New Discovery of Smallest Particle in the Universe, One Billionth, Billionth, Billionth of a Photon (Cidtonium)

Gh. Saleh
Saleh Research Centre, Netherlands

Whenever we look at the beautiful sky of night, we see luminous and brilliant points that are flashing, and if we focus on each of them with a strong telescope and observe carefully, we will perceive that any point consists of tens or hundreds of galaxies, in which in any galaxy there are billions of stars and planets. It can be said that large worlds can exist in a point that is tiny from the observer's point of view.If we reach the dimensions of about $10^{-50}\ m$ and enter a photon which is the smallest, fastest, and lightest object in the world, a photon can be perceived like a solar system. In fact, everything that seemed tiny can be a big world.

As you know the unit of length is calculated in light years in skies, and in meters and kilometers on the ground. According to the Big Bang phenomenon, which is the beginning of the universe, its calculations are as follows:

$m_T = 10^{53}\ kg$

$m_p = 1.67 \times 10^{-35}\ kg$

$r_p = 1.2 \times 10^{-17}\ m$

$n = \dfrac{m_T}{m_p} = \dfrac{10^{53}}{1.67 \times 10^{-35}} \Rightarrow n = 6 \times 10^{87}$

$V_p = \dfrac{4}{3}\pi {r_p}^3 = \dfrac{4}{3}\pi(1.2 \times 10^{-17})^3 \Rightarrow V_p = 7.23 \times 10^{-51}\ m^3$

$\rho_p = \dfrac{m_p}{V_p} = \dfrac{1.67 \times 10^{-35}}{7.23 \times 10^{-51}} \Rightarrow \rho_p = 2.31 \times 10^{15}\ {kg}/{m^3}$

$V_{BB} = nV_p = 6 \times 10^{87} \times 7.23 \times 10^{-51} \Rightarrow V_{BB} = 4.33 \times 10^{37} m^3$

$V_{BB} = \dfrac{4}{3}\pi {r_{BB}}^3 \Rightarrow {r_{BB}}^3 = \dfrac{4.33 \times 10^{37}}{\frac{4}{3}\pi} \Rightarrow r_{BB} = 2.18 \times 10^{12} m$

$\rho_{BB} = \dfrac{m_T}{V_{BB}} = \dfrac{10^{53}}{4.33 \times 10^{37}} \Rightarrow \rho_{BB} = 2.31 \times 10^{15}\ {kg}/{m^3}$

Where m_T is the total mass of universe, n is the number of photon, $m_p, r_p, V_p\ and\ \rho_p$ are the mass, radius, volume and density of the photon and $r_{BB}, V_{BB} and\ \rho_{BB}$ are the radius, volume and density of the Big Bang sphere.

According to the data, it can be said that if the existing sphere at the moment of the Big Bang was made of photons, by such a volume and mass, it is by far the information obtained for the Big Bang. In other words, the photon is not the desired particle that could have formed the Big Bang sphere.

So it is possible to define a sub-photon which is:

One thousandth $(r_{p_1} = r_p \times 10^{-3} = 1.2 \times 10^{-20}\ m)$,

One millionth $(r_{p_2} = r_p \times 10^{-6} = 1.2 \times 10^{-23}\ m)$, or

One billionth $(r_{p_3} = r_p \times 10^{-9} = 1.2 \times 10^{-26}\ m)$

of a photon in terms of radius.

According to the calculations and definitions, it can be proved that there is a particle whose radius is one billionth of a photon's radius and its volume is 10^{-27} of the photon's volume.