Review Paper

Concept of New Particle Smaller Than Higgs Boson

M. P. Chaudhary

Former Researcher, Department of Mathematics, University of Delhi, Delhi 110007, India
e-mail address:dr.m.p.chaudhary@gmail.com

The mass of the Higgs boson or Higgs particle is of the order of 10^{-25}kg. The purpose of this artice is to introduce a concept of new particle (namely C-Particle), which mass is the order of 10^{-50}kg.

Recently in the scientific development, on the 04 July 2012, through the two main experiments namely ATLAS (which is a collaboration of physicists, engineers, technicians, students and support staff from around the world) and CMS (Compact Muon Solenoid) at the LHC (Large Hadron Collider) in CERN (The European Organization for Nuclear Research, established in 1954, on the France–Switzerland border) both reported independently and confirmed the existance of a previsouly unknow particle (now it is known as Higgs boson or higgs particle, the idea was initially proposed in 1964) which mass is about $125\text{GeV}/c^2$ (equivalent to 133 proton masses or around 10^{-25}kg). The Higgs boson is also known as God particle because it said to be what caused the "Big Bang" that created our universe many years ago.

Current scientific theory holds that all particles exhibit a wave nature and vice versa. It is experimetaly verified that the frequencies of weves responsible for pain in human body mostly at 7 cycle / second, which we realize through neuronal oscillations[1–2]. Here, we are assuming these waves are also having particle nature and considering such particles are C-Particles. As we are aware that two equations $E = mc^2$ and $E = h\nu$ are always true for explaining the properties of any particle. Here, we are presenting our calculation for mass of C-Particle $M_{(C-Particle)}$, as:

$$E = M_{(C-Particle)}c^2 = h\nu$$

or

$$M_{(C-Particle)}(3 \times 10^{10} cm/s)^2 = (6.625 \times 10^{-27} erg.s) \times 7 cycle/s$$

or

$$M_{(C-Particle)}(9 \times 10^{20} cm^2/s^2) = (6.625 \times 10^{-27} \times 7 erg) = 6.625 \times 7 \times 10^{27} g.cm^2/s^2$$

or

$$M_{(C-Particle)} = \frac{(6.625 \times 7 \times 10^{-27} g.cm^2/s^2)}{(9 \times 10^{20} cm^2/s^2)} = \frac{(6.625 \times 7 \times 10^{-47})}{9} g$$

or

$$M_{(C-Particle)} = 5.1527777778 \times 10^{-50} Kg$$

Also, we are aware about the mass of Higgs boson as

$$M_{Higgs} = 125 Gev/c^2 = 125 \times 1.60217663 \times 10^{-10} Joules/c^2$$

or

$$M_{Higgs} = 125 Gev/c^2 = 125 \times 1.60217663 \times 10^{-10} Joules/c^2$$

or

$$M_{Higgs} = 125 \times 1.60217663 \times 10^{-10} \times 1.11265005 \times 10^{-17} Kg$$

or

$$M_{Higgs} = 2.2283273843 \times 10^{-25} Kg$$

Hence, we have

$$\frac{M_{(C-Particle)}}{M_{Higgs}} = \frac{5.1527777778 \times 10^{-50} Kg}{2.2283273843 \times 10^{-25} Kg} = 2.3123970984 \times 10^{-25}.$$

References

[1] M. Ploner, C. Sorg, J. Gross, Brain Rhythms of Pain. *Trends Cogn Sci* **21**, 100–110(2017).

[2] O.M. Bazanova, D. Vernon, Interpreting EEG alpha activity. *Neurosci Biobehav Rev* **44**, 94-110(2014).