Central Universe

(version 3)

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January 30, 2025

Abstract

The universe is oblique, the energy density distribution of the whole universe is uneven, and anisotropic, the formula of energy density distribution is derived in this paper. The universe has a center, the energy is continuously emitted from this center and diffuses outward in a spherical shape. The density is highest at the center, which is equal to Planck density. the density is inversely proportional to the square of the radius of the universe. That is, the farther away from the center, the smaller the density. The universe has an outward direction and a theoretical boundary. The mass of the whole universe is greater than 10^{61}kg.The matter of the observable universe is erupted from the middle of the universe，and then gather matter to form galaxies, now it is in the process of diffusion, eventually, it will spread to the edge of the universe and disappear. The age of the universe we measure does not represent the age of the universe as a whole.When the observable universe disappears,the central universe still exists, the process described above is still being repeated. In the end, the whole universe ends with energy depletion.

Keywords: Center, Density, Diffusion, Energy, Planck, Universe

In paper of the numbers principles of natural philosophy, the author established a logarithmic function by analyzing the numbers 0 and 1, established a universe model after introducing the Planck length (Fig 1). Thinking that the universe is finite And calculated the diameter of the universe[1].

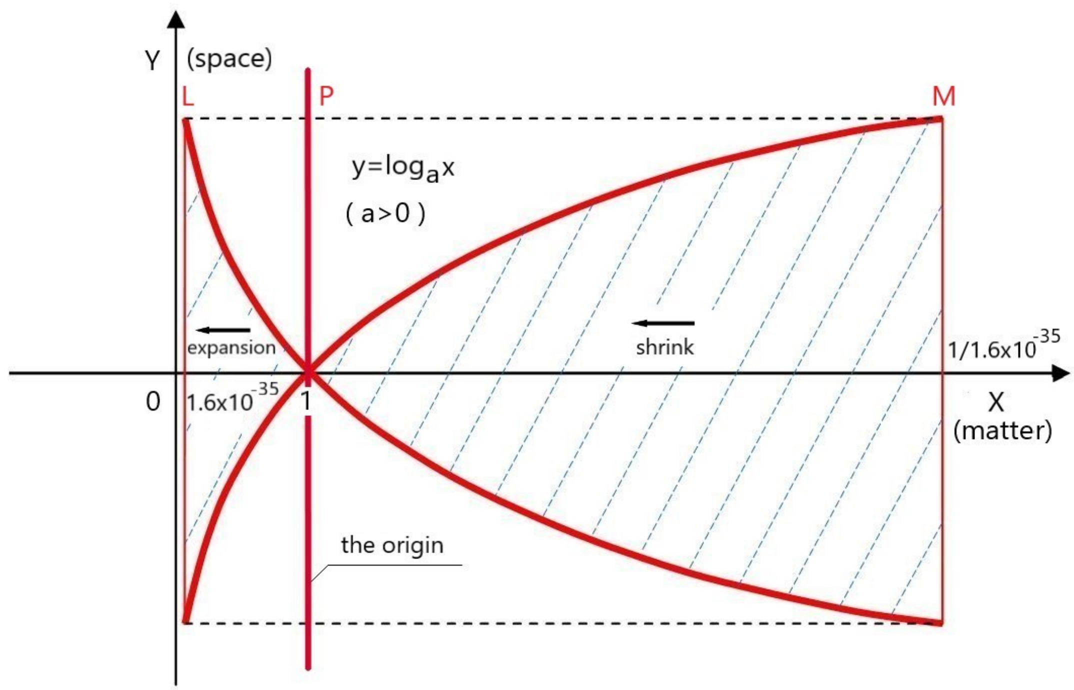


Fig 1

The diameter of the universe is:

$$D_u = 2y_M = 1/(1.6 \times 10^{-35}) - 1 = 1/\ell_P - 1 \approx 1/\ell_P \quad (1)$$

D_u — The diameter of the universe.

y_M — y value of M end

ℓ_P — Planck length

"Therefore our universe is limited, the maximum value is $1/(1.6 \times 10^{-35})$ meter, it is the maximum diameter of the universe, and bigger than that doesn't make sense" [1].

In this paper, energy and matter are equivalent, space and time are discrete.

1 Central universe model

1.1The universe is finite and its diameter is $1/(1.6\times10^{-35})$ meter. If it is finite, there is a boundary,if there is a diameter, there is a center[2] [3].What is the boundary and center like? what's beyond the border? the matter density is a cliff-like decline, and Is it all dark outside? we didn't find this kind of situation. I don't think there is a clear boundary in the universe, it's flat and gradually changing, there is a center with a high energy density, the density gradually decreases from inside to outside.

1.2 The universe has a center, the energy is continuously emitted from this center and diffuses outward in a spherical shape (Fig 2).

After the energy in the center of the universe exploded, it spread outward and gradually cooled, energy is converted into matter, and matter began to gather to form stars and galaxies. The galaxies and galaxy clusters spread outward and around, and they move away from each other.

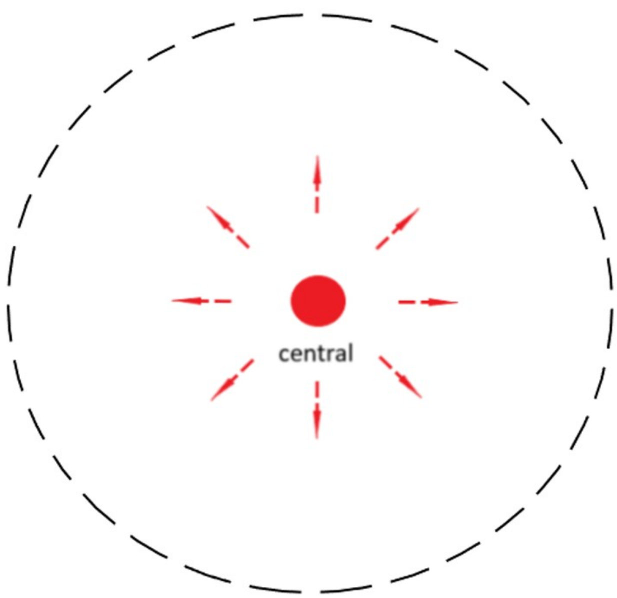


Fig 2. The universe has a spherical center, the energy is continuously emitted from this center.

1.3 There is a zone for the development and growth of stars and galaxies, where stars and galaxies reach maturity.The continuous energy eruptions provide abundant materials for the rapid growth of stars.

When matter aggregates, its mass increases while its motion velocity decreases significantly. Simultaneously, under the influence of gravity, the expansion rate is substantially reduced. During this period, galaxies are not moving away from each other, or are moving away from each other at a low speed. Afterwards, the temperature continued to decrease, and dark energy came into play, causing galaxies to move away from each other(Fig3).

Mature galaxies had already come into existence before they accelerated to the Hubble velocity. Therefore, the age of the observable universe exceeds 13.8 billion years, and we are able to find stars and galaxies older than 13.8 billion years.

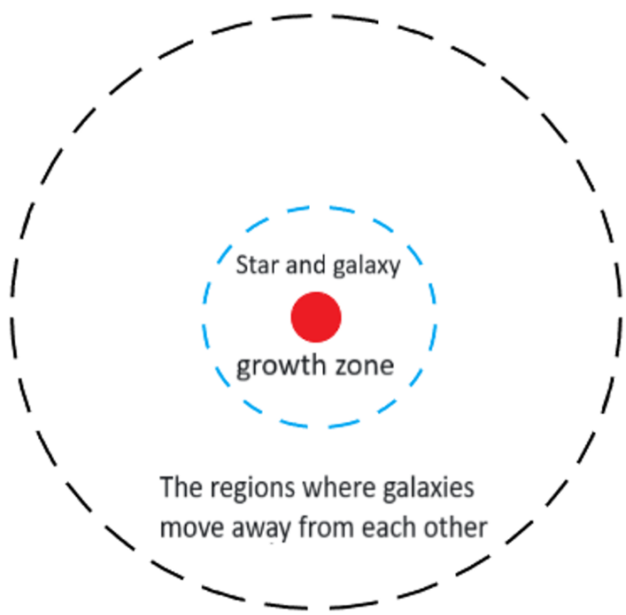


Fig 3

1.4 The energy density distribution of the whole universe is uneven, the highest in the middle, outward spherical diffusion. Diffusion is a process of gradual dilution and decrease of energy density, to the boundaries of the universe is minimum density. The maximum density, the current cosmic density and the minimum density exist at the same time.

1.5 The matter of the observable universe is continuously erupted from the middle of the universe，and then gather matter to form galaxies, out diffusion to the present density, and will reach the minimum density. The universe may be spinning [4], and the observable universe revolves around the center of the universe.

When the observable universe has finished the whole process, the universe is not over, it still exists, the above process is happening repeatedly. The age of the universe we measure does not represent the age of the universe as a whole.

2 Density distribution

A formula for the diffusion of energy to the spherical surface: Initial energy multiplied by diffusion coefficient, and can also be used for energy density diffusion. The initial density is the Planck mass based on Planck length m_p/ℓ_P, the spherical diffusion coefficient is $1/(4\pi R^2)$.

$$\begin{cases} \rho_r = \dfrac{m_P}{\ell_P} \times \dfrac{1}{4\pi R_u^2} = \dfrac{m_P}{4\pi\, \ell_P\, R_u^2} & (\ell_P/2 < R_u \leqslant 1/2\ell_P) \quad (2) \\[2ex] \rho_r = \dfrac{m_P}{\ell_P^{\,3}} & (R_u = \ell_P/2) \quad (3) \end{cases}$$

Ru — Cosmic radius

mp — Planck mass

ρ_r — Density at radius Ru

Formula (3), when Ru = $\ell_P/2$, it's not a sphere, it's a Planck cube, so the density is m_p/ℓ_P^3, it's the initial density of the universe.

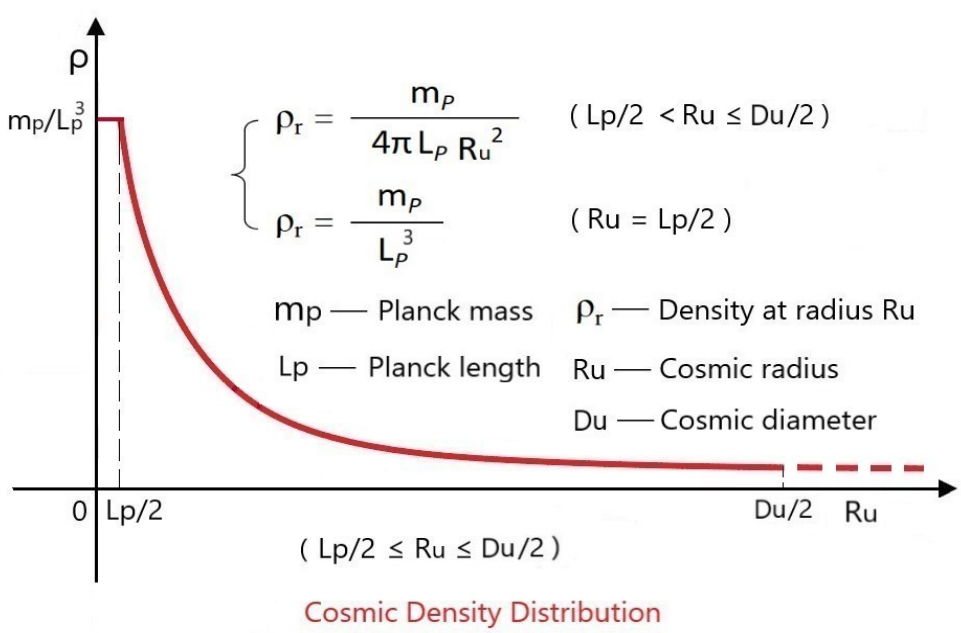


Fig 4

The density at the center of the universe is Planck density, density is inversely proportional to the square of the radius. The density at Ru = $1/2\ell_P$ is minimal, the value is 1.12×10^{-43} kg/m^3, this is equivalent to average only one electron in 10^8 m^3 space. The boundary of the universe is a theoretical boundary, the density tends to infinitesimal and up to the Planck scale(Fig 4).

It is known from the formula (2) and $\ell_P = t_p \times c$ (t_p— Planck time, c—speed of light), At every one Planck time burst one energy, and the value is Planck mass, which spreads outward at the speed of light.Therefore on paper, the thickness is based on Planck length,the mass of each layer on the sphere is equal, that is, Planck mass,the density of each adjacent layer is not equal, and the inner layer is larger than the outer layer.

The mass of the entire universe (within the diameter $1/\ell_P$) $W=m_c+m_p/2\ell_P^2>4.17\times10^{61}$kg, m_c—the mass of the center. There is also mass outside of diameter $1/\ell_P$, which is meaningless because the density is too small.

3 Discussion

Formulas (2) represents the cosmic energy density formula under ideal conditions, where the density is equal at the same radius and varies uniformly between adjacent regions. However, the universe is complex and dynamic, the degree of matter accumulation, as well as varying velocities at different stages, all influencing the density. Therefore, it is necessary to introduce coefficients for adjustment.

3.1 The coefficient k includes at least two terms: the degree of matter accumulation b, and the ratio of the speed of light to the velocity of matter (or galaxies) c/v.

$$K=b*c/v \qquad (4)$$

The adjusted cosmic density formula based on Formulas (2):

$$\rho_r = \frac{k\, m_P}{4\pi\, \ell_P\, R_u^2} \qquad (\ell_P/2 < R_u \leqslant 1/2\ell_P) \qquad (5)$$

3.2 The standard model is every one Planck time burst one energy, the value is Planck mass. If there are n emitters in the center of the universe and outbreak at the same time, then, the formula is multiplied by n.

4 The operation of the central universe

The energy in the center of the universe comes from the contraction of the universe[1].

After shrinking to the origin, there was more than one explosion and is continuous explosion，continuously emit energy outward. How much energy does the center of the universe have and how does it work? Let's discuss it now.

4.1 The center of the universe gathers enough energy, the density is m_p/ℓ_P^3, and it is emitted outward. As the energy decreases, the density of the center decreases,but it's still the center high,the density decreases with the growth of the cosmic radius (Fig 5).

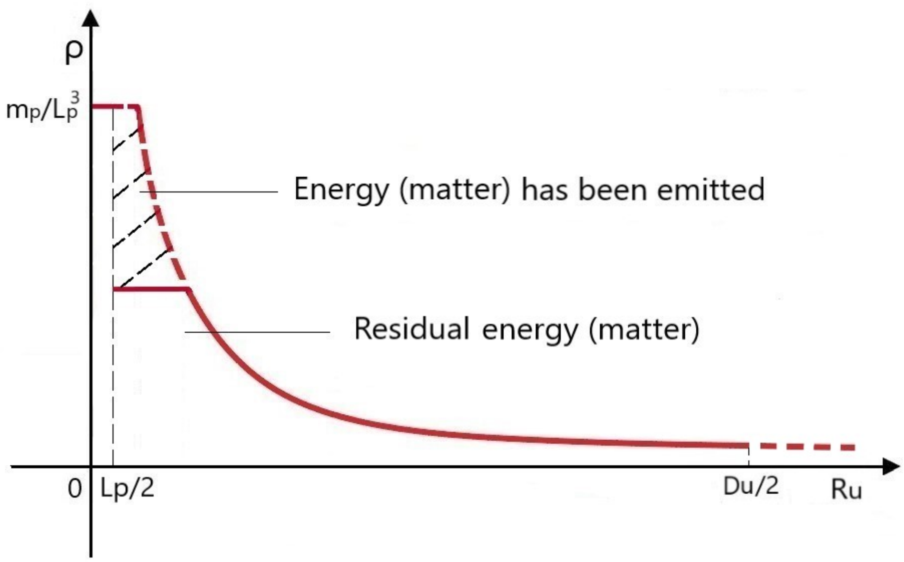
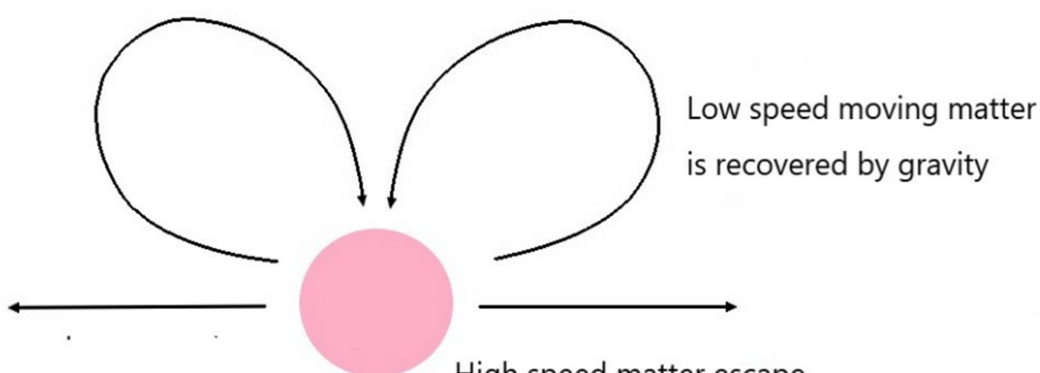


Fig 5

4.2 After the launch of matter from the center of the universe,high-speed matter escapes from gravity, low-speed matter is recovered by gravity.There is matter loss in the system (Fig 6).

Fig 6



4.3 Energy flows in from a physical (quantum) vacuum[5]，maintain the operation of the central universe. With the change of physical conditions, the flow of energy may also be limited,this mode of operation is terminated.

These three operation modes,the energy in the center of the universe was eventually consumed. After that, the universe gradually flattened，until minimum density. At this time, the whole universe is homogeneous and isotropic, any 1m3 density is equal,the universe ends.

5 Conclusion

The universe is oblique, the energy density distribution of the whole universe is uneven, and anisotropic. The universe has a center, the energy is emitted from the center and diffuses in a spherical shape, and the density of the center is the highest, which is equal to Planck density. Density is inversely proportional to the square of the radius of the universe,the larger the radius and the smaller the density. The mass of the whole universe is greater than 4.17×10^{61}kg. The universe has an outward direction and a theoretical boundary.

The matter of the observable universe is continuously erupted from the middle of the universe，and then gather matter to form galaxies, now it is in the process of diffusion, eventually, it will spread to the edge of the universe and disappear.When the observable universe disappears,the central universe still exists, the process described above is still being repeated. In the end, the whole universe ends with energy depletion.

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