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# The Theory of the Universe

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## Introduction

The question "How to calculate the dimensions of the universe?" has intrigued astronomers for centuries. The discovery of light remnants from the big bang not only provided supportive evidence for the big bang theory, but also allowed scientists to calculate the age of the universe. The big bang is the currently accepted theory of how the universe began and the beginning of time as we know it.

Scientists often disagreed and theories conflicted about how to calculate the dimensions of the universe, and the old disagreement was about whether the universe had a beginning or eternal? But these theories remained within the limits of philosophical perceptions until 1916 when the scientist Albert Einstein solved the equations of his general theory of relativity and discovered that the results confirm to him that the universe is expanding, and the scientist Alexander Friedman confirmed to him in 1922 the validity of these results that the universe is expanding and not static, and in the thirties it was proposed The Big Bang theory, which predicts that the universe arose from the explosion of a very precise point that contained all the matter and energy of the universe, and it exploded violently, and over billions of years, the matter of the universe began to expand and form galaxies, stars, and all cosmic bodies.

To date, there is no scientific data to determine the properties of the universe. Some theorists lean toward the infinite universe, others toward a finite but infinite universe. An example of a finite and infinite universe is space closing in on itself. If we went straight into this universe, after a very long journey, we could very soon return to our starting point.

Cosmology papers often use the term "universe" in the sense of "the visible universe". Humans live at the center of the visible universe. The paradox is solved simply by taking into account the fact that light travels at the same speed in all directions and that its speed is not infinite: looking into distance is like looking at a shift event in the past from the time the light had to travel the distance separating the observer from the observed phenomenon. However, it is not possible for us to see any phenomenon from before the Big Bang. Thus, the boundary of the visible universe corresponds to the farthest place in the universe from which light has taken less than 13.78 billion years to reach the observer, which inevitably places him at the center of his visible universe. The first light emitted by the Big Bang 13.78 billion years ago is called the "cosmic horizon".

However, it is possible that the visible universe is just a small part of a much larger real universe.

Despite these differences, scientists agree that the universe is about 13.8 billion years old.

### A-Physics Equations and Formulas;

$$E = mc^2.$$

$$A_{current} = \frac{c^2 \times \sqrt{m}}{t}.$$

$$V_{tension} = \sqrt{m}.$$

$$W_{Power} = \frac{c^2 \times m}{t} = \frac{E}{t}.$$

Elementary charge: $e = 1.602176634 \times 10^{-19}$ C

$$e = \sqrt{m} \times c^2$$

G: the gravitational constant = $6.67408 \times 10^{-11}$ $m^3$ $Kg^{-1}$ $S^{-2}$

C; Speed of light
The fine structure constant $\alpha = 7{,}2973525664 \times 10^{-3}$
The Dirac's constant $\hbar = 1{,}054571818 \times 10^{-34}$ J.s
Vacuum permittivity

$\varepsilon_0 = 8.85418781762039 \times 10^{-12}$ $Kg^{-1}$ $m^{-3}$ $s^4$ $A^2$

### B-The Universe Dimensions: (End of the Triassic Era about 199 Million Years Ago)

The Triassic–Jurassic extinction event marks the boundary between the Triassic and Jurassic periods, and is one of the major extinction events of the Phanerozoic eon, profoundly affecting life on land and in the oceans. In the seas, a whole class and 23–34% of marine genera disappeared [1-4].

$$\text{Time} = \frac{\alpha \times c^2 \times \hbar}{e^2 \times (2\pi)} = 4{,}2942106 \times 10^{17} \text{ Seconds.}$$

$$\text{Ray} = \frac{\alpha \times c^3 \times \hbar}{e^2 \times (2\pi)} = 1{,}2882632 \times 10^{26} \text{ meters.}$$

$$\text{Mass} = \frac{\alpha\times c^5\times\hbar}{e^2\ \times(2\pi)\times G} = 1,7372235\times 10^{53}\text{Kg.}$$

$$\text{Energy}_{\text{ cosmic void}} = \frac{e^2\times(2\pi)}{\alpha\times c^2} = 2{,}455799\times 10^{-52}\text{Jouls .}$$

$$\text{Energy}_{\text{The horizon ofa black hole}} = \text{Planck energy}$$

$$\text{Energy}_{\text{ the horizon of the universe}} = \frac{\alpha\times c^7\times\hbar}{e^2\ \times(2\pi)\times G} = 1,5635012\times 10^{70}\text{Jouls}$$

$$\text{Force}_{\text{cosmic void}} = \frac{e^2\times(2\pi)}{\alpha\times\sqrt{G\times\hbar\times c}} = 1{,}521041\times 10^{-17}\ \text{N.}$$

$$\text{Force}_{\text{The horizon ofa black hole}} = \text{Planck force}$$

$$\text{Force}_{\text{the horizon of the universe}} = \frac{\alpha\times c^9}{e^2\ \times(2\pi)\times G}\times\sqrt{\frac{\hbar}{G\times c}} = 9.683811\times 10^{104}\ \text{N.}$$

$$\text{power}_{\text{cosmic void}} = \frac{e^2\times(2\pi)}{\alpha\times\sqrt{\frac{G\times\hbar}{c}}} = 4{,}56312293\times\ 10^{-9}\text{W.}$$

$$\text{power}_{\text{The horizon ofa black hole}} = \text{Planck power}$$

$$\text{power}_{\text{the horizon of the universe}} = \frac{\alpha\times c^9}{e^2\ \times(2\pi)\times G}\times\sqrt{\frac{\hbar\times c}{G}} = 2.905143\times 10^{113}\text{w.}$$

$$\text{Density}_{\text{cosmic void}} = \frac{4\times\pi^2\times e^4}{\alpha^2\times c^4\times\hbar^2\times G} = 8.1253467\times 10^{-26}\ \text{Kg m}^{-3}$$

$$\text{Density}_{\text{The horizon ofa black hole}} = \frac{e^2\times(2\pi)}{\alpha\times\hbar\times G}\times\sqrt{\frac{c}{G\times\hbar}} = 6.4832773\times 10^{35}\ \text{Kg m}^{-3}$$

$$\text{Density}_{\text{the horizon of the universe}} = \text{Planck density}$$

$$\text{Pressure}_{\text{ cosmic void}} = \frac{4\times\pi^2\times e^4}{\alpha^2\times c^2\times\hbar^2\times G} = 7.31281207\times 10^{-9}\ \text{Pa}$$

$$\text{Pressure}_{\text{ The horizon ofa black hole}} = \frac{e^2\times(2\pi)}{\alpha\times\sqrt{\frac{G^3\hbar^3}{c^5}}} = 5{,}8349496\times\ 10^{52}\text{Pa .}$$

$$\text{Pressure}_{\text{the horizon of the universe}} = \text{Planck pressure}$$

$$\text{charge}_{\text{ cosmic void}} = \sqrt{\frac{e^2}{\alpha}} = \text{Planck'charge}$$

$$\text{charge}_{\text{ The horizon ofa black hole}} = \frac{c^2\times\varepsilon_0}{\sqrt{\frac{\pi\times G}{\varepsilon_0}}}\times\left(\frac{\hbar\times\alpha\times c^2}{e^2}\right)^2 = 1,\ 1921239\times 10^{42}\text{C}$$

$$\text{charge}_{\text{The horizon of universe}} = \left(\frac{c^3\times\alpha}{e^2}\right)^3 \times \sqrt{2\times\left(\frac{c\times\varepsilon_0}{2\pi}\right)^3 \times \frac{\hbar^5}{G^2}} = 9.512049\times 10^{102}\text{C}$$

$$\text{Current}_{\text{cosmic void}} = \frac{4\times\pi\times e^2}{\alpha} \times \sqrt{\frac{\pi\times\varepsilon_0}{c^3\times\hbar}} = 4.3691239\times 10^{-36}\text{A}$$

$$\text{current}_{\text{The horizon ofa black hole}} = \text{planck}'\text{current}$$

$$\text{current}_{\text{The horizon ofa black hole}} = \frac{\alpha\times c^7}{e^2\ \times G} \times \sqrt{\frac{c\times\hbar\times\varepsilon_0}{\pi}} = 2{,}7816344\times 10^{86}\text{A}$$

$$\text{tension}_{\text{cosmic void}} = \frac{e^2}{\alpha} \times \sqrt{\frac{\pi}{\varepsilon_0\times c^5\times\hbar}} = 1.3089251\times 10^{-34}\text{V}$$

$$\text{tension}_{\text{The horizon ofa black hole}} = \text{planck}'\text{s tension}$$

$$\text{tension}_{\text{The horizon of universe}} = \frac{\alpha\times c^8}{e^2\times(4\pi)\times G} \times \sqrt{\frac{\hbar}{\pi\times c^3\times\varepsilon_0}} = 8{,}3333612\times 10^{87}\text{V}$$

$$\text{Momentum}_{\text{cosmic void}} = \frac{2\times\pi\times e^2}{\alpha\times c^3} = 8{,}1859966\times 10^{-61}\text{N.s}$$

$$\text{Momentum}_{\text{the horison of black hole}} = \text{planck}'\text{s momentium}$$

$$\text{Momentum}_{\text{the horison of universe}} = \frac{\alpha\times c^6\times\hbar}{e^2\ \times(2\pi)\times G} = 5.2116706\times 10^{61}\text{N.s}$$

$$\text{acceleration}_{\text{cosmic void}} = \frac{2\times\pi\times e^2}{\alpha\times c\times\hbar} = 6{,}9861501\times 10^{-10}\text{ms}^{-2}$$

$$\text{acceleration}_{\text{the horizon of black hole}} = \text{Planck accelerations}$$

$$\text{acceleration}_{\text{the horison of universe}} = \frac{\alpha\times c^8}{2\times\pi\times e^2\times G} = 4.44778\times 10^{112}\text{ms}^{-2}$$

$$\text{frequency}_{\text{cosmic void}} = \frac{2\times\pi\times e^2}{\alpha\times c^2\times\hbar} = 2{,}\ 3287167\times 10^{-18}\text{Hertz}$$

$$\text{frequency}_{\text{the horizon of the black hole}} = \text{Planck frequency}$$

$$\text{frequency}_{\text{the horison of universe}} = \frac{\alpha \times c^7}{2 \times \pi \times e^2 \times G} = 1.482593 \times 10^{104}\,\text{Hertz}$$

$$\text{Linear density}_{\text{cosmic void}} = \frac{2 \times \pi \times e^2}{\alpha} \times \sqrt{\frac{1}{c^5 \times G \times \hbar}} = 1{,}6902247 \times 10^{-34}\,\text{Kg m}^{-1}$$

$$\text{Linear density}_{\text{the horison of black hole}} = \text{planck's linear density}$$

$$\text{Linear density} = \frac{\alpha \times c^6}{e^2 \times (2\pi) \times G} \times \sqrt{\frac{\hbar \times c}{G}} = 1.0728984 \times 10^{88}\,\text{Kg m}^{-1}$$

$$\text{Mechanical impedance}_{\text{cosmic void}} = \frac{2 \times \pi \times e^2}{\alpha} \times \sqrt{\frac{1}{c^3 \times G \times \hbar}} = 5.067147 \times 10^{-26}\ \text{Kg s}^{-1}$$

$$\text{Mechanical impedance}_{\text{the horison of black hole}} = \text{planck's Mechanical impedance}$$

$$\text{Mechanical impedance}_{\text{the horison of universe}} = \frac{\alpha \times c^7}{e^2 \times (2\pi) \times G} \times \sqrt{\frac{\hbar \times c}{G}} = 3.2164563 \times 10^{96}\ \text{Kg s}^{-1}$$

**C-Redefinition of the SI Base Units**

In 2019, four of the seven SI base units specified in the International System of Quantities were redefined in terms of natural physical constants, Effective 20 May 2019, the 144th anniversary of the Metre Convention, the kilogram, ampere, Kelvin, and mole are now defined by setting exact numerical values, when expressed in SI units, for the Planck constant , the elementary electric charge , the Boltzmann constant , and the Avogadro constant , respectively. The second, metre, and candela had previously been redefined using physical constants. The four new definitions aimed to improve the SI without changing the value of any units, ensuring continuity with existing measurements. In November 2018, the 26th General Conference on Weights and Measures (CGPM) unanimously approved these changes, which the International Committee for Weights and Measures (CIPM) had proposed earlier that year after determining that previously agreed conditions for the change had been met. These conditions were satisfied by a series of experiments that measured the constants to high accuracy relative to the old SI definitions, and were the culmination of decades of research [5-8].

As of May 20, 2019, this day will be the reference for calculating the age of the universe

**E-The Natural Physical Constants (May 20, 2019);**
As of May 20, 2019, the SI base units defined in the International System of Quantities have been redefined in terms of natural physical constants,

Elementary charge: $e=1.602176634 \times 10^{-19}$ C
G: the gravitational constant = $6.67408 \times 10^{-11}\ m^3\ Kg^{-1}\ S^{-2}$
C: 300000000 m⁄s (in End of the Triassic era)

$C = \frac{e^2}{\alpha \times 4 \times \pi \times \hbar \times \varepsilon_0}$ =299792457,928(in the modern era)

The fine structure constant $\alpha$ =7,2973525664 $\times 10^{-3}$
The Dirac's constant $\hbar$=1,054571818 $\times 10^{-34}$ J.s

Vacuum permittivity: $\varepsilon_0$= 8.85418781762039$\times 10^{-12}\ Kg^{-1}\ m^{-3}\ s^4\ A^2$

f-The age of the universe (May 20, 2019);

On this day, the age of the universe is:

$$\frac{\alpha \times ç}{4 \times \pi^2 \times \varepsilon_0} = \frac{e^2}{16 \times \pi^3 \times \hbar \times \varepsilon_0^2} = 6{,}2586053 \times 10^{15}s$$

=198328665,11years after the Triassic- Jurassic extinction,

$$\left(\frac{\alpha \times c^2 \times \hbar}{e^2 \times (2\pi)}\right) + \left(\frac{\alpha \times ç}{4 \times \pi^2 \times \varepsilon_0}\right) = \frac{\alpha \times c^2 \times \hbar}{e^2 \times (2\pi) \times \sin(80{,}2767)} = 4{,}3567967 \times 10^{17}$$

=13806233487,7 years after big-bang

(80,2767 °=photon magnetic tilt)

g-The universe dimensions (May 20, 2019);

$$\text{Time} = \left(\frac{\alpha \times c^2 \times \hbar}{e^2 \times (2\pi)}\right) + \left(\frac{\alpha \times ç}{4 \times \pi^2 \times \varepsilon_0}\right) = \left(\frac{\alpha \times c^2 \times \hbar}{e^2 \times (2\pi) \times \sin(80{,}2767)}\right) = 4{,}3567967 \times 10^{17} \text{ Seconds.}$$

$$\text{Ray}= \left(\frac{\alpha \times c^3 \times \hbar}{e^2 \times (2\pi)}\right) + \left(\frac{\alpha \times ç^2}{4 \times \pi^2 \times \varepsilon_0}\right) = \left(\frac{\alpha \times c^3 \times \hbar}{e^2 \times (2\pi) \times \sin(80{,}2767)}\right) = 1{,}307026 \times 10^{26} \text{ meters.}$$

$$\text{Mass} = \left(\frac{\alpha \times c^5 \times \hbar}{e^2 \times (2\pi) \times G}\right) + \left(\frac{\alpha \times ç^4}{4 \times \pi^2 \times \varepsilon_0 \times G}\right) = \left(\frac{\alpha \times c^5 \times \hbar}{e^2 \times (2\pi) \times G \times \sin(80{,}2767)}\right) = 1{,}7624902 \times 10^{53}\text{Kg.}$$

$$\text{Energy}_{\text{cosmic void}} = \left(\frac{e^2 \times (2\pi)}{\alpha \times c^2}\right) - \left(\frac{e^4}{\alpha \times \hbar \times \varepsilon_0 \times ç^3}\right) = \left(\frac{e^2 \times (2\pi) \times \sin(80{,}2767)}{\alpha \times c^2}\right) = 2{,}4199077 \times 10^{-52}\text{Jouls .}$$

$$\text{Energy}_{\text{The horizon ofa black hole}} = \left(\sqrt{\frac{c^5 \times \hbar}{G}}\right) - \left(\frac{e^2}{2 \times \pi \times \varepsilon_0} \times \sqrt{\frac{ç^3}{\hbar \times G}}\right) = \left(\sqrt{\frac{c^5 \times \hbar}{G}} \times \sin(80{,}2767)\right) = 1{,}9309522 \times 10^9 \text{j}$$

$$\text{Energy}_{\text{the horizon of the universe}} = \left(\frac{\alpha \times c^7 \times \hbar}{e^2 \times (2\pi) \times G}\right) + \left(\frac{\alpha \times ç^6}{4 \times \pi^2 \times \varepsilon_0 \times G}\right) = \left(\frac{\alpha \times c^7 \times \hbar}{e^2 \times (2\pi) \times G \times \sin(80{,}2767)}\right) = 1{,}5407926 \times 10^{70}\text{Jouls}$$

$$\text{Force}_{\text{cosmic void}} = \left(\frac{e^2 \times (2\pi)}{\alpha \times \sqrt{G \times \hbar \times c}}\right) - \left(\frac{e^4}{\alpha \times \varepsilon_0 \times \sqrt{G \times \hbar^3 \times \varsigma^3}}\right) = 1{,}4988342 \times 10^{-17}\ \text{N}.$$

$$\text{Force}_{\text{The horizon ofa black hole}} = \left(\frac{c^4}{G}\right) - \left(\frac{e^2 \times \varsigma^3}{2 \times \pi \times \hbar \times\times \varepsilon_0 \times G}\right) = 1{,}1959865 \times 10^{44}\ \text{N}$$

$$\text{Force}_{\text{the horizon of the universe}} = \left(\frac{\alpha \times c^9}{e^2\ \times (2\pi) \times G} \times \sqrt{\frac{\hbar}{G \times c}}\right) + \left(\frac{\alpha \times \varsigma^7}{4 \times \pi^2 \times \varepsilon_0} \times \sqrt{\frac{\varsigma}{G^3 \times \hbar}}\right) = 9.8244314 \times 10^{104}\ \text{N}.$$

$$\text{power}_{\text{cosmic void}} = \left(\frac{e^2 \times (2\pi)}{\alpha \times \sqrt{\frac{G \times \hbar}{c}}}\right) - \left(\frac{e^4}{\alpha \times \varepsilon_0 \times \sqrt{G \times \hbar^3 \times \varsigma}}\right) = 4{,}49654854 \times\ 10^{-9}\text{W}.$$

$$\text{power}_{\text{The horizon ofa black hole}} = \left(\frac{c^5}{G}\right) - \left(\frac{e^2 \times \varsigma^4}{2 \times \pi \times \hbar \times\times \varepsilon_0 \times G}\right) = 3{,}5879962 \times\ 10^{52}\text{W}$$

$$\text{power}_{\text{the horizon of the universe}} = \left(\frac{\alpha \times c^9}{e^2\ \times (2\pi) \times G} \times \sqrt{\frac{\hbar \times c}{G}}\right) + \left(\frac{\alpha \times \varsigma^8}{4 \times \pi^2 \times \varepsilon_0} \times \sqrt{\frac{\varsigma}{G^3 \times \hbar}}\right) = 2.947265 \times 10^{113}\text{w}.$$

$$\text{Density}_{\text{cosmic void}} = \left(\frac{4 \times \pi^2 \times e^4}{\alpha^2 \times c^4 \times \hbar^2 \times G}\right) - \left(\frac{e^6 \times (2\pi)}{\alpha^2 \times \varsigma^5 \times \hbar^3 \times G \times \varepsilon_0}\right) = 8.0064309 \times 10^{-26}\ \text{Kg m}^{-3}$$

$$\text{Density}_{\text{The horizon ofa black hole}} = \left(\frac{e^2 \times (2\pi)}{\alpha \times \hbar \times G} \times \sqrt{\frac{c}{G \times \hbar}}\right) - \left(\frac{e^4}{\alpha \times \varepsilon_0 \times \sqrt{\hbar^5 \times G^3 \times \varsigma}}\right) = 6.3886885 \times 10^{35}\ \text{Kg m}^{-3}$$

$$\text{Density}_{\text{the horizon of the universe}} = \left(\frac{c^5}{\hbar \times G^2}\right) + \left(\frac{e^2 \times \varsigma^4}{2\pi \times \hbar^2 \times G^2 \times \varepsilon_0}\right) = 5{,}2482958 \times 10^{96}\ \text{Kg m}^{-3}$$

$$\text{Pressure}_{\text{ cosmic void}} = \left(\frac{4 \times \pi^2 \times e^4}{\alpha^2 \times c^2 \times \hbar^2 \times G}\right) - \left(\frac{e^6 \times (2\pi)}{\alpha^2 \times \varsigma^3 \times \hbar^3 \times G \times \varepsilon_0}\right) = 7.19582126 \times 10^{-9}\ \text{Pa}$$

$$\text{Pressure}_{\text{ The horizon ofa black hole}} = \left(\frac{e^2 \times (2\pi)}{\alpha \times \sqrt{\frac{G^3 \hbar^3}{c^5}}}\right) - \left(\frac{e^4}{\alpha \times \varepsilon_0} \times \sqrt{\frac{\varsigma^3}{\hbar^5 \times G^3}}\right) = 5{,}741867 \times\ 10^{52}\text{Pa}.$$

$$\text{Pressure}_{\text{the horizon of the universe}} = \left(\frac{c^7}{\hbar \times G^2}\right) + \left(\frac{e^2 \times \varsigma^6}{2\pi \times \hbar^2 \times G^2 \times \varepsilon_0}\right) = 4{,}716933 \times\ 10^{113}\text{Pa}.$$

$$\text{charge}_{\text{ cosmic void}} = \left(\sqrt{c \times 4\pi \times \hbar \times \varepsilon_0}\right) - \left(\frac{e^2}{\sqrt{\varsigma \times \pi \times \hbar \times \varepsilon_0}}\right) = 1{,}847627 \times 10^{-18}\text{c}$$

$$\text{charge}_{\text{ The horizon ofa black hole}} = \left(\frac{c^2 \times \varepsilon_0}{\sqrt{\frac{\pi \times G}{\varepsilon_0}}} \times \left(\frac{\hbar \times \alpha \times c^2}{e^2}\right)^2\right) - \left(\frac{\alpha^2 \times \varsigma^5 \times \hbar}{2\pi \times e^2} \times \sqrt{\frac{\varepsilon_0}{\pi \times G}}\right)$$

$= 1,\ 1747973\times 10^{42}\mathrm{c}$

$$\text{charge}_{\text{The horizon of universe}} = \left(\left(\frac{c^3\times\alpha}{e^2}\right)^3 \times \sqrt{2\times\left(\frac{c\times\varepsilon_0}{2\pi}\right)^3\times\frac{\hbar^5}{G^2}}\right) + \left(\frac{\alpha^3\times\varsigma^9}{4\times\pi^2\times G\times e^4}\times\sqrt{\frac{\varepsilon_0\times\varsigma\times\hbar^3}{\pi}}\right)$$

$=9.649869\times 10^{102}\mathrm{C}$

$$\text{Current}_{\text{cosmic void}} = \left(\frac{4\times\pi\times e^2}{\alpha}\times\sqrt{\frac{\pi\times\varepsilon_0}{c^3\times\hbar}}\right) - \left(\frac{2\times e^4}{\alpha\times\varsigma^2}\times\sqrt{\frac{\pi}{\varsigma\times\hbar^3\times\varepsilon_0}}\right) = 4.3052916\times 10^{-36}\mathrm{A}$$

$$\text{current}_{\text{The horizon ofa black hole}} = \left(\sqrt{\frac{c^6\times 4\pi\times\varepsilon_0}{G}}\right) - \left(\frac{e^2\times\varsigma^2}{\hbar\times\sqrt{G\times\varepsilon_0\times\pi}}\right) = 3{,}4353864\times 10^{25}\mathrm{A}$$

$$\text{current}_{\text{The horizon ofa black hole}} = \left(\frac{\alpha\times c^7}{e^2\ \times G}\times\sqrt{\frac{c\times\hbar\times\varepsilon_0}{\pi}}\right) + \left(\frac{\alpha\times\varsigma^6}{2\times\pi^2\times G}\times\sqrt{\frac{\pi\times\varsigma}{\hbar\times\varepsilon_0}}\right) = 2{,}8220214\times 10^{86}\mathrm{A}$$

$$\text{tension}_{\text{cosmic void}} = \left(\frac{e^2}{\alpha}\times\sqrt{\frac{\pi}{\varepsilon_0\times c^5\times\hbar}}\right) - \left(\frac{e^4}{2\times\alpha}\times\sqrt{\frac{1}{\varepsilon_0^3\times\pi\times\varsigma^7\times\hbar^3}}\right) = 1.2897886\times 10^{-34}\mathrm{V}$$

$$\text{tension}_{\text{The horizon ofa black hole}} = \left(\sqrt{\frac{c^4}{G\times 4\pi\times\varepsilon_0}}\right) - \left(\frac{e^2\times\varsigma}{\sqrt{8\times\pi^3\times\varepsilon_0^3\times\hbar^2\times G}}\right) = 1{,}0228729\times 10^{27}\mathrm{V}$$

$$\text{tension}_{\text{The horizon of universe}} = \left(\frac{\alpha\times c^8}{e^2\times(4\pi)\times G}\times\sqrt{\frac{\hbar}{\pi\times c^3\times\varepsilon_0}}\right) + \left(\frac{\alpha\times\varsigma^5}{8\times\pi^2\times G}\times\sqrt{\frac{\varsigma}{\hbar\times\varepsilon_0^3\times\pi}}\right) = 8{,}4544383\times 10^{87}\mathrm{V}$$

$$\text{Momentum}_{\text{cosmic void}} = \left(\frac{2\times\pi\times e^2}{\alpha\times c^3}\right) - \left(\frac{e^4}{\alpha\times\varsigma^4\times\hbar\times\varepsilon_0}\right) = 8{,}0662761\times 10^{-61}\mathrm{N.s}$$

$$\text{Momentum}_{\text{the horison of black hole}} = \left(\sqrt{\frac{c^3\times\hbar}{G}}\right) - \left(\frac{e^2}{2\pi\times\varepsilon_0}\times\sqrt{\frac{\varsigma}{\hbar\times G}}\right) = 6{,}4047711\mathrm{N.s}$$

$$\text{Momentum}_{\text{the horison of universe}} = \left(\frac{\alpha\times c^6\times\hbar}{e^2\ \times(2\pi)\times G}\right) + \left(\frac{\alpha\times\varsigma^5}{4\times\pi^2\times\varepsilon_0\times G}\right) = 5.9691468\times 10^{61}\mathrm{N.s}$$

$$\text{acceleration}_{\text{cosmic void}} = \left(\frac{2\times\pi\times e^2}{\alpha\times c\times\hbar}\right) - \left(\frac{e^4}{\alpha\times\hbar^2\times\varsigma^2\times\varepsilon_0}\right) = 6{,}8841187\times 10^{-10}\mathrm{ms^{-2}}$$

$$\text{acceleration}_{\text{the horizon of black hole}} = \left(\sqrt{\frac{c^7}{\hbar\times G}}\right) - \left(\frac{e^2}{2\pi\times\varepsilon_0}\times\sqrt{\frac{\varsigma^5}{\hbar^3\times G}}\right)$$

$$= 5{,}4119865\times 10^{51}\mathrm{ms^{-2}}$$

$$\text{acceleration}_{\text{the horison of universe}}=\left(\frac{\alpha\times c^8}{2\times\pi\times e^2\times G}\right)+\left(\frac{\alpha\times ç^7}{4\times\pi^2\times\varepsilon_0\times G\times\hbar}\right)=4.44778\times10^{112}\text{ms}^{-2}$$

$$\text{frequency}_{\text{ cosmic void}}=\left(\frac{2\times\pi\times e^2}{\alpha\times c^2\times\hbar}\right)-\left(\frac{e^4}{\alpha\times\hbar^2\times ç^3\times\varepsilon_0}\right)=2,2962948\times10^{-18}\text{Hertz}$$

$$\text{frequency}_{\text{the horizon of the black hole}}=\left(\sqrt{\frac{c^5}{\hbar\times G}}\right)-\left(\frac{e^2}{2\pi\times\varepsilon_0}\times\sqrt{\frac{ç^3}{\hbar^3\times G}}\right)=1,8052444\times10^{43}\text{Hertz}$$

$$\text{frequency}_{\text{the horison of universe}}=\left(\frac{\alpha\times c^7}{2\times\pi\times e^2\times G}\right)+\left(\frac{\alpha\times ç^6}{4\times\pi^2\times\varepsilon_0\times G\times\hbar}\right)=1.46106\times10^{104}\text{Hertz}$$

$$\text{Linear density}_{\text{cosmic void}}=\left(\frac{2\times\pi\times e^2}{\alpha}\times\sqrt{\frac{1}{c^5\times G\times\hbar}}\right)-\left(\frac{e^4}{\alpha\times\varepsilon_0\times\sqrt{\hbar^3\times G\times ç^7}}\right)$$
$$=1,6655163\times10^{-34}\text{Kg m}^{-1}$$

$$\text{Linear density}_{\text{the horison of black hole}}=\left(\frac{c^2}{G}\right)-\left(\frac{e^2\times ç}{2\pi\times\varepsilon_0\times G\times\hbar}\right)$$
$$=1,3288467\times10^{27}\text{Kg m}^{-1}$$

$$\text{Linear density}=\left(\frac{\alpha\times c^6}{e^2\times(2\pi)\times G}\times\sqrt{\frac{\hbar\times c}{G}}\right)+\left(\frac{\alpha\times ç^5}{4\times\pi^2\times\varepsilon_0}\times\sqrt{\frac{ç}{\hbar\times G^3}}\right)=1.0572653\times10^{88}\text{Kg m}^{-1}$$

$$\text{Mechanical impedance}_{\text{cosmic void}}=\left(\frac{2\times\pi\times e^2}{\alpha}\times\sqrt{\frac{1}{c^3\times G\times\hbar}}\right)-\left(\frac{e^4}{\alpha\times\varepsilon_0\times\sqrt{\hbar^3\times G\times ç^5}}\right)=4,9930773\times10^{-26}\text{ Kg s}^{-1}$$

$$\text{Mechanical impedance}_{\text{the horison of black hole}}=\left(\frac{c^3}{G}\right)-\left(\frac{e^2\times ç^2}{2\pi\times\varepsilon_0\times G\times\hbar}\right)$$
$$=3,986518\times10^{-26}\text{ Kg s}^{-1}$$

$$\text{Mechanical impedance}_{\text{the horison of universe}}=\left(\frac{\alpha\times c^7}{e^2\times(2\pi)\times G}\times\sqrt{\frac{\hbar\times c}{G}}\right)+\left(\frac{\alpha\times ç^6}{4\times\pi^2\times\varepsilon_0}\times\sqrt{\frac{ç}{\hbar\times G^3}}\right)=3.169589\times10^{96}\text{ Kg s}^{-1}$$

**Conclusion**

Finding the age of the universe has always been a question that has intrigued researchers. The age of the universe can be assessed in several fairly straightforward ways, which approaches a value of 14 billion years. The most accurate estimate today is derived from data from the Planck space telescope. Combining it with others (that of WMAP for example), we get an age of about 13.8 billion years. Age may just be a number, but when it comes to the age of the universe, it matters a lot. According to this research, the universe is about 13.8 billion years old.

We can measure the age of the universe using several different methods: by studying the oldest cosmic bodies; or by measuring the speed of expansion of the universe. Or through mathematical equations

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