The velocity of the photons "Quantum foam"

Independent research

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Abstract

It is common knowledge that the most energetic photons are moving at a slower speed than the less energetic photons.

It is the search for an answer why this article.

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Introduction

Today we know that light, or photons of different energies propagate at different speeds. We also know that energy of matter depends on the speed that C is constant for all matter. 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. What is now considered the speed of light was based on the experience of 1976 made by the English group, Woods and others, in which he concludes that the speed of light would be 299.792.458.8 ± 0.2

m/s. This experiment was performed from unknown photon energy. With another photon energy we have reached different value for the speed of light. Later the speed of light was fixed to the value of 299,792,458 m / s.

Today it is possible to find particles / photons moving at higher velocity than the "speed of light" set, we can for this purpose, using an lower energy particles that was used in the experiment. When Einstein set the speed of light through the expression:

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

He is not to define the speed of light but the maximum universal escape potential, maximum speed limit of our universe but not de velocity of light.

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 matter, and that is the speed limit in our universe.

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

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 as references

Photons as any other particle with mass and radius have their own escape potential:

U_{ff} – Escape potential of photon.

m – Mass of photon

R – Radius of photon.

$$U_{ff} = 2\ G\ \frac{m}{R}$$

ρ_f - $\frac{m}{R}$ Density of potential energy of photon itself.

$$U_{ff} = 2\ G\ \rho_f$$

$$G = \frac{C^2}{2\ \rho_{u'}}$$

On the surface of the photons, we will find in addition to the density of potential energy of the photon itself, ρ_f we find the universal density of potential energy density ρ_u

$$\rho_{u'} = \rho_u + \rho_f$$

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

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

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

The speed of displacement of the photon:

The potential of displacement of the photon, must be:

$$V^2 = C^2 - U_{ff}$$

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

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

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

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

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

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

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

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

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

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

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

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

Now, we know the speed of photons.

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

Actually C is the speed of propagation of radiation mass $\left(\frac{m}{r}\right)$ 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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