

Re: mass of the photon

Source: <http://sci.tech-archive.net/Archive/sci.physics/2007-02/msg02178.html>

- *From:* "tony fleming" <t Fleming1@xxxxxxxxxxxxxx>
 - *Date:* 12 Feb 2007 16:47:45 -0800
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On Feb 11, 11:42 am, "tony fleming" <t Fleming1...@xxxxxxxxxxxxxx> wrote:

On Feb 10, 6:31 pm, "Y.Porat" <y.y.po...@xxxxxxxxxx> wrote:

On Feb 10, 6:45 am, "tony fleming" <t Fleming1...@xxxxxxxxxxxxxx> wrote:

On Feb 9, 8:05 am, "PD" <TheDraperFam...@xxxxxxxxxx>
wrote:

On Feb 6, 5:35 pm, "tony fleming"
<t Fleming1...@xxxxxxxxxxxxxx> wrote:

On Feb 7, 1:18 am, "PD"
<TheDraperFam...@xxxxxxxxxx>
wrote:

QED, which
is the most
precisely
tested
theory of
any kind
ever,
accounts for
pair-production
in a much

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simpler way
than the
break-up
into
composites
that you
propose. If
you want to
understand
how QED
does this,
both
qualitatively
and in full
quantitative
detail, then
I
suggest you
dive into
two books
to start:
QED: The
Strange
Theory of
Light and
Matter, by
Richard
Feynman
Introduction
to High
Energy
Physics, by
Donald
Perkins,
especially
chapters 1,
2, and 5.

PD

Many thanks, I only have a
basic working knowledge of
QED including
Feynman's work (via his
famous 3 physics books and
some other
writings); maybe I

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understand the maths more
than the applications.

Sorry, Tony, I've got some bad news. The 3 famous physics books that Feynman wrote are for *freshman* class in physics. In between those books and a "basic working knowledge" of QED, you will need additional materials:

- two courses in classical mechanics, including Lagrangian and Hamiltonian formulations
- at least one intermediate course in electrodynamics, including the covariant form of Maxwell's equations
- at least one intermediate course in quantum mechanics, including detailed work with solutions of the Dirac equation and perturbative methods
- an advanced course in quantum field theory, including 2nd quantization and renormalization.

PD an inch doesn't mean a mile, one has to crawl before one walks!!

I'm aware of Feynman, believe me. I'm across many many areas of QM, QED and QCD especially the mathematics. I was taught QM as an undergraduate in the '60s and 70's. Obviously I'm only one little human bean, so a working, PROFESSIONAL knowledge escapes me in many areas such as particle physics. But I am a very experienced professional mathematician and engineer with a background in numerical modelling, antennas, radiation protection, bioeffects of EMR, and medical applications of bioelectromagnetics. I'm not shy to admit my lack of knowledge as I come across something new.

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The new mathematics of SFT allows me another fresh view to many physics vistas as I come across them. You can read the paper on the hydrogen atom at http://www.unifiedphysics.com/latest_news.htm. Read this to understand how self-field theory and quantum mechanics tie in together. You'll also see how SFT leads to a set of equations INSIDE THE NUCLEUS!! a set of modified maxwellian equations that give an eigenvalue solution for the proton that can sit inside a composite model of the hydrogen atom. This is revolutionary and will form a new approach to nuclear physics as we progress.

The latest, and most interesting line of research, thanks to your question about pair-production and anihhilation, appears to be the link between the energetic photon and its sub-photonic field, the electron and the positron. What I've found is exciting in that there's a link between the ionizing potential of the hydrogen atom and the energy required for pair production of teh positron and electron.

$$m_{\text{electron}} * \text{velocity}_{\text{electron}}^2 = 13.6 \text{ eV} \quad (1)$$

$$m_{\text{electron}} * \text{velocity}_{\text{photont}}^2 = 0.511 \text{ MeV} \quad (2)$$

It seems to me that $m_{\text{photon}} * \text{velocity}_{\text{photon}}^2 + 1/2$ photonic binding energy for (2) = 0.511 MeV

I can't find any corresponding quantum theory apart from some very hand-wavy stuff concerning Hawking's cosmological

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quantum gravity.

I'm not saying there ain't some good theory somewhere I've not found

any of it that's all. You suggested recently to me that such a theoretical approach is available. I'd be very grateful if you could

give me a link to such a theoretical discussion.

I'm interesting in how quarks and gluons may ALSO be involved in such productions.

I do have Perkins btw, a very good book.

What I'm thinking with the pair-production via SFT is similar to the early work on the ionization of hydrogen as an infinite series solution to the Balmer series solution. We do suspect that there is a 'Balmer-like' analytic solution to the spectroscopy of the photon

What spectroscopy of the photon? Do you know if data that I'm not aware of?

Take a look at the pdf at

www.cymatherapy.com/pdfs/A%20Predicted%20Photon%20Chemistry.pdf

This names a few including the ionospheric layers, snowflakes, etc

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structure of DNA, etc.

which will give us a series of frequencies that hopefully will tie in with the acoustic work we are doing. That is why we needed the analytic expression for the photon's mass, 'cos this leads (almost) directly on to the photon spectroscopy. So I've worked out the photon's 'Balmer series' assuming the mass of the photon.

What it seems to me is if I'm understanding the internal dynamics of the photon correctly is that the binding energy inside the photon STAYS with the photon's sub-particles (I call these the eplectron and the phroton) AFTER the pair-production, so that the

eplectron + half the binding energy \rightarrow electron (+momentum)
phroton + half the binding energy \rightarrow phroton (-momentum)

Actually we see a similar in SFT thing INSIDE the nucleus where it appears the neutrino + electron can decay transforming a neutron into

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a proton. So it appears that the neutrino WAS a binding field that turns into a particle (in this case the neutrino WAS the binding field). Same as with the pair production where a binding field becomes part of a composite particle.– Hide quoted text –

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Mr fleming
if you deal with physical entities that
move naturally in closed circles
and not in straight lines
(as i saw in your pdf
you are on the right way

b
your hellix description of yourse of the photon
movement
fits exactly my concepts of the basic aprticle
that i called 'The Circlon'
and we are not alone with that hellix movement

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i saw it from many people

c
dont expect anything from the parroting
parts here
they are not born for pioneering science
just address the open minds ones here!!!

ATB
Y.Porat

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-- Show quoted text --

G'day mon bon ami Monsieur Porat. Comment allez vous? Tres bien
J'espere. Je regret mon pauvre Francais , ansi Je parlerais en
Anglaise, bien?

Yes the circular rotations are a way to solve the Maxwell_lorentz
differential equations. In SFT I use the complex form of exponential
as in the usual general solution to partial differential eqns. We use
the divergence eqns to give us the analytic form for the fields. Then
substitute these forms into the curl equations to give a system of
equations which are readily solved.

What I have found in the study of the mass of the photon is that these
analytic solutions are an approximation to the actual solution which
is based on collisions, many collisions to and fro between the photon-
electron and photon-proton. These collisions can be either attractive
or repulsive depending on the spins involved. They are 'coherent' in
the sense that they are very alike to each other. It appears the
whole system of forces and collisions is stable including these
collisions.

What we end up with is a geometry that looks a bit like pythagorus's
inscribed circles that he use to determine an approximation for the
irrational number Pi. In the case of the atom, the number of
collisions MUST BE AN INTEGER so that the system is periodic. This
gives us a system of inscribed triangles that must end up giving us an
area less than the equivalent analytic circle.

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THinking of the Bohr magneton, this gives us a simple method of determining the g–lande factor for the electron.

ATB Tony– Hide quoted text –

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Monsieur Porat, comment allez vous aujourd'hui?

In terms of non–linear motions, the actual motions must include parabolas etc, as the photon approaches (collides with) the electron and /or the proton. The triangles are just approximations to the motions, but it is clear they form a good approximation to the g–lande factor. In other words, the Bohr theory motion represented by the Bohr magneton is NOT circular. Hence we can use the 'finite element' approximation that Pythagorus used to estimate Pi. WHEN we do this for the simple theory using two simple point–models for teh electron and the proton we do get a reasonably accurate answer.

As we all know when we use QED we get a very accurate answer that is supported by measurement. This was mentioned by PD. We get this accuracy becuase we are trying to get an AREA ($O(\text{radius}^2)$) not a LENGTH ($O(\text{radius}^1)$), and hence the truncation errors are reduced by at least one order of radial distance. Hence the increase in accuracy.

We can do the same by using a model for the proton consisting of THREE quarks, and we will find an increased accuracy above the simple single–point SFT theory.

ATB Tony

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