

The meaning of h for *de Broglie* matter waves

Phase velocity u of *de Broglie* waves exceeds light velocity c : $u > c$

Compton effect no evidence for photons that carry an energy packet $E = h\nu$

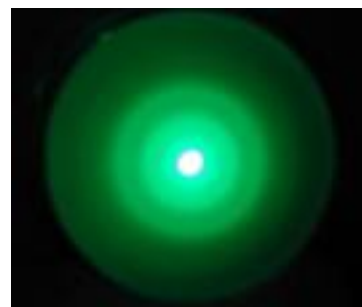
Occurring electrons not from carbon target but released electrons from the dielectric electron-positron aether

De Broglies matter waves

Both, Bohr + Schrödinger argue with the duality of wave and electron, that's nonsense. Physics needs causality, not mystery.

Causal Explanation of „electron waves“:

An electron beam passes a crystal. At the target there are the hits of the electrons (a white circular area). But there are also the phenomena of waves visible. This is not due to electron waves that are coexisting with electrons.



What are matter waves? In reality a [moving electron \(\$v\$ \)](#) [cause accompanying waves in the aether](#) (analogy: bullets in the air cause sound waves).

Phase [velocity \$u\$](#) of the deBroglie waves exceeds [light velocity \$c\$](#) . De Broglie's formula $\lambda = h/m_e v$ should have a causal and physical interpretation:

The moving electron creates an accompanying wave in the dielectric aether. The h is a constant of proportion of that aether. See below the explanation. Causality, not duality!

According to the duality doctrine of corpuscle and wave an electron is also an *electronwave*.

According to de Broglie the wavelength is $\lambda = h/m_e v$, where v is the velocity of the electron, m_e is its mass.

This formula is experimentally confirmed. So we write cautiously this relationship as an

empirical rule: $\lambda \sim h/m_e v$. $\Rightarrow h$ expresses a proportionality.

If the electron wave is an electromagnetic wave (what else?) its phase velocity should be c . (Of course the velocity of electromagnetic radiation in a crystal is $< c$, but for the small path we neglect this.)

For electromagnetic waves holds: $c = \lambda v$, therefore: $v \sim m_e v c/h$

According to current QM theory the electron-photon energy is $E = h\nu$ and the energy of its double nature as an electron is $E = m_e c^2$ (for $v \ll c$). Therefore current theory equates the two expressions for the energy (duality of energy of wave and corpuscle!) and obtains:

$$h\nu = m_e c^2 \quad \rightarrow \quad \nu = m_e c^2 / h$$

Now textbooks calculate the **phase velocity u of the electron wave** by:

$$u = \lambda\nu = (h/m_e v) (m_e c^2 / h) = c^2 / v !$$

If we calculate the phase velocity of the electron wave for an electron with $v = c/100$ we obtain $u = 100 c!$ For $v = c/1000$ we obtain $u = 1000 c$, and so on.

A textbook “explains”:

The phase velocity is greater than the velocity of light, because the particle velocity v is smaller than the velocity of light.

No comment necessary!

The cited derivation of QM has two premises:

1: $\lambda = h/m_e v$

2: $h\nu = m_e c^2$

Because the conclusion

$$u = \lambda\nu = c^2 / v$$

is false but premise # 1 ($\lambda \sim h/m_e v$) is empirically valid, premise # 2 must be wrong!

There is whether a rest energy $E = m_e c^2$ nor a electron-photon-energy $E = h\nu$ for all frequencies

Premise # 2 serves also for the calculation of photon mass: $m = h\nu/c^2$.

Wrong even for a non existing photon

Young’s two slits experiment no evidence for photons

Flying electrons produce accompanying waves in the aether. When the wave arrives at the screen the vibrating electrons and positrons of the aether cause clicks. Clicks are not due to photons!

The particle path of a “photon” was never observed. For instance Young’s two slit experiments delivers only interference patterns and clicks in the detector, no more! There is no particle trajectory between “photon” source and the screen. Clicks are not due to flying “photons”.

Clicks have two causes:

1: When electrons pass the slits, they collide with the screen.

2: Flying electrons produce accompanying waves in the aether.

When the wave arrives at the screen the vibrating electrons and positrons of the aether cause clicks.

Compton effect cannot be an empirical confirmation for the existence of a photon that carry an energy packet $E = h\nu$

Occurring electrons not from carbon target but released electrons from the dielectric electron-positron aether

Compton let a photon collide with an electron. QM claims that photons have mass $m_{ph} = h\nu/c^2$. Above it was shown that this is a flaw. Forget photon-electron collisions!

The orthodox interpretation of the Compton effect claims that the observed appearance of electrons are electrons from the carbon target.

Simhony interpreted the Anderson effect not as the creation of a electron-positron pair via the transformation of radiation energy of > 1.022 MeV into electron-positron mass. According to Simhony, the $E > 1.022$ MeV represent the binding energy of an electron-positron pair of the dielectric aether.

Therefore a radiation of 0,511 MeV can liberate an electron.

The Compton apparatus uses X-rays rays of this order of magnitude, for weaker radiation the effect does not occur!

This is an indication that the Compton electron is not an electron moved out of the carbon surface. To release these surface electrons one does not need a bombardment with X-rays. Tom Smid (<http://www.physicsmyths.org.uk/#compton>) argued against the alleged carbon electrons:

The usual interpretation of the Compton effect is however also flawed from a practical point of view: the also observed release of electrons from the target would charge up the latter until no electrons can escape any more.

Then recall the result of the Compton experiment for the increase of wavelength of the scattered radiation: $\Delta \lambda = \lambda_c(1 - \cos \delta) = c/\nu_c(1 - \cos \delta)$ where λ_c is the constant Compton wavelength $\lambda_c = h/m_e c$ and $\nu_c = c/\lambda_c = m_e c^2/h$ is the constant Compton frequency.

Because the Compton frequency is $\nu_c = c/\lambda_c = m_e c^2/h$ and $m_e c^2$ is the binding energy of an aether electron we can interpret the Compton frequency as a resonant frequency that liberates an electron out of the electron-positron dielectric aether.

What is the role of the carbon target? It acts like a catalyst. Obviously the release of electrons needs the reflection of the radiation at the carbon surface.

Recall the Raman anti-Stokes scattering effect, where the produced wave has a greater frequency as the incident wave. An energy balance according to the formula $E = h\nu$ is impossible.. The dimension of E would be 1/sec.

In natural laws the constants are constants of proportionality only that have no dimensions. The Planckian h has the dimension energy times time.

The argument is here that $E = h\nu$ holds for high energy waves only where the ratio of amplitude squared and wavelength is constant = h

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.

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http://lambda.gsfc.nasa.gov/product/cobe/about_firas.cfm

The COBE Far Infrared Absolute Spectrophotometer (FIRAS)

Rowe, Paul

An Unexpected Source of Clean Energy?

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Dollinger, Jürgen <http://magrathea.ulm.ccc.de/~juergen/physik/planck-wien.pdf>

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One can express Planck's formula either for frequencies or for wavelengths. But the maximum of the two curves is not at the same point! See Dollinger.

My explanation: Planck's formula does not represent radiation as a physical dependence for the range in consideration. Planck's formula is only an envelope that encloses different phases of radiation. γ -radiation for example we must treat as impact wave. For low frequencies we can use Rayleigh's formula. Because Planck's curves do not consider amplitudes they are at least incomplete...