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The Infinity Theory

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Abstract: ***The value of infinity is carried out by many mathematicians in different parts of world. By using astrophysics we can find the exact value of infinity which can help to drive any mathematical quantity more precisely. To find the value of infinity the radius of our universe which can derive by the amount of energy releases during Big Bang help's to find the shape and size of the universe in the sense of infinity which is equal to the volume of universe because the volume gives us the total amount of particles present in our universe and this shows that the number of particles which is equal to number percent in our mathematics. This research will provide the true value of infinity with successful prediction.***
Keywords: Infinity; Big Bang; astrophysics; particles; volume; energy; radius; mathematicians

I. INTRODUCTION

Mathematicians are generally try to find the value of infinity for decades but only few mathematician get some closer to that value and that's the reason it is not accurate. The reason is our mathematics is not accurate to find the value of infinity.
As we know that physics works with mathematics and mathematics describe laws of nature with helps of physics. To finding the value of infinity with only mathematics makes it more complex and gives no accurate answer but with the combination of physics and mathematics we can find the value of infinity with low complexity and with accurate answers.
The value of infinity helps to find so many different values in mathematics even it will improve most of the mathematical formulas. The value of infinity helps us to find the exact value of pi even more precise.
This paper is organized as follows. Section II will describe the assets for infinity which gives us the values and derivation for calculating the value of infinity. The section III will give discussion for scope of this research and at last section V give the conclusion.

II. THE ASSETS FOR INFINITY

This section will provide the require values and derivations for finding the value of infinity.

A. Energy of Big Bang

As we see every point value or the number start from the origin of Big Bang. To find the exact radius of unversed we have to find the total amount of energy releases during the event.
The total mass – energy content of the universe today is of the order of the critical density,

$$\frac{3 \times {H_0}^2}{8\pi G} = 5 \times 10^{-30}\, g/cm^3$$

Times the volume contained within the present event horizon,

$\frac{4}{3}\pi R^3$,

Where R = the event horizon = C × T (Speed of light × age of universe) = $3 \times 10^{10} \frac{cm}{s} \times (\frac{2}{3}) \times \frac{\Omega}{H_0}$

Here H_0 is the Hubble constant and G is gravitational constant, assumed to be around 50Km/ s / Mpc and $\Omega = 1$ (critical deceleration). For this value ofH_0,$\frac{1}{H_0}$ = (app) 20 billion years, making the current age of the universe about $\frac{2}{3 \times H_0}$ = 13.7 billion years (app), so that,$R = (app)\ 1.3 \times 10^{28} cm$,, which should be equivalent to 13.7 billion light years = $(1.3 \times 10^{10} y \times 10^3\, Km/Y \times 10^5\, cm/Km)$, where y = number of years.
This gives a total mass – energy of about 4.4×10^{55} grams, equivalent to about 2.6×10^{79} protons. The energy equivalent ($E = mC^2$) of these protons about $2.5 \times 10^{79} GeV\ or\ 2.5 \times 10^{88} eV \times 1.6 \times 10^{-19}\, J/eV = 4 \times 10^{69}$ Joules.
We know that one ton of TNT releases 4.2×10^9 Joules. Thus the energy equivalent to the mass = energy releases during Big Bang is 9.5×10^{53} Megatons of TNT but to find the non decimal value of infinity we have ignore significant figure of derived value that is 95×10^{54} Megatons of TNT.

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B. Radius and Diameter of the Universe

The success of process to finding the total amount of energy release during Big Bang is great approach. After knowing the exact value of angry releases during event we can find the radius of the explosion which is equal to the radius of universe. In Fig 1. It shows the expansion of explosion which is the edge of our universe. This will show you the perfect idea of the universe that how the universe looks and tells us the shape and size of the universe. To find the radius of the universe, we know that radius of 1 Megatons of TNT = 48Km (app). Then we multiply with the value of energy releases during Big Bang which is gone to be $456 \times 10^{59} Km$ which is equal to Light-years. To put this in Fig 1.The radius *r* will be $481992380315224628 \times 10^{49}$Light-years. The point in the center of the circle describes the point at which Big Bang occurs. The diameter will be $2r = 96398476 \times 10^{67}$Light – years but it is not important for our calculation and more will be describe in Section V.

C. Volume of the Universe

The shape of the universe is predicted for so many years that the shape of universe will be flat, torus or sphere. The energy releases during Big Bang is spread in all the direction and that's why the possible outcome for the shape of the universe will be sphere because as any explosion occurs it is always try to expand in spherical shape until and unless it is acted by any external forces like gravity and other forces. Therefore during Big Bang explosion there are no such forces before the event which causes expansion of universe in spherical shape. In Fig.1 we can see the cross – section of spherical universe in which we take *r* = radius of the universe which we proved above.

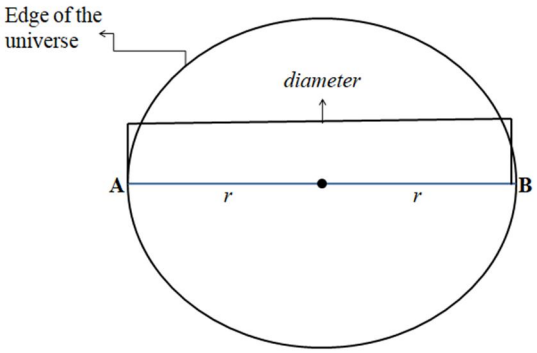

Figure 1. Cross – section of the spherical universe

After knowing the radius of our universe we can find number of particles by finding the volume of the universe which is $\frac{4}{3}\pi r^3$. Now after substituting the value we get the volume of universe = $39717612769024 \times 10^{153} m^3$. Therefore universe has volume of $39717612769024 \times 10^{153} m^3$.

D. Finding value of Infinity

For calculating the number of particles in universe we have to convert our volume to mass for getting multiply with *Avogadro's number* to get the perfect number of particles in our universe. Therefore the mass of observable universe is $3 \times 10^{55} grams$ and if we multiply the radius of the universe with this mass we get perfect mass of the universe which is$1445977 \times 10^{122} grams$.

After finding the mass of the universe we can refuse volume of the universe and finding particles with *Avogadro's number* which can be given by this equation.

$$\psi = \omega \times N$$

Where ψ = number of particles present in the universe, ω = mass of the universe and *N* represents the *Avogadro's number*. This equation will give the total number of all the particles including particles of anti matter and dark matter in our universe. Therefore the $\psi = 8993977 \times 10^{152}$ particles.

The success of finding the total no of particle will not give the exact value of infinity because due to present particles outside of our universe which called as *multiverse*.

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The time is related to it because as we see there is only one universe in existence but according to time every interval is divided into frames that cause the duplication of objects in universe frame by frame. To find the values out side the universe we can find the duplication rate of universe which can give by,

$$\Omega = \frac{r \times \psi \times A}{p}$$

Where r = radius of the universe, ψ = no of particle present in our universe and p frame rate of time which is 24 frame per second. The value we get frames of the universe will given by omega. Present age of the universe denoted by A
Now after put the values in the equation we get,

$$\Omega = 6683169 \times 10^{236}\ Frames$$

To get the final value of our calculation that is equal to the value of infinity can given by,

$$\infty = (r \times \Omega)^2$$

$$\infty = 10376364810288662368458849207480 25 \times 10^{620}$$

In formula we square the product of radius of universe with its frames because there two region where universe are present in both present time and in past time which means to find the number of particles in both the universes which is equal to the total number of particles present in all the frame of universe gives the value of infinity.

III. RESULTS

This section will discuss the results of the findings from derivation.
The value of infinity describes everything in universe is finite and limited it shows the reality of nature that it is beyond our progress and that makes it so special in mathematics and physics. From the early Greeks to present infinity makes such a dramatic changes in mathematics and physics. According to early Greeks uses word Apeiron which means infinite or limitless. In today's time we think that our universe is limitless but it is not true scientist states that the age of observable universe is 13.8 billion light years away from us but that's not only the limit we have to think beyond to that to find the remaining universe after the observable universe.
The Big Bang is our starting of events with a spontaneous explosion which gives the rise of numbers and starting of physical laws which rules the nature. Now lets think that when an explosion takes in space it takes in spherical form unless it is acted by another force on it and on finding the volume of sphere we can find number of particles in our universe but there are some parallel universes which affect this calculation. To avoid the stags in the calculation we have to see that the time is not a quantity but a frame which copies at a interval of second which makes the copies of the universe know as today parallel universes.
So to find the no of particles in every such parallel universes we have to find the volume of all the universe which equal to the age of our universe to the product of the volume of the universe found in derivation. After finding the volume of the universe we square the value because we don't know the past and future of the parallel universes and that gives the estimation of all the parallel universe volumes and then we get the final value of infinity.

IV. DISCUSSION

This section will describe the scope for this research.
The value of infinity will bring one of the biggest changes in the fields in physics and mathematics. It will almost some part of mathematics like calculus which depends on the value of the infinity and in physics it will limitless nor be infinite and that's make a reliable things to calculate.
To calculate the value of pi which is the ratio of the circumference of the circle an diameter which is 3.14… up to infinite decimal places after getting the value of infinity we can find exact decimal places of pi and we can say that a circle have no of points which is equal to value of infinity.
Another advantage of this value is not only in mathematics and physics but it will in perspective artworks for artist because it helps in artist to paint realistic spaces and forms of the object. It also helps to develop the computer logic like IEE floating point and many more advantages like this in computer science.
In cosmology we know our physical universe in endless and that means it is finite by replacing it with value of infinity. The value of infinity will change motion, kinematics, thermodynamics, mechanics and lots of branches which are looking for the value of infinity.
The value of the infinity is one of the advantage for quantum world and cosmic world because it tells the limit of universe to the limit of quantum world which equal to negative infinity and that's makes it true limits of nature and reality we live in.

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V. CONCLUSION

At conclusion the derivation states that the our nature is not infinite and our reality is beyond our imagination as we see that universe is having which we can't see and that makes it so complex to understand mankind that it is finite. The value of infinity will not just give the value but it gives a new aim to our imagination that we do not know much about nature and its principles which makes our scope for new problems greater than value of infinity.

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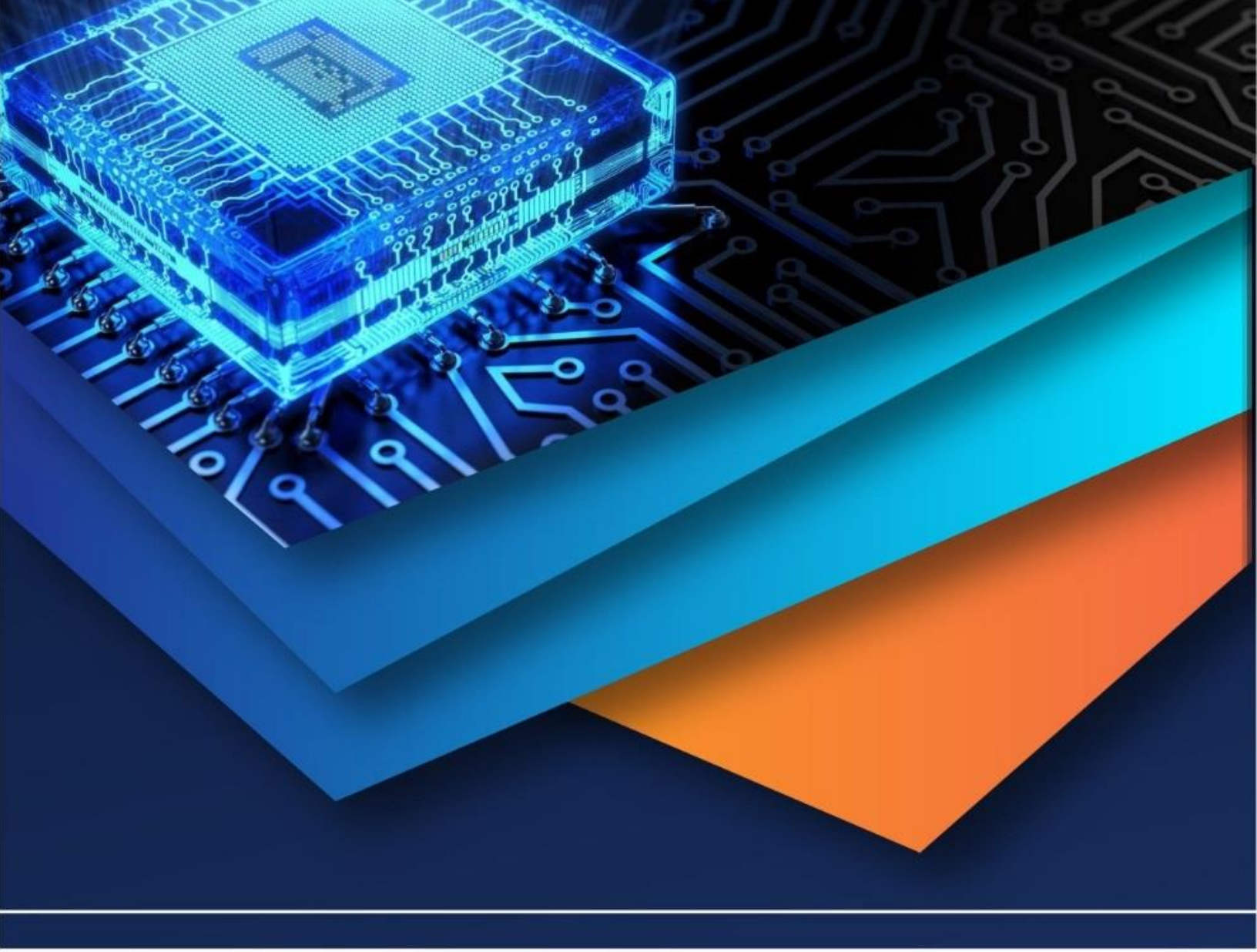

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