

Proofs of Existence of Ether

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ABSTRACT: The theoretical proofs of the existence of the ether have been presented. The problem of the confining of quarks has been mentioned.

The fact that classical electrodynamics (which implicates Special Relativity) is a linear theory, is a proof that the ether exists. If the medium – in which two deflections are summed – doesn't exist, the electromagnetic wave would be a double “wire” of \vec{E} and \vec{B} perpendicular to each other.

Then two electromagnetic waves couldn't interpenetrate without any interaction.

A medium behaves like vacuum for the frequency fulfilling the condition [1]:

$$\varepsilon_L - \frac{nq^2}{m\omega^2} = 1 \quad (1)$$

So we have the Dirac unempty vacuum, which behaves as usual vacuum. The medium sets such a number of notions participating in the oscillation corresponding to every frequency so that the dependence (1) is realized.

$R_{ik} = 0$ doesn't mean that the space-time is flat because this case is realized when the stronger conditions are fulfilled [2]:

$$R_{iklm}^i = 0$$

It is the proof of the existence of the Dirac unempty vacuum because only something which has the unempty structure and more than one dimension can be curved.

The influence of the statical gravitational field is analogous to the influence of the medium, whose electric permeability and magnetic permeability are equal:

$\varepsilon = \mu = \frac{1}{\sqrt{\hbar}}$ [2]. It is the next proof of the existence of the Dirac unempty vacuum, simply speaking – the ether.

Every charge curves the space-time because every charge is equivalent to mass. The complex charge of quarks is difficult to be discovered. This complex charge can be an effect of the so strong curve of the space-time that the quarks can't be extracted as free particles.

However, the free character of the quarks inside the nucleon or hadron sack can be explained with the superconducting character of the quark gluon soup.

There isn't the discrepancy here because the equation of the superconductivity implicates just the potential arising at infinity and binding the quarks.

References:

[1] J. Ginter, "Wstęp do fizyki atomu, cząsteczki i ciała stałego"

[2] L. D. Landau, E. M. Lifshits, "Theory of Field"

[3] Z. Morawski, "Mechanism of Confinement of Quarks", this website