The New Big Bang Theory according to Dimensional Continuous Space-Time Theory

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Abstract. This New View of the Big Bang Theory results from the Dimensional Continuous Space-Time Theory, for which the introduction was presented in [1]. This theory is based on the concept that the primitive Universe before the Big Bang was constituted only from elementary cells of potential energy disposed side by side. In the primitive Universe there were no particles, charges, movement and the Universe temperature was absolute zero Kelvin. The time was always present, even in the primitive Universe, time is the integral part of the empty space, it is the dynamic energy of space and it is responsible for the movement of matter and energy inside the Universe. The empty space is totally stationary; the primitive Universe was infinite and totally occupied by elementary cells of potential energy. In its event, the Big Bang started a production of matter, charges, energy liberation, dynamic movement, temperature increase and the conformation of galaxies respecting a specific formation law. This article presents the theoretical formation of the Galaxies starting from a basic equation of the Dimensional Continuous Space-time Theory.

1. Introduction

Every conclusion in this article is based on ref. 1. In the ref.1 the primitive space before the Big Bang was constituted only by elementary cells of potential energy. These cells did not have either mass or charge and it did not have particles in its composition. The elementary cells of potential energy were disposed side by side filling the entire primitive universe, which was totally stationary. The temperature of the Universe was the absolute zero Kelvin, see figure 1.

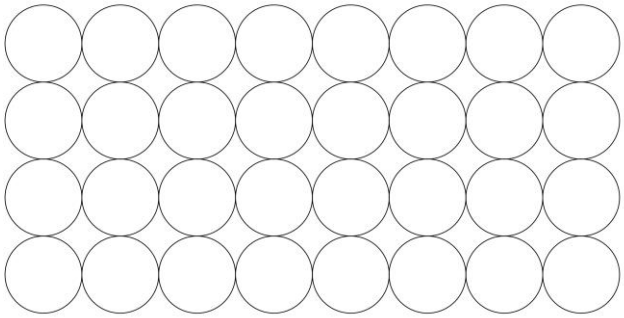


Figure 1. Model of the primitive Universe constituted only by elementary cells of potential energy

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In At the exact instant of the Big Bang a unique elementary Cell of potential energy that was in static equilibrium lost its equilibrium and an enormous reduction of the cells size began and one particle between eight possible particles was produced, liberating an amount of energy, perturbing the neighbor cells that started to collapse and produce matter and more energy liberation. So the universe transformation and movement began.

The temperature increases and the universe transformation occurs in light speed, starting the Big Bang.

The enormous size reduction of the cells liberates a big empty space and the conformation of the Universe after the Big Bang has its beginning.

In the center of the Galaxies were created Black holes constituted of Proton clouds and turning around a mass of neutrons.

The Black holes create the gravity responsible by the Galaxy structural stability.

In the Dimensional Continuous Space-time Theory was found the fundamental equation of the continuous Space-Time that will be responsible for every mater and energy present inside the Universe after the Big Bang.

Then was defined the elementary embryonal equations of the space S1(s) and space S1(r) given by:

$$S_1(s) = S_1(r) = e^{\alpha_0 (D+\alpha)} = \left(\sqrt{2}\right)^{(D+\alpha)} \tag{1}$$

where:
D is the dimension

α_0 is the space constant given by $\alpha_0 = \frac{1}{2}\ln(2)$ and α is the mathematic dimensional elementary length given by $\alpha = \frac{1}{\pi}$.

In the conformation of the structure Galaxies the *D* dimensional structure of one gravitational dimension axis with an amount of star systems is aligned with a number *n* of elementary axis of energy given by $n = 2^D$.

In this case *D* is a big number that incorporate many star systems. The size of this *D* dimensional axis is

$$S_1 = \left(\sqrt{2}\right)^{(D+\alpha)} \tag{2}$$

To constitute a *2D* dimensional axis from two *D* dimension axis, one set of *D* dimensional axis is placed orthogonally to the first *D* dimensional axis, producing

$$S_2 = \left(\sqrt{2}\right)^{(D+1+\alpha)} = \sqrt{2}\, S_1 \tag{3}$$

To produce a *3D* dimensional axis it is necessary a *2D* dimensional axis placed orthogonally to another *2D* dimensional axis, producing

$$S_3 = \left(\sqrt{2}\right)^{(D+3+\alpha)} = \sqrt{2}\, S_2 = 2 S_1 \tag{4}$$

So to produce a *kD* dimensional axis it will be

$$S_k = \left(\sqrt{2}\right)^k S_1 \tag{5}$$

The S_4 structure is represented in the figure 2

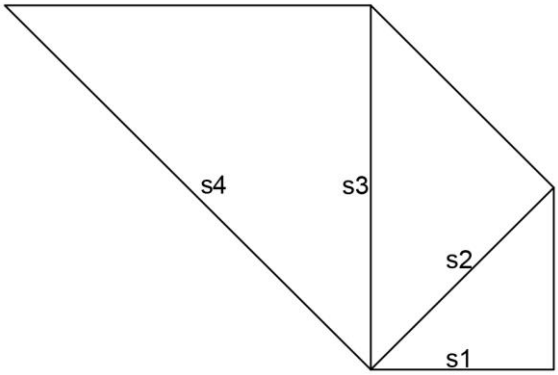


Figure 2.- structure of a gravitational *4D* dimensional axis

Where S_1,S_2,S_3,S_4 are the sustainer gravitational axis of the structure.
So a first possible Galaxy Structure is a *D* dimensional axis represented in the above figure

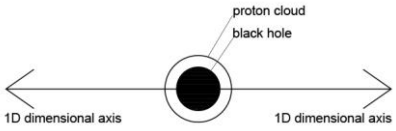


Figure3.- Possible Gravitational model of a bifilar *D* dimensional Galaxy structure

Another possible Galaxy Structure is the spiral galaxy based in a gravitational *kD* dimensional axis with one branch represented in figure 4

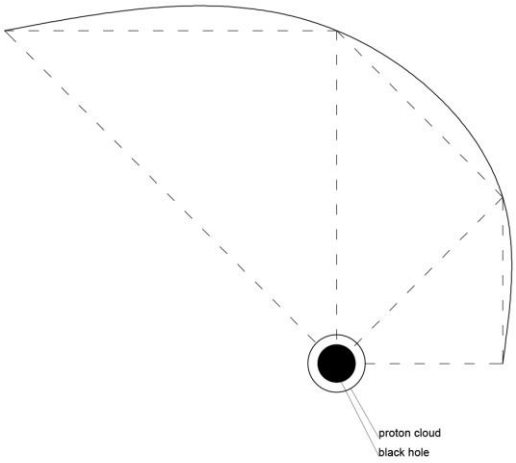


Figure 4.- Gravitational Model of a one branch 4D Dimensional Galaxy structure.

Another possibility is to have one structure with two branches with the equation

$$S = S_k + Z_k \tag{6}$$

where

$$Z_k = \left(\sqrt{2}\right)^k Z_k \tag{7}$$

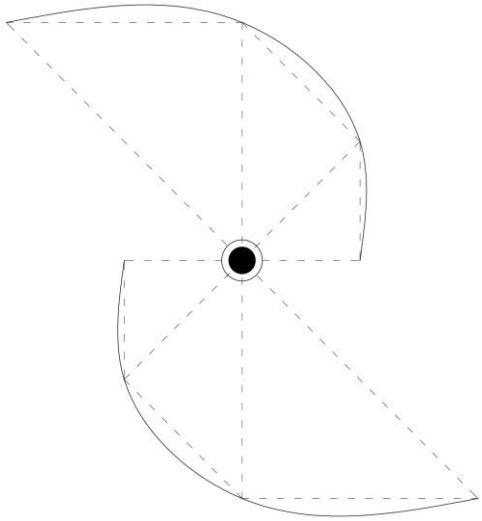


Figure 5.- Gravitational Model of a two branches *4D* dimensional galaxy structure

Another possibility is a four branches *kD* Dimensional Galaxy.
In this case it will be

$$S = S_k + Z_k + U_k + V_k \tag{8}$$

where

$$U_k = \left(\sqrt{2}\right)^k U_1 \tag{9}$$

$$V_k = \left(\sqrt{2}\right)^k V_1 \tag{10}$$

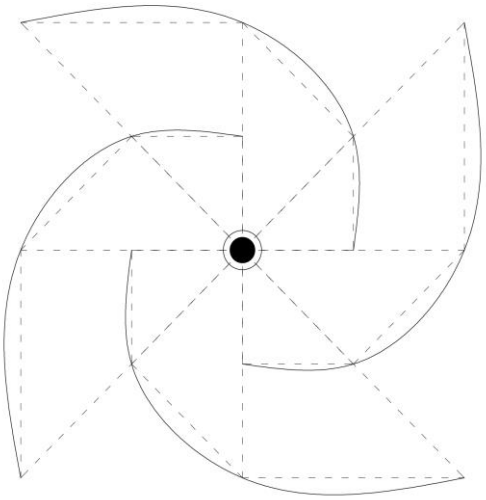


Figure 6.- Gravitational Model of a four branches *4D* Dimensional Galaxy structure

Another possible structure is a circular array of D dimensional Galaxy given by

$$S = \sum_{n} S_{1,n} \tag{11}$$

where

$$S_{1,n} = \left(\sqrt{2}\right)^{(D+\alpha)} \tag{12}$$

This is the Wagon Wheel Galaxy.

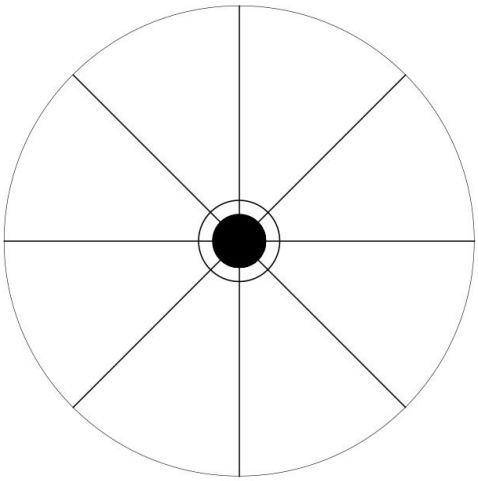


Figure 7.- Gravitational Model of a eight circular 1D dimensional Galaxy Array structure (wagon Wheel)

Another possibility is a Circular model galaxy that is formed by an array of *2D* dimensional axis given by

$$S = \sum_{n} S_{2,n} \tag{13}$$

where

$$S_{2,n} = 2S_{1,n} \tag{14}$$

In this case the circular conformation is obtained by a combination of each dimensional axis of the 2D dimensional axis

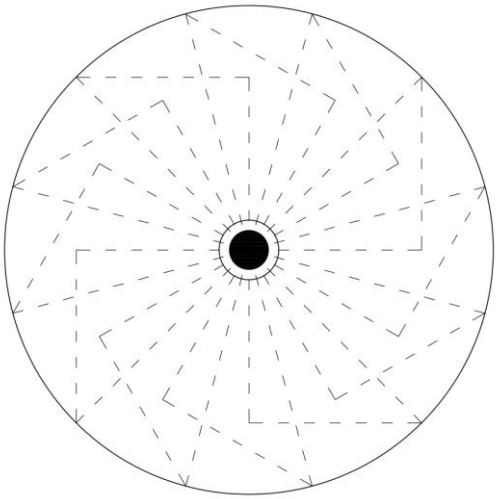


Figure8.- Gravitational Model of a circular Galaxy structure

Another possible Galaxy Structure is the elliptical Galaxy given by figure 9

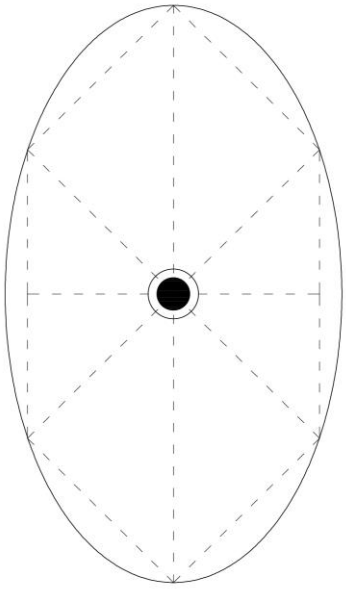


Figure 9.- Gravitational model of an elliptical Galaxy structure

2. Conclusion

This article presents a brief of a New View of the Big Bang Theory based in the Dimensional Continuous Space-Time Theory where some theoretical characteristics of the Universe and its empty space were presented. It means that exist one elliptical gravitational law that keep one rigid structure of the galaxy and no needs dark matter to justify the cohesion inside the galaxy.
One basic equation of the space conformation obtained from Ref.1 was **e**mployed in this article to deduce theoretical Galaxy structures. The existent Galaxies that do not have a law formation, probably because they result from collisions between Galaxies and the central Black Holes and others black holes randomly disposed are interfering in the formation law.

In this new Big Bang theory, the Big Bang started from a central point inside the Universe with light speed propagation in all directions. Far away from the central point some billions years, today the Big Bang is still occurring with new galaxies structures in continuous formation. In this reduced article it was not possible to present in details all concepts of the Dimensional Continuous Space-Time Theory.

On the other hand, the objective of this article was to present a introduction of a New View of the Big Bang Theory, which different and new theoretical considerations of the primitive Universe before the Big Bang and the resultant Universe after the Big Bang was presented.

3. References

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