Neutrinos and Complex Dimensions

Zygmunt Morawski

Abstract: The role of complex dimensions has been discussed. The profits of this assumption have been shown.

The majority of paradoxes connected with $v > c$ is implicated by the fact that we did not take under consideration the complex dimensions and so the possibility of passing to high or broad potential barrier.

It is necessary to take under consideration the additional dimensions and loops dimensions.

Even if neutrinos move with the velocity $v < c$, we should remember that the electromagnetic field is described both by the real and complex components.

$$E = E_0 e^{i\omega t} = E_0 cos\omega t + iE_0 sin\omega t$$

$$B = B_0 e^{i\omega t} = B_0 cos\omega t + iB_0 sin\omega t$$

We cannot reject the complex components in these equations only because we do not feel happy about it. Dirac was the first who realized it in the case of so called Pythagoras' theorem.

So, two photons exist: a real photon and a complex photon. The real one moves along the real axis and the second one moves along the complex axis.

If the reports confirm that neutrinos can move with the velocity $> c$, it will not mean the collapse of Relativity but the next corroboration of its splendid possibilities.

The Relativity does not forbid paradoxically the motion with the velocity $v > c$.

Either the neutrinos are machyons described by the dependence on mass

$$m = m_x + im_g$$

or they are not machyons but they interact with them.

In both cases the neutrinos can pass the velocity $v > c$ (c is the limit velocity called imprecisely the velocity of light).

If we put $m_{0\,photon} \neq 0$

then $m_{0\,photon} < m_{0\,neutrino}$ (because it is already proved that $m_{0\,neutrino} \neq 0$)

and $|c - v_{photon}| < |c - v_{neutrino}|$.

On the other hand

$$v_{neutrino} > c$$

Then m_0 of the neutrino must have the complex component.