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Approximation of the Length of the Universe Calculated with the Cristosols Numbers

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Introduction

In this short article, the radius of curvature of space will be calculated according to Albert Einstein's Theory of Relativity, a new constant is defined, the constant of Xiomara G, which is an operator using the numbers Cristosols, it is intended for high school students who may be interested in the exciting topics of our universe, the idea for the small article came up during the Covid-19 pandemic by reading the popular science book, How the Universe exploded by I. Novikov [1, 2].

Development

According to Albert Einstein's General Theory of Relativity we calculate the radius of curvature of space L as:

L = c/H *√ (ρcritica/ (ρ-ρcritica)), where c is the speed of light , and H is the Hubble constant. Page 75 Book of I. Novikov, 1990.

As the difference of the density and the critical density ρ-ρcritical influences the shape of the radius of curvature we have:

1…. If ρ is greater than ρcritical then ρ = K * ρcritical, where K is the number of times that the density of the Universe is greater than the critical density, this value can be greater than 1. Substituting ρ = K * ρcritical in the formula of L , we obtain:

L = c / H * √ (1 / K) = c / (H √ K),

Let's take a situation when ρ = ρcritical, this gives us calculating that

L = c / H * √ ρcritical (1/0) = c / H * √ ρcritical * √ (1/0), as we know 1/0 = i, it is a number called Cristosol, therefore we have to

L = c / H * √ ρcritical * X, defining it as X = * √ (i) and we will call it Xiomara's constant G, has units of (gcm3) $^{-1/2}$ which is an operator that indicates the rate of increase of the curvature of space, since we have approximations of X ≈ 10, X ≈ 100, etc, we then obtain X≈ 10^{2n}: where n is ≥ than ½, 1, 3/2, etc … …

L≈ c / H * √ ρcritical * 10^{2n} here L is not infinite and can be calculated with approximations

If H = 75 Km / sMPc.
C = 300,000 km / s.

√ ρcritical = √ 10^{74} gcm3 ≈ 10^{37} according to Novikov's book, page 198.

So substituting we get:

L≈ 300 000 * 10^{37} * 10^{2n} / 75 and substituting the units km / s / (km / s MPc)

L≈ 4 * 10^{2n+40} MPc, when the critical density is equal to the density of the Universe, substituting the values of n, we then have L≈ 4 * 10^{41}MPc, L≈ 4 * 10^{42}MPc, L≈ 4 * 10^{43} MPc.

References

1. Ricardo Osés Rodríguez, Rigoberto Fimia Duarte and Lisvette Cruz Camacho (2015) Simple Model To Estimate Longitude And Area Of Universe. Open Access Library Journal 2: 1-4.
2. I. Novikov (1990) How the Universe exploded. Mir Publishing House https://urss.ru/cgi-bin/db.pl?lang=en&blang=en&page=Book&id=10205.

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