The velocity of the photons

"Quantum foam"

Independent research

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Abstract

The time delays in the arrival time of photons of high energy gamma-ray bursts relative to the smaller energy photon changed the notion of nature of light.

Several conclusions can be drawn from this observation.

This implies that the velocity of light is not constant.

We know that is the potential constant C ^ 2 that participate in the value of energy and it is constant for all forms of energy, means a constant velocity C.

The light, or photons, by their corpuscular nature should travel at velocity slightly less than C, because if it were otherwise, they would only energy, and lose their corpuscular nature and as such no longer be photons.

If it is the corpuscular nature of photons, or the existence of "rest mass" that prevents him from moving at the velocity C, so the higher its energy or its "rest mass", so its speed will be more distant from C.

This has caused discussion and controversy in the scientific community.

It is the search for an answer, to why this article.

Keywords: Velocity, photon, quantum foam, C, gamma-ray, energy.

Introduction

Let's start with a syllogism.

Today we know that light, the photons of different energies propagate at different speeds.

We also know that the energy of matter depends on the speed that C is constant for all masses. The speed of light, which is the photon, is not the same for all photons, so the speed of light is not constant.

If the speed of light is not constant for all photons, then the speed of light is not C because it is constant.

The velocity C

As we see below C is the speed of propagation of the radiation mass mC^2 and C is the speed involved in the energy of mass.

The light, or photons, by their corpuscular nature should travel at speeds slightly less than C, because if it were otherwise, they would only energy, and lose their corpuscular nature.

Experience has proved the different speeds at moving photons, a phenomenon known generically as "quantum foam".

Speed C is therefore the maximum speed allowed in the universe, in any direction.

Therefore, we are faced with a maximum universal escape potential.

As ρ_u- density potential energy at our local.

$$C^2 = 2\ G\ \rho_u$$

It is this potential that generates the energy of matter.

$$mC^2 = 2\ G\ m\ \rho_u$$

Photons

Photons we have the same principle.

On the surface the photon we find:

ρ_u - The density of potential energy of the local where the photon moves.

ρ_f - The energy density generated by photon.

The density of potential energy surface of the photon is given by:

$$\rho_o = \rho_u + \rho_f$$

$$mC^2 = 2\ G\ m\ \rho_o$$

But $\rho_o > \rho_u$, although it is possible that the reference of the photon, it is not possible in our reference that should be ρ_u.

$$mC^2 = 2\ G\ m\ (\rho_u + \rho_f)$$

As such we undertake a redistribution of changing frames of reference not to violate the principles of our reference:

$$\rho_u = (\rho_u + \rho_f)\frac{\rho_u}{\rho_u + \rho_f}$$

$$mC^2 = 2\ G\ m\ (\rho_u + \rho_f)\frac{\rho_u}{\rho_u + \rho_f}$$

$$C^2 = 2\ G\ \rho_u \frac{\rho_u}{\rho_u + \rho_f} + 2\ G\ \rho_f \frac{\rho_u}{\rho_u + \rho_f}$$

$$C^2 = C^2 \frac{\rho_u}{\rho_u + \rho_f} + C^2 \frac{\rho_f}{\rho_u + \rho_f}$$

There are therefore two parts of a different nature in the creation of photon energy.

$m\ C^2 \frac{\rho_u}{\rho_u + \rho_f}$ - The kinetic energy induced by the universal potential energy, causing the movement of photons, i.e. their energy of motion.

$m\ C^2 \frac{\rho_f}{\rho_u + \rho_f}$ – The intrinsic energy to photon energy density induced by the potential energy of the photon itself.

The motion of photons is generated solely by the density of potential energy in the universal local he goes through and not by its own potential energy.

We can then represent the photon energy in the form:

The kinetic energy of the photon is given by (mV^2).

$$mC^2 = m\ V^2 + 2\ G\ m\ \rho_f \frac{\rho_u}{\rho_u + \rho_f}$$

$$C^2 = C^2 \frac{\rho_u}{\rho_u + \rho_f} + C^2 \frac{\rho_f}{\rho_u + \rho_f}$$

$$C^2 = V^2 + C^2 \frac{\rho_f}{\rho_u + \rho_f}$$

The speed of displacement of the photon:

The speed of displacement of the photon is given by.

$$V^2 = C^2 \frac{\rho_u}{\rho_u + \rho_f}$$

$$\mathrm{V} = C \sqrt{\frac{\rho_u}{\rho_u + \rho_f}}$$

The deviation of the speed of photons relative to C, dV is given by:

$$C^2 = V^2 + dV^2$$

$$dV^2 = C^2 - V^2$$

$$dV^2 = C^2 - C^2 \frac{\rho_u}{\rho_u + \rho_f}$$

$$dV^2 = C^2 (1 - \frac{\rho_u}{\rho_u + \rho_f})$$

$$dV^2 = C^2 (\frac{\rho_f}{\rho_u + \rho_f})$$

$$dV = C \sqrt{\frac{\rho_f}{\rho_u + \rho_f}}$$

Now, we know the speed of photons.

Increased energy density of photons ($\frac{m}{r}$), lead to a slower velocity photons.

Actually C is the speed of propagation of radiation mass ($\frac{m}{r}$) and not the speed of propagation of photons.

Photons of very low energy move very close to the speed C.

The photon need, universal density of potential energy to your motion.

Energy of particles

As we said before the energy of particles, such as the photon, is given by:

ρ_m - Density of potential energy of matter.

$$mC^2 = 2\ G\ m\ \rho_u \frac{\rho_u}{\rho_u + \rho_m} + 2\ G\ m\ \rho_m \frac{\rho_u}{\rho_u + \rho_m}$$

$$mC^2 = mC^2 \frac{\rho_u}{\rho_u + \rho_m} + mC^2 \frac{\rho_m}{\rho_u + \rho_m}$$

That is the energy of matter is made up of two portions of different nature.

- $mC^2 \frac{\rho_u}{\rho_u + \rho_m}$ The potential kinetic energy given by the density of potential energy universal.

- $mC^2 \frac{\rho_m}{\rho_u + \rho_m}$ The intrinsic energy to matter itself

These are the readings on our referential.

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