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The Anderson effect occurs in a dielectric aether

Indications for the existence of a dielectric medium

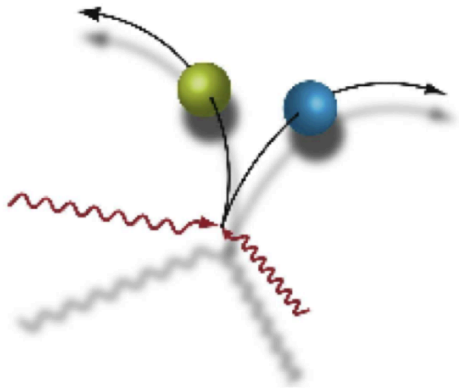


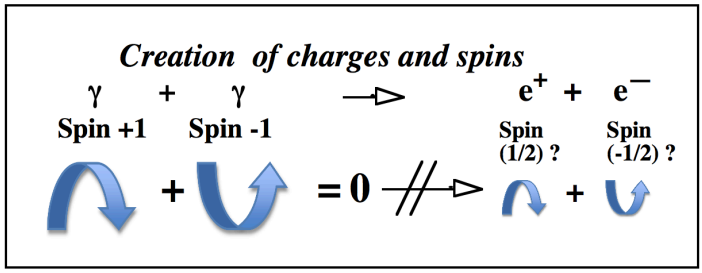
FIG. 3: Pair production through photon interaction.

Annihilation of electron and positron?

Commutation of electron/positron pair into radiation energy?

Two γ- photons with spins ±1 and no charge cannot create matter with charge ± e and spin ± 1/2

$\gamma + \gamma \rightarrow e^+ + e^-$



Allegedly 2 γ-photons of energy
E > 1, 022 MeV
can produce an electron-positron pair (= Positronium, **Ps**).
But this occurence of Ps is only possible in the presence of a "catalysator", namely a molecule. The lattice of the molecule acts obviously as a buffer in order to bounce the positronium.
The occurrence of **Ps** is <u>not</u> due to a transformation of energy into mass that takes place in vacuity.

Regarding spins, γ-photon spins, + spin and — spin cancel out. Then occurs the spin creation of positronium. Charges are also created ex nihilo! Obviously, in this explanation <u>charge conservation is violated</u>. Note: The plus charge and the minus charge disappear!
But neutralization cannot mean extinctionof charges…

Recall what the conservation of spins in terms of classical mechanics means:
Think about billiard balls, after collisions spins are conserved. Billiard balls interact during collisions and survive collisions. Spins are exchanged.
But photons and their spins are annihilated together, therefore annihilated spins cannot be conserved! The spins of electron and positron must be created ex nihilo!

The mass of Ps is suggested due to transmutation of energy according to $E = mc^2$.

The Ps created is para-Ps because the antiparallel spins ⇩⇧ cancel out.

To avoid these difficulties, three (!) γ photons with spins ⇑(+1) +⇑(+1) + ⇓(-1) are invented in order to conserve spin. The spin conservation works then as follows:

⇑(+1) +⇑(+1) + ⇓(-1) → ⇩(-1/2) + ⇩(-1/2)

The γ photon energies necessary to create positronium Ps are then:

$2\ mc^2/3 + 2\ mc^2/3 + 2\ mc^2/3 \rightarrow 2\ mc^2$

The positronium cretated is ortho-Ps with spin (-1/2) + (-1/2) = -1

There is no empirical evidence for the occurrence of three γ- photons. This is not physics, it is magic! According to this source, the ionization energy of Ps is
6,8 eV, which is 50% of the ionization energy of hydrogen. But for ortho- or para Ps?

According to the present author, two Ps can form hydrogen.

Therefore it should be possible to generate hydrogen out of the aether.
Paul Rowe did not detect the creation but the liberation of H out of the erroneously so called vacuum, which is in reality full of Ps. He discovered that when an explosion takes place in an evacuated tube, excess hydrogen is always produced.

For ortho-Ps, other physicists (who don't understand that spins in that case cannot be conserved) remarked the imbalance of spins for $\gamma + \gamma \rightarrow e^+ + e^-$
i. e. they remarked a flaw in an erroneous relation:

http://positron.physik.uni-halle.de/panet/text/intro/positronium

And before the two charges neutralize each other, they must be existent!
Instead of this misinterpretation there is every indication that positronium is not created but has existed before and can be liberated: as we will argue later.
Again: A γ-ray with energy E > 1.022 MeV allegedly creates an electron-positron pair through a miraculous transsubstantiation acccording to $E = mc^2$
1,022 MeV $\Rightarrow 2m_ec^2$

Objections to creatio ex nihilo:
1: Energy ⇔ mass transsubstantiation is a category mistake and is physically impossible.
2. Charge and spin conservation are violated:

A physically possible interpretation of the Anderson effect:
The frequency of a γ-ray with >1.022 MeV is known because for high energy radiation it holds for the radiation energy $E = h\nu_A$ of = 1.022 MeV, where ν means the lower limit of a resonance frequeny of the dielectric medium (aether) that consists of electrons and positrons.
A radiation with this frequency ν_A of can release an electron-positron pair (positronium):
Therefore
$h\nu_A$ of ≥1 ,022 MeV ⇒ ν_A of ≥ 1.022 [MeV] / 4,135667 10^{-15}[eVs] ≥ 2,4712 10^{20}[1/sec]

h denotes simply that for high radiation the energy increases with frequency: $E = h\nu_A$.

Don't let you be confused: If energy-mass transsubstantiation was possible according to $E = mc^2$, then the energy of 1.022 MeV would correspond to $2m_ec^2$. Relativists use this numerical accordance for the argument that 1.022 MeV create an electron positron pair (= positronium, Ps) *in vacuo*.
But the occurence of Ps requires more than 1.022MeV. Additionally an atom as cooperator is necessary.

If the minimum energy necessary to liberate positronium Ps is $2m_ec^2 = 1{,}022$ MeV, then the frequency corresponding to this energy must be a resonance frequency ν_A of the dielectric aether:

$h\nu_A = 1{,}022 \text{ MeV} = 2m_ec^2 \quad \rightarrow \quad \mathbf{h = 2\, m_e\, c^2/\nu_A}$

The meaning of h is therefore:
It is a constant of proportionality for the ratio:
binding energy $2m_ec^2$ of Ps to resonance frequency ν_A of the aether.

ν_A = Anderson frequency

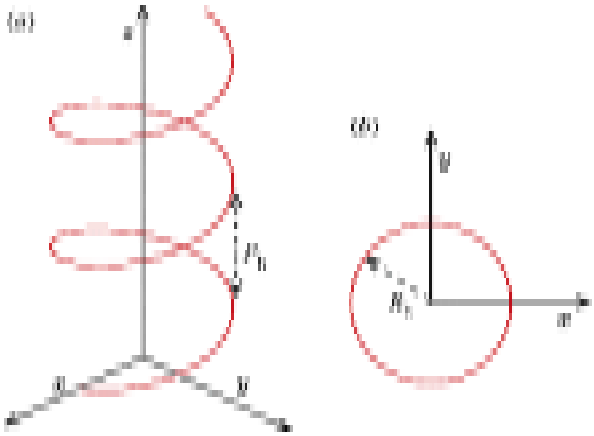
h has nothing to do with energy lumps.

Numerical values: $h = 4{,}135667\ 10^{-15}$ [eVs],
$\nu_A = 2m_ec^2/h = 1.022\ 10^6$ [eV]/$4{,}14\ 10^{-15}$ [eVs] = $2{,}4712\ 10^{20}$ [1/s]

($\nu_A, \lambda_A, A_A, L_A$ denote frequency, wavelength, amplitude and angular momentum of the excited state of the dielectric aether at an energy of 1,022 MeV = $2m_ec^2$.)
Regarding the oscillation of the aether with resonant frequency $\nu_A = 2m_e\, c^2/h$ we can imagine it as a mixed electrodynamic wave that consists of a longitudinal and a rotational wave.

Graph: Arterial geometry, flow pattern, wall shear and mass transport: potential physiological significance

G. Coppola* and C. Caro
http://rsif.royalsocietypublishing.org/content/6/35/519.full



Regarding an electron or positron, its oscillating movement results from the addition of a transverse and a rotational velocity. Take for example a point at
$x = R = A_A$ (A for amplitude), $z = 0$. Its translational velocity $v_T = c$ has the direction of the z-axis.
The wavelength is $P_h \equiv \lambda_A$.

The rotational velocity v_R has the direction of the y-axis. Freeing an electron-positron pair (Ps) requires energy $E = 2m_e\, c^2$. This is the result of Anderson's experiment.
Now we can assume an impact: An electron m_e with the resultant velocity $2c^2$ liberates one Ps with $2m_ec^2$ binding energy.
Therefore, because $v_T = \lambda_A\, \nu_A = c$, v_R must have velocity c too. Then $v^2_T + v^2_R = 2c^2$.
Now we can derive the relation A_A/λ_A:
$v_R = A_A\, \omega = A_A\, 2\pi\, \nu_A = A_A\, 2\pi\, c/\lambda_A = c$ if
$\Rightarrow A_A = \lambda_A/2\pi = 0{,}193\ 10^{-12}$ m

$\Rightarrow$ angular momentum $L_A = A_A\, m_e\, v_{er.} = A_A\, m_e\, c = m_e\, c\, \lambda_A/2\pi = h/4\pi$
because $\lambda_A = h/2\, m_e\, c$

The release of a positronium can therefore be thought of as an impact electron vs. Ps. Therefore for the state ν_A, λ_A of the radiation we have

$L_A = h/4\pi$… angular momentum of radiation

Of course, $h/4\pi$ can be expressed with these assumptions as angular momentum of the rotational part of the helical oscillation. An indication that rotational and longitudinal oscillations occur is the fact that light shows pressure and angular momentum.

Recall that amplitude $A_A = \lambda_A /2\pi = \underline{0{,}193}\ 10^{-12}$ m is very small. With increasing frequency the amplitude becomes minimal and then has the energy transfer the character of an impact and the waves are impact waves of the aether. (See Simhony)

γ rays with energies greater than about 1 MeV are impact waves. It is like a propagation of an impact in a row of elastic bullets. The velocity of the propagation of impacts can be greater than c. Recall that c is only the limit velocity for an electron that moves through the aether!

Here means ***polarization*** the reduction of the helical oscillation to a longitudinal and transversal wave. Left handed or right handed helices or both combined are possible.

The reverse Anderson process $e^+ + e^- \Rightarrow \gamma + \gamma$

is not a physically impossible annihilation of mass, charge and spin but Ps is incorporated into the aether structure with the effect of an oscillation of the aether.
In physical reality nothing is annihilated!

QM did not conceive that ± charges neutralize each other but are not annihilated!
The alleged process of the annihilation of the charges is not possible. On the other hand, if there was an annihilation of both electron and positron, also their spins would be annihilated! So the alleged spins of the photons must be created *ex nihilo*.

Speculation:
The Anderson effect interpreted as the transformation of a torsional wave into vortices of the aether?

Simhony's causal interpretation of positronium production

Positronium is assumed to be the building block of a dielectric aether that can be liberated with a γ-ray of $E \geq 1{,}022$ MeV. But this liberation of Ps is only possible in the presence of a "catalyst", namely a molecule or a heavy nucleus (anvil?).
The lattice of the molecule acts obviously as a buffer in order to bounce the positronium.
The energy necessary to liberate Ps is > 1,022 MeV
but this is the binding energy of Ps in the aether and not the rest energy of the electron and the positron.
State of our ignorance:
The structure of this particulate aether is unknown!

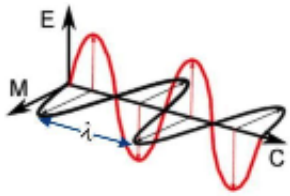
But Ps must have a binding energy. If the energy of the gamma rays is greater than this binding energy, the Ps can be liberated and the electron and the positron begin to spin, but not necessarily with ħ. (There is no need for them to spin in the bound state.)

If $E = mc^2$ is the binding energy of an electron or positron in the dielectric particulate aether, then we can calculate the velocity of light waves in the aether:

Speed of sound is $c = \sqrt{B/\rho}$ (B... bulk modulus in Pascal, $1Pa = 1N/m^2$, N... Newton, m = Meter. density ρ = mass/volume = m_e/m^3).
Multiplying both B and ρ of the ratio B/ρ with m (meter) we get:
$= Nm/m^3 = 1\ J/m^3$. J... Joule, the dimension of energy!
The bulk modul expresses therefore the density of binding energy.

➞ $c = \sqrt{(m_e c^2/m^3)/(m_e/m^3)} = \sqrt{m_e c^2/m_e} = c$!

This is the speed of elastic torsional aether waves that cause the pressure and angular momentum of light.
As the elastic waves are vibrating charges of electrons and positrons, there are accompanying electromagnetic waves E, M. These transverse waves cannot cause pressure and angular momentum!



The carrier of electromagnetic waves is a diectric medium – the aether

Electromagnetic waves cannot propagate through a vacuum

Of course a genuine vacuum cannot have qualities like electrical permittivity ε_0 and magnetic permeability μ_0. These qualities are qualities of something, namely of a *dielectric aether!*
Recall that the phase velocity squared of electromagnetic waves in the aether is:
$c^2 = 1/\varepsilon_0\mu_0$
$\mu_0 = 4\pi\ 10^{-7}$ H/m = 1.256 10^{-6} Vs/Am
$\varepsilon_0 = 1/\mu_0\ c^2 = 8{,}854...10^{-12}$ As/Vm

Recall that the **wave impedance** is
$Z_0 = \sqrt{\mu_0/\varepsilon_0} = \mu_0\ c = 4\pi 10^{-7}$ N/A $2.99792458\ 10^8$ m/s = **376,730 Ω**

Wave impedance cannot be caused by vacuity or by space itself that is a relation and not a thing.
For the electromagnetic wave of light in the dielectric aether we have $(c)^2 = 1/\varepsilon_0\mu_0$, where $1/\varepsilon_0 = 8{,}98755\ 10^9$ $[m^3kg/q_2s_2]$ and **$1/\mu_0 = 1{,}0000031\ 10^7$** $[q^2/kgm]$.
Therefore we obtain $c^2 \approx 10^7/\varepsilon_0 \approx 9\times10^{16}$ $[m^2/s^2]$

The dielectric *particulate* aether consists of electrons and positrons. An indication for this conjecture is the Anderson effect.

Capacitors conduct AC without a current of electrons
The alternating "current" (AC) goes through the capacitor!
Otherwise there would not be an electric circuit, electricity passes the capacitor…
Dipoles of dielectrics in a capacitor undergo polarization.
There is a propagation „wave" of polarization states in the ongoing direction of the alternating

“current” (AC). Therefore dielectrics are conductors for AC. The current is not a flux of „drifting“electrons but a propagation of a polarization state along the wire and the capacitor dielectric.
A capacitor in a electrical circuit would not function with a vacuum inside.

The structure of the dielectric aether is unknown....

References

Simhony, M. http://www.epola.co.uk/

Free downloads of Simhony’s works
http://www.epola.co.uk/Simhony/PaperBack_dnld.htm

Remark: Simhony follows QM in that he assumes extranuclear (shell) electrons.
My atomic model: proton and electron are magnetically coupled to hydrogen.
Four hydrogen’s unite to helium. Three helium atoms unite to carbon etc.

Tombe, F. D., http://wbabin.net/tombe.htm#Tombe
The Aether and the Electric Sea and other articles

Rowe, Paul
An Unexpected Source of Clean Energy?
ISSUE 67, 2006 • Infinite Energy