# Universe at zero second and the creation process of the first particle from the absolute void

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**Abstract**

In this study, we discuss the properties of absolute void space or the universe at zero seconds, and how these properties play a vital role in creating a mechanism in which the very first particle gets created and we find the limit in which when the absolute void volume reaches will lead to the collapse that leads to the creation of the first particle. Later we discuss the standard model explanation through the elementary dimensions theory, as according to the elementary dimensions theory study that was peer-reviewed at the end of 2020, everything in the universe is made from four elementary dimensions,  these dimensions are the three spatial dimensions (X, Y, and Z) and the force equivalent.

## I.      Introduction

Comparison between the current universe and the universe at time= 0 sec:
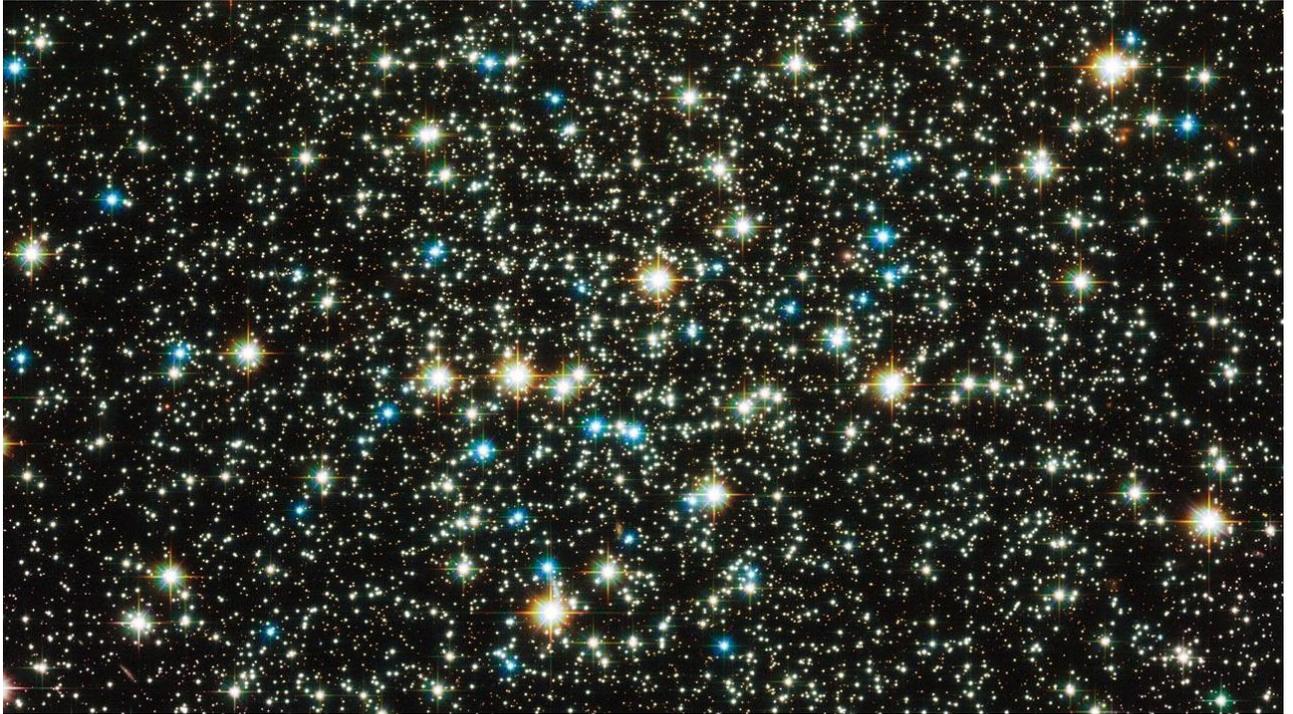
*The present universe photo by ESAHUBBLE & NASA with x radius*

Figure 1 (the current universe)

The most obvious property of the current universe is the fact that it consists of different types of particles (R. Eisberg; R. Resnick (1985)), there are countless studies, researches and book about them that will not be subject of the current study.

*Figure 2(universe at time=0 sec)*

Universe at zero second (as shown in figure 2), the space was completely devoid of all sorts of particles and radiations, the absolute zero temperature was reached naturally, due to the absence of all sources of heat. This space is called absolute void (Sirdy, 2020).

Creating absolute void in the laboratory is quite challenging as the removal of all sorts of matter and radiation for the creation of absolute zero temperature is extremely difficult.

Absolute void is four-dimensional (space dimensions in the x, y, and z axis and the force equivalent). The force equivalent is the factor of change among the four dimensions (Sirdy, 2020) which plays a vital factor in creating the first particle. Those four are the elementary dimensions.

Time is a hypothetical concept (Craig, William Lane, 2010), that corresponds to changes during certain events compared to a constant change rate event (Sirdy, 2020). Therefore, time itself wasn't considered as the fourth dimension.

Therefore, every function that will be used in the EDs (the elementary dimensions) theory, are time invariant function (Oppenheim, Alan; Willsky, Alan (1997)).

## II.    Force equivalent patterns

The figure 4 and 5 shows the force pattern direction of an absolute void in a confined and an open system, respectively.
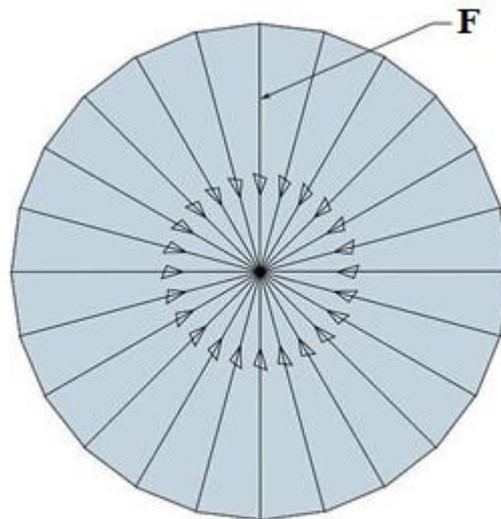
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*Figure 4*

In Figure 4 the force acts to prevent the formation of the void by trying to crush the parameter of the surroundings toward the centre; the direction of F is point toward the centre of the void.
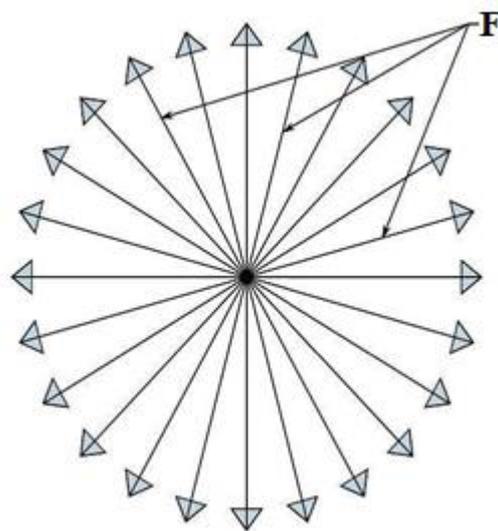


*Figure 5*

However, absolute void is considered an open system, if it exists in a free form. At any point of it the force is pointing outward, as depicted in Figure 5. Any point of absolute in a confined system acts as absolute void in an open system, which means that force is pointing outwards (see Figure 6).
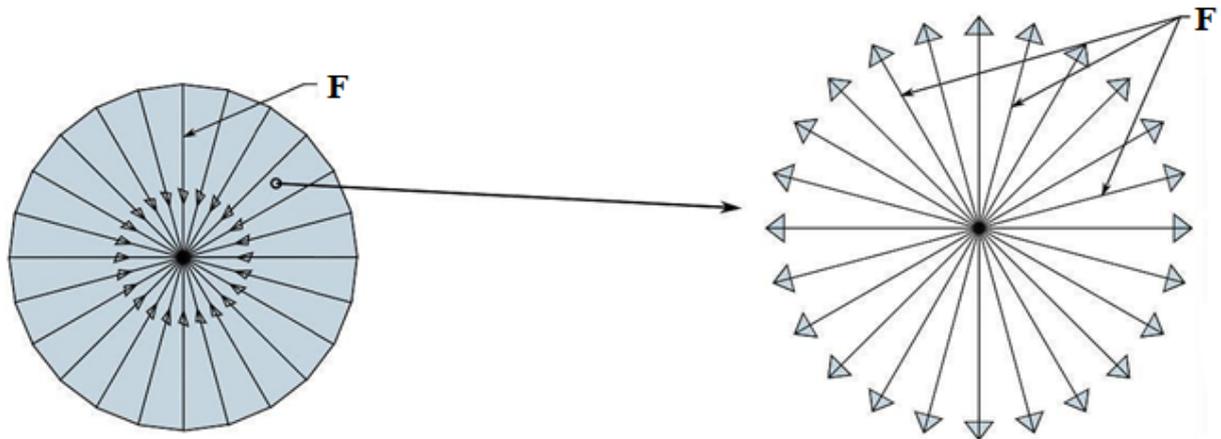
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*Figure 6*

The force equivalent (Fq) has a positive relation with the spatial dimensions (X, Y and Z), meaning the force equivalent increases with the increase of the absolute void's volume $V_v$.

$Fq \, \alpha Vv$ .... (1)
$Fq = Cv * Vv$ ..... (2)
Where Cv is the void constant that was assumed, here we will again assume that it's equal to 1 with SI base units of Kg.m-2.sec-2
$Vv = \frac{4}{3}\pi(R3)$...(3),    the volume of sphere
$Fq = \frac{4}{3}\pi(R3) \, Cv$.... (4)
Fq will have the units of force N (Newton), excluding the time effect completely, as this will be as well a time invariant function.

### III.    Creation of the first particle through the elementary dimensions

According to the elementary dimensions EDs theory, the absolute void and its four elementary dimensions are the predecessor of particles (Sirdy, 2020), and the elementary dimensions makes up everything in the universe. **Contrarily to the current theories, according to the EDs theory a dot particle (or a one dimensional particle) is impossible to exist due to the mathematical impossibility and the absence of an existing actual physical limit determining the smallest mathematical and physical size. Therefore, every particle no matter how tiny it's, it must be having the three spatial dimensions (X, Y , and Z)** and according to the EDs theory it also has the fourth dimension (the factor of change or the force equivalent).
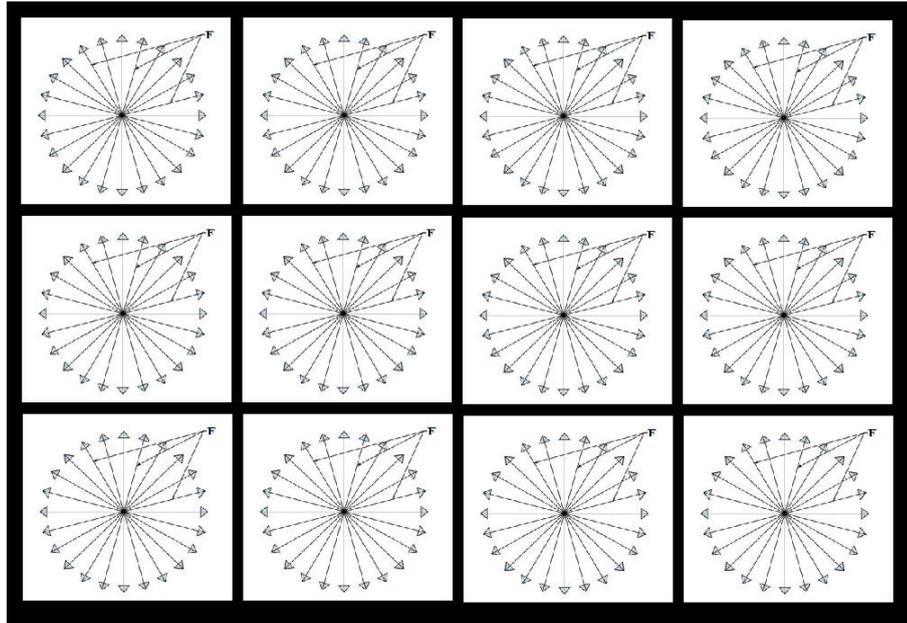
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*Figure 7 Universe at zero second with radius of X*

With the increase of the absolute void's volume, the outward force increases, and the space losses equilibrium more and more due to the presence of only one directional force. When the outward force reaches a certain limit, the system reaches the highest level of instability. The outward force has to collapse inward to restore equilibrium in the space (see Figure 8).
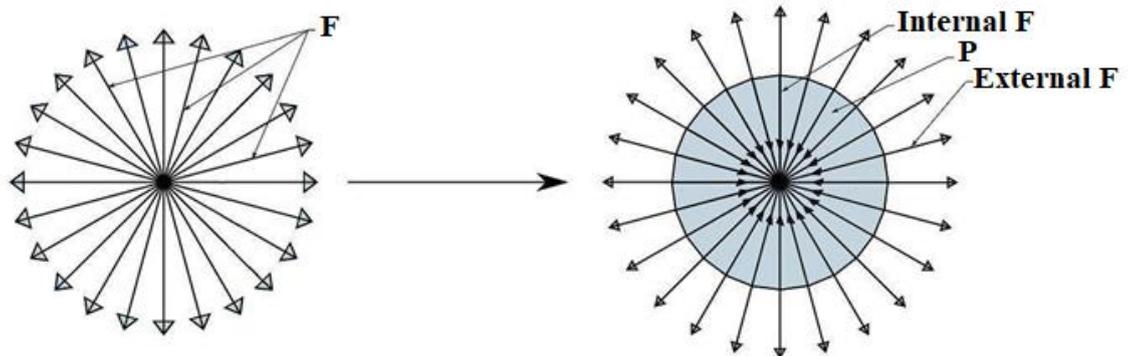


*Figure 8*

The absolute void has turned from an open to a confined system, with the collapse energy was created from the force equivalent pointed toward the centre, **the energy stays conserved** at all phases. However, due to the collapse the energy density increases with the decrease of the spatial dimensions (see figure 9).
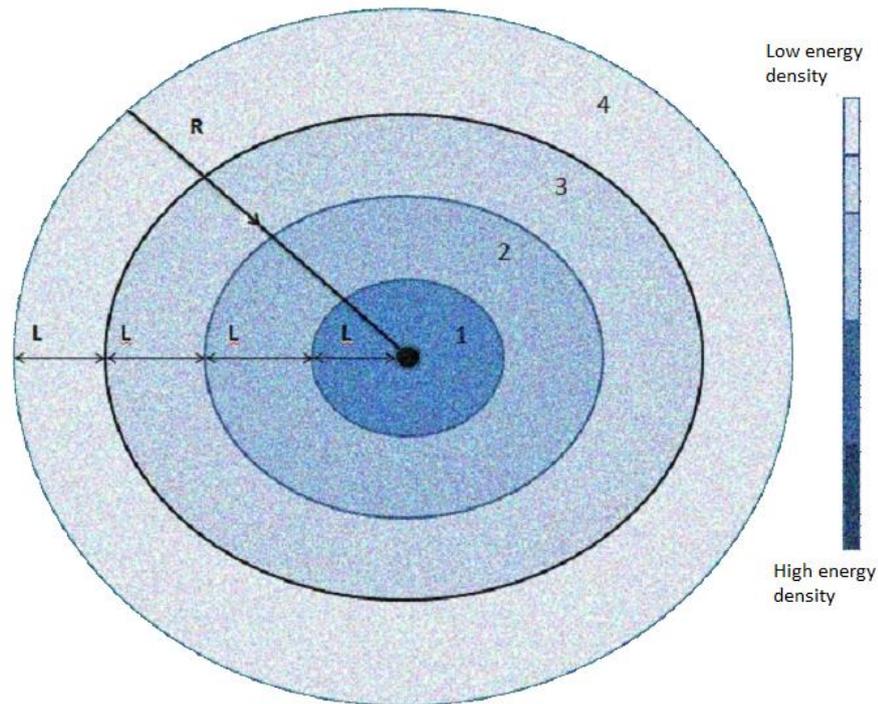
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*Figure 9*

At the final stage the energy is concentrated forming a solid shape of energy. In which, this shape of energy is a first particle that was ever created from the elementary dimensions. This particle was created to decrease the instability in the space to achieve equilibrium that the universe at time zero second was lacking.

This particle is managed by two forces:

    a.  Internal force $F_i$, which originates from the absolute void inside the particle, just like void in a confined system, and is directed toward the centre.

    b.  External force $F_e$, originates from the absolute void outside the created particle.

The force $F_i$ causes the source to collapse, while the force $F_e$ is the counter force. The particle collapses until equilibrium is achieved between the internal and external force. In case, more than one source-like entity are existents near each other relatively, the equilibrium process is among all of them.

At time zero second, infinite spatial dimensions of absolute void existed. Therefore, unlimited numbers of particles were created (see figure 10).
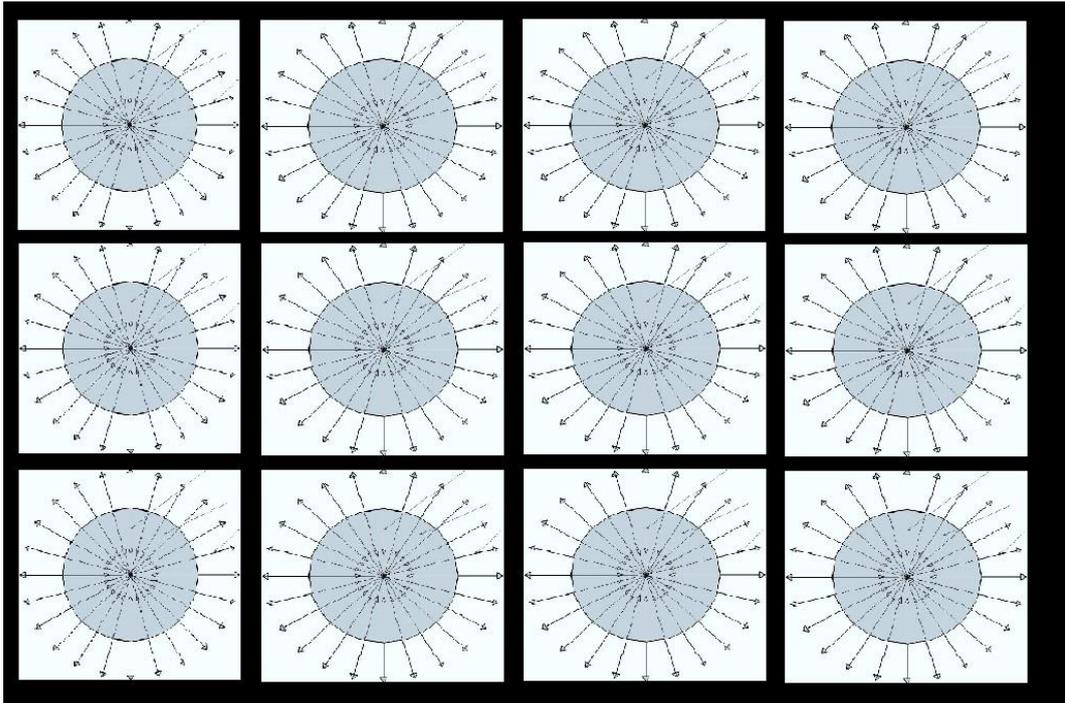
*Figure 10 (infinity numbers of particles created from the elementary dimensions)*

The limit in which the system collapses might be the same limit that leads to the creation of the

black holes, where it's already know that for large stars above the Landau/Tolman-Oppenheimer-

Volkoff limit (Wheeler, J. C.; Grossan, B; Pooley, D.; Kumar, P.; (2018-05-31)) (around two solar

masses) ,when the star dies the forms of particles cannot provide the force needed to balance

gravitational field. There is nothing to stop the collapse forming a black hole.

A black hole is similar to the origin particle or the source (Sirdy, 2020).

The limit could be a radius of 1.392 x $10^9$ meters of absolute void in a sphere shape, 3.98 x $10^{30}$Kg

(two solar masses) with density of 1408 (kg/m3), the same density of our sun.

Since, the sun mass is 1.99 x $10^{30}$Kg, the sun's radius is 6.96*$10^8$ meters, using usual relation

equation:

$$\frac{\textbf{Sun's mass}}{\textbf{sun's radius}} = \frac{\textbf{two solar masses}}{\textbf{radius of a star with twice sun's mass}}….(5)$$

 As we will be using the density equation.

We get the value of a radius 1.392 x $10^9$ meters of absolute void,

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Using the force equivalent equation:

$$Fq= \frac{4}{3}\pi(R3)\ Cv$$

$$Fq = 1.129812343... \times 10^{28} \quad N$$

Meaning when the absolute void's force equivalent reaches this value, the space inside the sphere will be at its highest level of instability, the only way for it to achieve equilibrium is to collapse inward.

## The standard model explanation through the elementary dimensions theory

According to the elementary dimensions theory, these dimensions make up everything in existence including the elementary particles. Starting with the fermions (quarks and leptons),

1.      **Fermions** (Oh, Cg., Han, SH., Jeong, SG. et al.(2021)**:**

     A.      Quarks : depicting any quark using the elementary dimensions theory, as below:
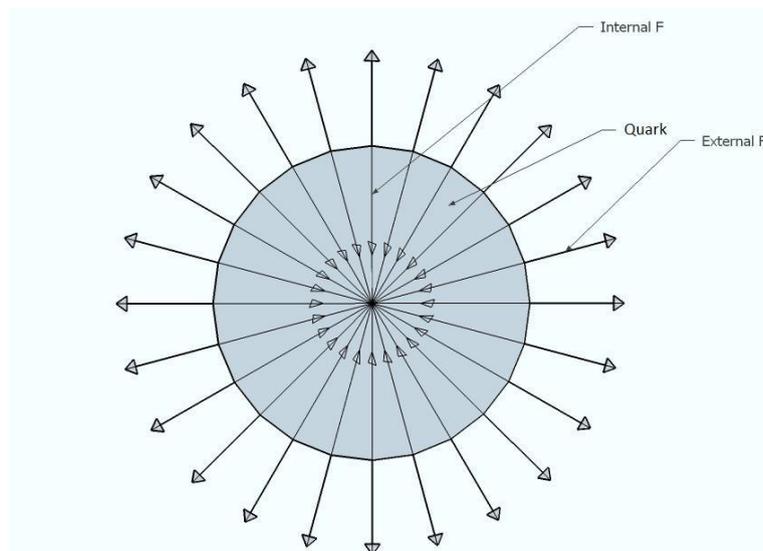
Figure 11 (quark depicted using the elementary dimensions theory)

Any Quark is being managed by two forces, the same two forces that was subjected on the created

particle from the elementary dimensions,

  1.  Internal force Fi: its direction is toward the centre (see fig 11)

  2.  External force Fe: its direction is outward (See fig 11)

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B.        Leptons (Abe, K., Akutsu, R. 2020): depicting any lepton using the elementary dimensions theory, as below:
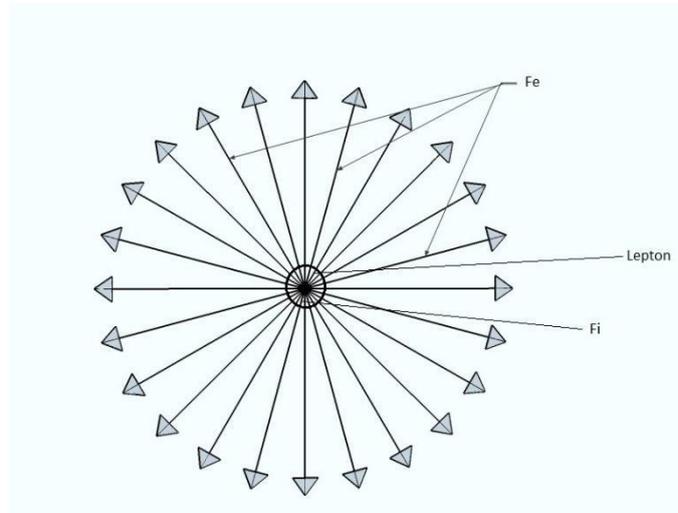


Figure 12 (lepton depicted using the elementary dimensions theory)

Lepton just like quark is being managed by the same two forces:

However, in the leptons the internal force is so small that it's not enough to stand against the external force. This gives the leptons their electromagnetic properties.

**2.        Bosons (the force carriers)** (Roga, W., Takeoka, M. 2020):

A.        Photon: is the quantum of the electromagnetic field including electromagnetic radiation, and the force carrier for the electromagnetic force. As mentioned in the segment of leptons, the external force effect on the leptons leads to the creation of the electromagnetic properties at elementary particle level.

B.        Graviton: is the quantum of gravity, an elementary particle that mediates the force of gravity. According to the elementary dimensions theory, the internal force is the graviton. Meaning, graviton is inside the elementary particle, which also explains the reason behind not discovering the graviton in the hadron collider experiments.

C.        The strong force (gluon):

According to the elementary dimensions theory, the external force among the particles is the strong
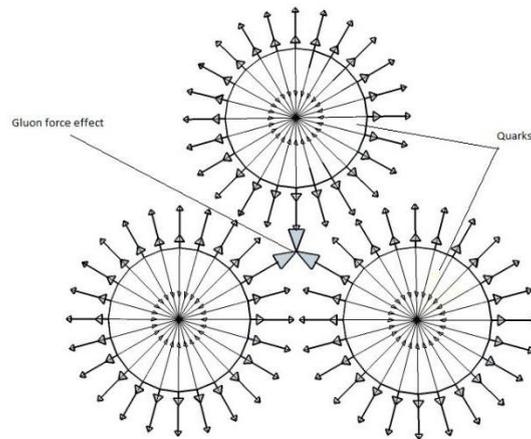
force or gluon, just like figure 13.



Figure 13 (the strong force))

D.      The weak force (+-W and Z bosons): Are the intermediate vector bosons.

According to the elementary dimensions theory, the external and internal force are the weak force,

as an example, we will take the process that leads to creating the proton (see figure 14):

The external force among the three quarks will act as a void in a confined system, which acts as the

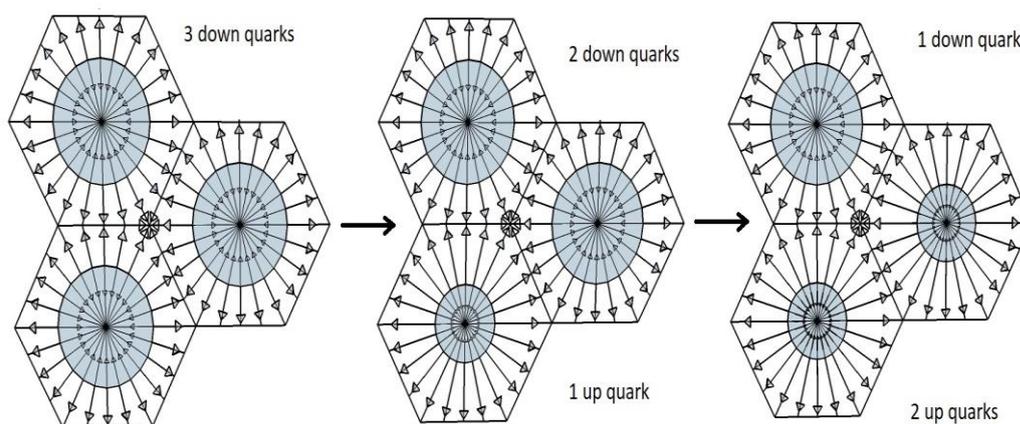strong force Gluon (see the below figure).



Figure 14 (the strong and weak force)

Now the strong force holds the three quarks together through the void's force working toward the center of the three quarks. Now:

1.        In figure 7 left, the strong force is strong enough to pull the three quarks together, but the force is not enough to prevent one of the down quarks to decay to up quark and. Since, the hadron is not in equilibrium between the internal and externals forces of the three quarks

2.        In figure 7 middle, now we have what is known as a neutron. The strong force is still strong enough to pull the three quarks together, but the force is not enough to prevent a second down quarks to decay to up quark, meaning the hadron is still not stable. Since, the hadron is still not in equilibrium between the internal and externals forces of the three quarks

3.        In figure 7 right, now we have what is known as a proton. Here, strong force is strong enough to pull the three quarks together and to prevent the third down quark from decaying to another up quark, meaning the hadron is now stable and in equilibrium between the internal and external forces of the three quarks.

## IV. Conclusion

At universe at zero second only absolute void existed, absolute void is made from elementary dimension. When the sphere volume of absolute void reaches a radius of 1.392 x $10^9$ meters, the space inside the sphere will be at its highest level of instability, the only way for it to achieve equilibrium is to collapse inward, creating the first particle or the source of particles as it was named in the elementary dimensions theory.

## Acknowledgments

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