion of the detector by
> >>>>looking how big the detected frequency shift is? According to
> >>>>you, above, those two things are related.
>
> Could I, or couldn't I?

Frequency shift is a direct measure of the absolute motion of the observer.

>
>
>
> >>>>>3) What are f and f' ? The emitted frequency and the measured
frequency?
> >>>>>
> >>>>>
> >>>>> f is the frequency of a specific light source. f' is the predicted

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value

- > >>> *of the same specific light source in the observed frame.*
- > >>
- > >> *Thanks for the explanation. But a minor nitpick:*
- > >> *Frames aren't observed. Do you mean "frame of the observer"?*
- >
- > *Did you mean that?*

The frame that is moving wrt the observer is the observed frame.

- >
- >
- >
- > *[snip]*
- >
- >
- > >>>> *b) this formula simply says that the frequency shift is the same for all*
- > >>>> *frequencies. BFD.*
- > >>>
- > >>>
- > >>> *Will it is a big ucking deal.*
- > >>
- > >> *Huh? This sentence fragment didn't even make sense grammatically.*
- >
- > *Care to explain what you meant?*

Do you want me to explain what "it is a big fucking deal" mean?

- >
- >
- >
- > >>>> *This doesn't help one in *predicting* the actual*
- > >>>> *frequency shift, without knowing in advance from experiment (measure*
- Faa
- > >>>> *and Fab) what the frequency shift is! In other words: your formula is*
- > >>>> *rather useless.*
- > >>>
- > >>>
- > >>>> *In SR you have to measure the relative velocity. That's the same thing*
- > >>>> *as measuring the Fab only a bit more complicated.*
- > >>
- > >> *Err, in your model, one has to know *two* things: Faa and Fab. In SR,*
- > >> *knowing only one thing, the relative velocity, is enough.*
- > >
- > >
- > > *NO...in SR you have to know two things too....you have to know the speed*
- of
- > > *light.*
- >
- > *Which is already known. One does not have it measure it anymore.*
- >
- >

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> > *In MM Faa is known.*

>

> *From what?*

> *From one time measurement.*

>

>

> > *All you need to do is to measure Fab.*

> > *BTW how do you measure relative velocity?*

>

> *By measuring how the distance between two things changes, and dividing
> this change in distance by the time it took.*

How does an observer measures the distance change for an object moving
relative to him?

>

>

> > > *Besides, using relative velocity*

> > > *to predict frequency shift you have to know whether the source is
moving*

> > > *toward you or away from you.*

> > >

> > > *Since velocity is a vector, the direction is already contained in it.*

> >

> >

> > *But you still have to determine the direction of the vector.*

>

> *Yes. So what? That is included in determining the velocity.*

So it is more complicated than measuring Fab.

>

>

>

> > > *With my equation all you have to do is making the Fab measurement.*

> > >

> > > *And you have to know Faa.*

> >

> >

> > *Faa is measured one time....*

>

> *So, you propose that one uses a standard frequency here? The H-alpha
> line you mentioned above?*

Sure why not.

>

>

> > *then it can be used in all subsequence calculations.*

> > *In SR the speed of light is measured one time and it is used for all*

> > *subsequence calculations.*

>

> *Nice that we agree on that.*

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Yes. So now you agree that my equation to predict frequency shift is just as meaningful as the SR equation?

Ken Seto