Formulas Prove Big Bang-Universe Is Visible Hologram Of Gravity Eternally Flowing Along In Rotating Time-Torus-Universe.

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Abstract.

A new universe is described, which comprehends the Big Bang-universe as a visible hologram of gravity. This hologram eternally orbits within the time-torus-universe (rTTU). Formulas prove this. The formulas are described in this paper. This causes dynamics, which relate to a light-torus, and which emerges per up-scaled Planck-scale to larger scales, but it is also accompanied by the rotation of quantum-gravity and dark matter-force. The result of the formulas show that the light-torus has a constant rotation of *half the light-speed*. Moreover, it contracts (+) or expands(-), which is dependent on the features (+) or (-) of the dark matter-force, also involved in the rTTU. But also quantum-gravity-force is involved. So, due to these dynamics the Big Bang-universe is not only a *hologram of light*, but actually a visible *hologram of gravity*. Then the question arises: How do neutrinos act in this rotating time-torus-universe? Neutrinos are not supposed to move faster-than-the-light-speed in a stand-alone Big Bang-universe, but in the rTTU violation of the light-speed is dependent on whether the dark matter-acceleration is *stronger* than the smallest quantum-gravity-acceleration in the rTTU. If so, then neutrinos hurl away from the visible hologram of gravity. That seems a violation of the GRT, but actually it isn't, because 'faster-than-light-neutrinos' stay in the rTTU. Due to this new physics and formulas three calculations are made: An orbit-time of a light-torus, which explains why there exists a CMB-dipole. A calculation of an orbit-time of the quantum-gravity-torus, which explains why there exist CMB hot- and cold areas. A calculation of an orbit-time of the dark matter-torus, which explains why a series of shifted 'concentric circles' is showing-up in the CMB (up to 350). And at last I explain what the 'cold spot' in the CMB really is in perspective of the rotating time-torus-universe (rTTU).

Introduction.

Can neutrinos escape the universe? And what has this to do with another type of universe, other than the stand-alone Big Bang-universe? This paper gives the answers.

Firstly neutrinos have mass: The General Theory of Relativity (GRT) estimates their velocity on just under the light-speed. According to formula (1) a neutrino with for example a mass of 0.2 eV/c² and an energy of 10 MeV has a velocity of 60 nm/s. This a fraction 2×10^{-16} lower than the light-speed and not (yet) measurable.

$$E = \frac{mc^2}{\sqrt{1 - \frac{v^2}{c^2}}} \qquad (1)$$

But in September 2011 researchers of CERN in Switzerland and the Laboratori Nazionali del Gran Sasso in Italy announced the observation of high energetic muon-neutrinos in the CNGS-experiment, which were a fraction faster than the light-speed[1] . The energy was between 18 -28 MeV, which seems to lead to 62 nm/s. But in Februari 2012 CERN

announced that measurements were influenced by a not good functioning oscillator and glass-fiber-connection[2][3]. Then CERN announced again in Juni 2012 that new measurements in Gran Sasso experiments of OPERA, ICARUS, Borexino and LVD showed the velocity of neutrinos was consistent with the light-speed. The project-leader and his spokesmen had to withdraw from the project. An unpleasant smell was spread-out among the citizens of Europe who believed in science unconditional. The GNGS-results of 2011 went down[4]. But is that justice to physics and cosmology?

I never believed in the withdraw of the neutrinos-not-faster than light-affaire, because I theoretically found that it is really possible that neutrinos can violate the GRT, according my new theory of the universe, the *Double Torus Theory (DTT)*, which describes a *rotating time-torus-universe (rTTU).* In this particular paper I prove (with derivations and formulas) that the Big Bang-universe rotates as *hologram of gravity in a rotating time-torus-universe*. The Big Bang universe is therefore a holographic part of the rTTU[5]. This strengthens the claim that neutrinos sometimes can escape this *hologram of physical reality*. I earlier derived this in my papers[6]. But now again, with new derivations and formulas, I prove the violation is not really a violation in perspective of a holographic Big Bang-universe, whereof neutrinos can hurl away into the rotating time-torus-universe.

Derivations and formulas.

In this particular chapter I describe the derivations and formulas, as theoretical evidence for the discovery: *The Big Bang-universe rotates as a visible hologram of gravity in a time-torus-universe.*

In several of my papers a lay-out is given of the development of my DTT[7]. For the particular case here I suffice by giving the main formulas, which means: The new dark energy force F_{de} in the DTT (formula 2), the quantum Newton-force qF_N (formula 3) and the subquantum dark matter-force sqF_{dm} (formula 4); wherein m_{vm} is visible mass and m_{dm} is dark matter-mass.

$$F_{de} = qF^{G=1}{}_{N} \otimes sqF_{dm}\left[m^8 s^{-3}\right] \tag{2}$$

$$qF^{G=1}{}_{N} = m_{vm}\left(k_{de}\right)^{\frac{1}{2}}\left[m^2\right] \tag{3}$$

$$sqF_{dm} = \pm\left(m_{dm}\right)^2\left(k_{de}\right)^{\frac{1}{2}}\left[\left(m^2 s^{-1}\right)^3\right] \tag{4}$$

For G=1 a minimum gravity is performed, because the universe is turned inside-out conform my ‘thought-experiment’ (this was described in my early paper[8], of 2004, which was be commented by C. Forbes, PhD Mathematics and Fellow of the Royal Astronomical Society, FRAS in 2008, and adapted in an explicit paper in 2009[9]). Turning inside-out the universe brings time smaller than the Planck-time into a new domain of reality. That became my new dark energy-force formula, which I rewrote in the formulas (2) ,(3) and (4). That implicates a minimum Newton-acceleration according to formula (5):

$$\left(k_{de}\right)^{\frac{1}{2}}=\left(\frac{c^5\left(L_{pl}\right)^2}{2G}\right)^{\frac{1}{2}}=\left(\frac{c^5\left(L_{pl}\right)^2}{2}\right)^{\frac{1}{2}}\left[ms^{-2}\right]\cong 1.78x10^{-14}\left[ms^{-2}\right] \tag{5}$$

The experimental result performed in earth-laboratories is given by the smallest Newton-acceleration of 5 x 10^{-14} [ms^{-2}]. My value is the real theoretical limit, but not reached by technological limits[10,11].

I need the formulas 2,3,4,and 5 for the main derivations to prove that physical reality emerges from another type of universe, as follows:

$$qF^{G=1}{}_{N}\otimes\pm sqF_{dm}=\frac{mc^2}{\sqrt{1-\frac{v^2}{c^2}}} \tag{6}$$

Formula (6) is based on the fact that the force-components of the new dark energy-force (formula 2 and 3) also take into account $E=mc^2$. This can be referred to the original dimensions of the dark energy-force formula (7) in my thought-experiment[8]:

$$F_{de}\left[\frac{N}{s}\left(kgm\right)^3=Nmkg^3\frac{m^2}{s}=Jkg^3\frac{m^2}{s}\right] \tag{7}$$

Wherein an energy (joule) effects a surface-flow of dark matter mass. Note again: Formula (7) is based on turning the universe inside-out according to my thought-experiment. This energy is the representation of a second larger time-torus smaller than the Planck-time, which encloses and intertwines the flowing surface of a smaller dark matter torus. This torus-universe can be up-scaled from a smaller scale to a larger scale than the Planck-scale. So, now according to formula (6) the energy-situation is upgraded to a larger time-torus-universe, wherein time smaller than the Planck-time also performs events next to the relativity-time of the GRT. Formula (6) is worked-out as follows:

$$m_{vm}\left(k_{de}\right)^{\frac{1}{2}}\otimes\pm\left(m_{dm}\right)^2\left(k_{de}\right)^{\frac{1}{2}}=\frac{m_{vm}c^2}{\sqrt{1-\frac{v^2}{c^2}}} \tag{8}$$

$$\pm\left(m_{dm}\right)^2 k_{de}=\frac{c^2}{\sqrt{1-\frac{v^2}{c^2}}} \tag{9}$$

Substitution of k_{de} gives:

$$\pm\left(m_{dm}\right)^2\frac{c^5\left(L_{pl}\right)^2}{2}=\frac{c^2}{\sqrt{1-\frac{v^2}{c^2}}} \tag{10}$$

$$\frac{1}{2}\left(m_{dm}\right)^2=\pm\frac{c^2}{c^5\left(L_{pl}\right)^2\sqrt{1-\frac{v^2}{c^2}}} \tag{11}$$

For v << c follows:

$$\frac{1}{2}\left(m_{dm}\right)^2=\pm\frac{1}{c^3\left(L_{pl}\right)^2}\left[\left(s_p\right)^2 m^{-5}s_r\right] \tag{12}$$

$\left(s_p\right)^2$ is the time smaller than the Planck-time per five dimensions space, which exists within the Planck-scale.

s_r is the relativity-time just valid on the Planck-scale as the limit in the GRT.

From this, one can see dark matter is a time-density, as is also worked-out in former of my papers.

$c^3\left(L_{pl}\right)^2$ is a light-sphere emerging from a Planck-surface. The inverse parameter $\pm\frac{1}{c^3\left(L_{pl}\right)^2}$ is the light-sphere turned inside-out into a light-torus. The sign is interesting, because this sphere contracts (+) or expands (-).

In $\frac{1}{2}\left(m_{dm}\right)^2$ the $\pm m_a$ and $\pm m_b$ are the definition of so called *'duonistic neutrinos'* in the DTT. These are the left- and right-handed neutrino's stretched in the light-torus smaller than the Planck-scale. At a larger scale than the Planck-scale the right-handed neutrino becomes the anti-particle of the left-handed neutrino, which never has been detected in scales above the quantum-scale.

The given Formula (12) is the step-up for a comparison with an earlier derived formula for dark matter in one of my papers. It opens-up to express an unknown parameter of the time-torus and its dimension. As one will see this 'unknown' parameter is the *internal acceleration of the time-torus* universe (k_{de}).

The earlier found formula for dark matter mass is formula (13) [12] :

$$m_{dm}=\frac{2n\left(k_{de}\right)^2}{c^5}\left[sm^{-3}\right] \tag{13}$$

Wherein n is the integer-number that enlarges the Planck-scale.

Again here one can see dark matter is a time-density.

From formula (13) follows:

$$\frac{1}{2}\left(m_{dm}\right)^2=\frac{1}{2}\left(\frac{2n\left(k_{de}\right)^2}{c^5}\right)^2\left[sm^{-3}\right] \tag{14}$$

Now the old formula (12) and new formula (14) can be combined:

$$\frac{1}{2}\left(\frac{2n\left(k_{de}\right)^2}{c^5}\right)^2=\pm\frac{1}{c^3\left(L_{pl}\right)^2} \tag{15}$$

From this follows:

$$\frac{2n^2\left(k_{de}\right)^4}{c^{10}}=\pm\frac{1}{c^3\left(L_{pl}\right)^2} \tag{16}$$

$$\left(k_{de}\right)^4=\pm\frac{c^{10}}{2n^2c^3\left(L_{pl}\right)^2} \tag{17}$$

$$\left(k_{de}\right)^4=\pm\frac{1}{2}\frac{c^7}{\left(nL_{pl}\right)^2} \tag{18}$$

Discovery of the visible hologram of gravity.

Formula (18) gives the discovery of a visible hologram of gravity in formula (19):

$$\boxed{\left(k_{de}\right)^4=\frac{1}{2}c.\pm\left(\frac{c^3}{\left(nL_{pl}\right)}\right)^2} \tag{19}$$

Formula (19) represents a light-torus, which constantly rotates with half the light-speed.

The dimension of formula (19) is:

$$\left(k_{de}\right)^4\left[\left(ms^{-1}\right)\left\{\left(m^3s^{-3}\right)\left(m^{-1}\right)\right\}^2\right] \tag{20}$$

And gives:

$$\left(k_{de}\right)^4\left[\left(ms^{-2}\right)^3 m\left(ms^{-1}\right)\right] \tag{21}$$

Formula (21) becomes dimensionally the combination of a three dimensional acceleration and a radius in meters, which causes an average central directed acceleration for shaping the torus. Then a torus-rotation occurs due to the velocity-dimension. This dynamic directly relates to formula (19), which means: A light-torus per up-scaled Planck-scale, that obtains a constant rotation of *half the light-speed*, while the light-torus also contracts (+) or expands (-). Then the Big Bang-universe becomes a representation of a *hologram of light*, but because fundamentally formula (19) is also the result of the quantum-gravity-force and subquantum dark matter-force (formula 3 and 4), the Big Bang-universe actually becomes a visible *hologram of gravity*.

So, then what about neutrinos? The insight in what happens with neutrinos follows from the fact that neutrinos can move faster than the light-speed dependent on whether a dark matter-acceleration is *stronger* than the smallest quantum-gravity acceleration. When the dark matter-acceleration is stronger the neutrinos hurl away from the visible hologram. Is that a violation? No! Neutrinos stay in the rotating time-torus-universe.

Calculations of orbit-times.

An orbit-time of a light-torus can be calculated, which causes the CMB-dipole. An orbit-time of quantum-gravity-torus can be calculated, which explains the CMB hot- and cold spots. An orbit-time of the dark matter-torus can be calculated, which gives a series of 'concentric circles' in the CMB. Even the 'cold spot' in the CMB can be explained adequately.

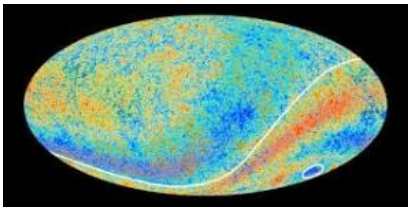
1. *Calculation of the orbit-time of a light-torus.*
   1.1. The CMB in the rotating time-torus-universe is a holographic product of the holographic Big Bang-universe, which rotates in the time-torus-universe. Therefore the calculation of the orbit-time of the light-torus is in reference to a radius (r) in a stand-alone Big Bang-universe. According to my new findings (formula 19) the velocity is <u>constant</u> *half the light-speed* for the light-torus of the CMB. This justifies the following formulas:

$$T=\frac{2\pi r}{v}=\frac{2\pi r}{\frac{1}{2}c}=\frac{4\pi r}{c}\cong\frac{4\pi x10^{26}}{3x10^8}\cong 1.33x\pi x10^{18} \tag{22}$$

For $1y\cong 3.15x10^7\left[s\right]\cong\pi x10^7\left[s\right]$ follows: (23)

$$T\cong 1.33x10^{11}\left[y\right]\cong 133x10^9\left[y\right] \tag{24}$$

$T\cong 133billionyears$. In dutch: $T\cong 133Miljardjaar$ (25)



CMB-dipole

Fig. 1: The Planck-satellite image, source ESA. The rotation of the CMB in the time-torus-universe causes a *CMB-dipole*, due to a Doppler-effect

applied to an observer, who observes two parts of warmer light (right-side) in the CMB in the direction of the torus-rotation. It leaves behind the colder-part (left-side). The white-line is drawn to make the separation more clear.

Note: Imagine one could go to the rotating time-line of the CMB, then one could see the universe as large as we see it now. Only the content would be totally different than what we observe in the presents. One would never be closer to the Big Bang, because that is a holographic illusion in the fundamental different rotating time-torus-universe.

2. *Calculation of the orbit-time of the quantum-gravity-torus.*

2.1. Gravity follows $g = \frac{v^2}{r}$. For the smallest quantum-gravity in the DTT still gravity rules are valid, which allows me to change (g) in $(k_{de})^{1/2}$, which is the acceleration in the rotating time-torus-universe.

From this follows: $\left(k_{de}\right)^{\frac{1}{2}} = \frac{v^2}{r}$. Wherein $v = \frac{2\pi r}{T}$. From this follows:

$$T^2 = \frac{4\pi^2 r}{\left(k_{de}\right)^{\frac{1}{2}}} \cong \frac{4\pi^2 x10^{26}}{1.78x10^{-14}} \cong 2.247x\pi^2 x10^{40} \quad (26)$$

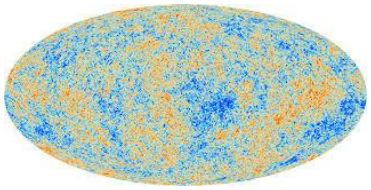
$$T \cong \sqrt{2.25x\pi^2 x10^{40}} \cong 1.5x\pi x10^{20}\left[s\right] \quad (27)$$

For $1y \cong 3.15x10^7\left[s\right] \cong \pi x10^7\left[s\right]$ follows:

$$T \cong 1.5x10^{13}\left[y\right] \quad (28)$$

$$T \cong 15000x10^9\left[y\right] \hat{=} 15000billionyears \quad (29)$$

In dutch: $T \hat{=} 15000Miljardjaar$ (30)



CMB-warm and cold-areas

Fig. 2: Warm and cold areas in the CMB are observed by WMAP. In the DTT the quantum-gravity has an orbit-time, which causes warm and cold larger areas in the CMB due to a Doppler-effect applied on an observer, who observes a warmer quantum-gravity in the direction of the rotation, leaving behind the colder areas.

3. *Calculation of the orbit-time of the dark matter-torus.*

3.1. In this calculation I use a dark matter-acceleration, which is not dominant over the quantum-gravity-acceleration. This means: If the dark matter-acceleration is just a bit more than 18% of the quantum-gravity-acceleration, thus a factor 0.18 34438 $(k_{de})^{1/2}$, then the quantum-gravity-acceleration will be about a bit less than 82% of $(k_{de})^{1/2}$ and thus dominant. This will give a larger time-orbit for the dark matter-torus compared to the time-orbit of the quantum-gravity-torus.

So in this case follows: 0.18 34438 x (1.78 x 10^{-14}) = 0.32653 x 10^{-14} to be substituted in formula (26):

3.2. $$T^2 = \frac{4\pi^2 r}{0{,}18344382x\left(k_{de}\right)^{\frac{1}{2}}} \cong \frac{4\pi^2 x10^{26}}{0.32653x10^{-14}} \cong 12.25x\pi^2 x10^{40} \quad (31)$$

$$T \cong \sqrt{12.25x\pi^2 x10^{40}} \cong 3.5x\pi x10^{20}\left[s\right] \quad (32)$$

For $1y \cong 3.15x10^{7}\left[s\right] \cong \pi x10^{7}\left[s\right]$ follows:

$$T \cong 3.5x10^{13}\left[y\right] \quad (33)$$

$$T \cong 35000x10^{9}\left[y\right] \cong 35000billionyears \quad (34)$$

In dutch: $T \cong 35000Miljardjaar$ (35)

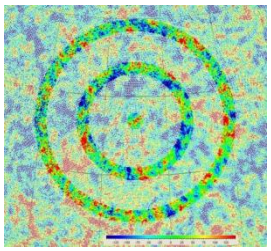
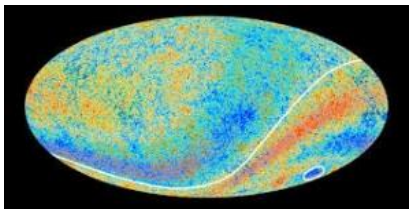


Fig. 3: 'Concentric circles' are shown in the CMB and were firstly published by R. Penrose and V.G. Gurzadyan. However, R. Penrose declared on the opening of the symposium of the 'platform mathematics' in Leiden, the Netherlands, on May 14 2011, the CMB comprehends about 350 circles in the CMB. Their discovery had a sigma-6 notification from their data of the satellites Boomerang and WMAP, which means is 100% certainty. Despite this discovery the community of cosmologists and physicists rejected their Conformal Cyclic Cosmology (CCC) theory, because they find it speculative that a universe would have existed before the Big Bang. The reference source is: Arxiv 1011.3706 Conformal Cyclic Cosmology (which is discarding cosmic inflation: And I agree with that). The series of shifted smaller- and larger- 'concentric circles' are put in perspective of the Double Torus Theory (DTT) and prove a *rotating time-torus-universe (rTTU)* in the DTT.

4. Cold spot in the CMB.



'CMB cold spot', here î

Fig. 4: The Planck-satellite image (source-ESA) to show the 'cold spot' in the CMB (right-under). I explain what the 'cold spot' in the CMB is within the theory of rotating time-torus-universe (rTTU), as follows: If one could imagine an observer in a time-orbit within the rTTU, which lays in the same surface of time-orbit of the central open-area in the middle of the standard torus, than one would not observe that 'cold spot'. Theoretically there have to be 'two cold spots', each at both ends of the upper and under position of the torus. So, what apparently is observed here, is the 'cold spot' laying opposite the surface of time-orbit of the other central open-area of the standard torus. This explanation is more cognitive than the idea that the 'cold spot' is a large mass in a stand-alone Big Bang-universe. It may be clear: *My formulas of the Double Torus Theory have revealed proof the Big Bang-universe rotates as visible hologram of gravity in a time-torus-universe.*

References .

1. www.nu.nl (23 september 2011) Wetenschappers laten deeltjes sneller dan het licht reizen.
2. Neutrinos sent from CERN to Gran Sasso respect the cosmic speed limit. Press-announcement CERN (23 februari 2012)

3. Nature News Blog (February 22 2012) Faster-than-light neutrino measurement has two possible errors.
4. Press-announcement CERN (June 8 2012) Neutrinos sent from CERN to Gran Sasso respect the cosmic speed limit.
5. [41] viXra:1505.0121 submitted on 2015-05-16 13:36:35, Principle For The Hologram Of Gravity, Author: Dan Visser, Category: Mathematical Physics
6. [19] viXra:1204.0043 replaced on 2012-05-20, Duonistic Neutrinos Violate Relativity, Authors: Dan Visser, Category: Mathematical Physics.
7. www.vixra.org/author/dan_visser, Overview of the development of the Double Torus Theory.
8. [3] viXra:1010.0013 Thought-Experiment Provides a Formula for (New) Dark Energy Force. Author: Dan Visser. Category: Mathematical Physics.
9. [1] viXra:0909.0005 A Short Article On A Newly Proposed Model Of Cosmology. Authors: Dan Visser, Chris Forbes, Keith Lees. Category: Relativity and Cosmology.
10. *Phys. Rev. Lett.* **98** 150801 (2007); Laboratory test of Newton's second Law For small Accelerations.
11. [3] Physics World Apr 25, 2007: New lower limit set for Newton's law.
12. [37] viXra:1408.0188 Dark Matter Is Time-clock Faster Than Light In Vacuum. Author: Dan Visser. Category: Mathematical Physics.