Dark Matter Is Time-clock Faster Than Light In Vacuum.

Author: Dan Visser[i]

Date: August 27 2014

Abstract.

In this paper formulations and calculations are exposed for a new paradigm of dark matter. Dark matter does not exists of solid particles. Dark matter exists of 'faster time-cells' than standard-time-based-on-light-speed. These 'cells' may sometimes give high-energetic particles, such as e.g. neutrinos, a velocity-gain, which can violate the light-speed in vacuum. In this perspective dark matter can be detected by the 'combination of energy per time-volume and simultaneously a small light-flash'. Therefore the focus must be on detection of clock-energy during light-flashes !! Put a clock into the dark matter detection-configuration and the energy of the 'time energy-density' will change the clock-period, while it also gives a light-flash per second! The 'dark matter time-cells' are independent on whether time is relative or not. The assumption to describe dark matter as solid particles, such as 'wimps', 'axions', or 'dark matter being its own anti-particle', is therefore false. The new dark matter paradigm is based on analysis and worked out in this 'paper' as a part of a wider framework, called the Double Torus Theory for the Universe. This is a replacement for the Big Bang theory. The wish of this paper is to contribute to the dark matter research-project-teams, who aim to detect dark matter in the up-coming period to 2017 in the UK, USA, Italy, the Netherlands and other countries. Despite all the institutional- and press-commotion of OPERA an ICARUS in 2012 I postpone neutrinos indeed can be affected by 'dark matter faster-time-cells'. These imply the violation of General Relativity Theory (GRT) and Quantum Theory (QT). A calculation proves that e.g. 62 nanosecond velocity-gain wouldn't be a hazardous value, but can vary depending on the intensity of the dark matter's circular-acceleration in vacuum. This is explained in this 'paper'. It also means not always a violation of GRT and QT will happen. Separately and consistently an additional formulation (and calculation) is given about how the vacuum-energy-density of the QT can be eliminated from its extreme too large value compared to GRT.

1. Preface.

The chase on dark matter has to be extended with a new perspective for dark matter. Dark matter can be visualized as 'sub-quantum time from a deeper level in vacuum'. This is not to relate to solid particles. This paper describes the formulations and calculations, which show how dark matter can be interpreted as 'time-densities' rather than 'energy densities'. 'Time' in the sense of 'time-densities' are independent on whether time is relative or not, such as with GRT. This analysis is a follow-up of a larger framework of papers of mine, which I posted in the vixra-archive, and which describes a new theory for the universe, called the 'Double Torus Theory'. This framework establishes several formulations to give evidence for the non-existence of the Big Bang on behalf of a rotational recalculating universe, which uses 'time smaller than the Planck-time'. Some of my papers show that the Background radiation of the Big Bang universe, the CMB, can be put in perspective of 'dipole' and 'concentric circles'. This theoretically proves the rotational character of the universe, but not as a Big Bang. My new theory fundamentally presents 'new dark energy', which is different from the 'cosmological constant' Einstein used, because it is related to dark matter as 'time-densities' and based on 'time smaller than the Planck-time'. The quantum Newton-force and sub-quantum dark matter-force are comprehended in one formulation.

High energetic neutrinos also might feel the 'spontaneously impulsive time-densities of dark matter'. This locates neutrinos in a faster time-environment, which sometimes make them

violate the GRT and QT. Such might have been the case in September 2011, when neutrinos were sent from CERN to San Grasso. Afterwards the two rival projects, OPERA and ICARUS, battled about whether neutrinos were faster-than light-in-vacuum or not. The press and the public were amazed about the announcement of a 'defect cable-plug', which mismatched 'time-synchronization'. However, that issue is not so far from a real understanding about why neutrinos went faster. Here in this paper I say: The defect 'cable-plug' has been a blessing by accident to detect 'time-densities', hence dark matter, but without having been aware of what really is the theory possible. In this respect I refer to evidence in an earlier paper of mine (with the support of formulations and calculations[1]), which prove neutrinos could have been involved in a so called 'time-density' of dark matter. At that time I theoretically noticed, that the neutrino-velocity of 62 nanoseconds faster than the light-speed in vacuum, was a result in my formulations. Now renewed in this paper I explain again how this can deeply be explained.

2. Introduction.

I call upon conservative scientists to put aside their old view of dark matter. Dark matter are no solid particles. The up-coming dark matter-research projects towards 2017 is a new chance to reflect on the tragic event of having discovered dark matter in OPERA in September 2011 without knowing it. The results were 'killed' by ICARUS in February 2012. Resignations followed. 'Standard physics' became a subjects of politics and fear: "Einstein violated, that cannot be true. But as an 'outsider', I looked through this problem. One can call it crazy, or intelligent, but I was convinced that more imagination and cognition was needed. I pick-up the courage to write this paper, despite all the institutional commotion and conflicting press-releases, which were associated with the violation of Einstein's GRT. Maybe it is my creativity of being a painter too, that trusted his results of the new cosmological theory by showing theoretical formulations and calculations in favor of a new dark matter paradigm.

I describe and calculate how 'sub-quantum dark matter time-density' could be visualized in vacuum as a fully symmetrical state. This makes clear how light (photons) and 'sub-quantum dark matter time-densities' are combined in a 'new concept of dark energy'. Meanwhile, and already for several years, I store my papers of that framework in the vixra-archive[2]. Other peer-review channels are too conservative. They suffer from a dis-functional endorser-system. That protects the interest of institutional editors, referees and their members.

Firstly I start with an image to visualize 'time-orientation of dark matter'. Then I expose my formulations and calculation related to these 'time-densities for dark matter'.

1. The visualization of 'dark matter'.

The image below (fig. 1) represents a symmetry for 'time smaller than the Planck-time' in the appearance of a 'dark matter time-density'. In handwritten notes an explanation is given. This appearance is proved by physics-mathematics, which are described in chapter 2.

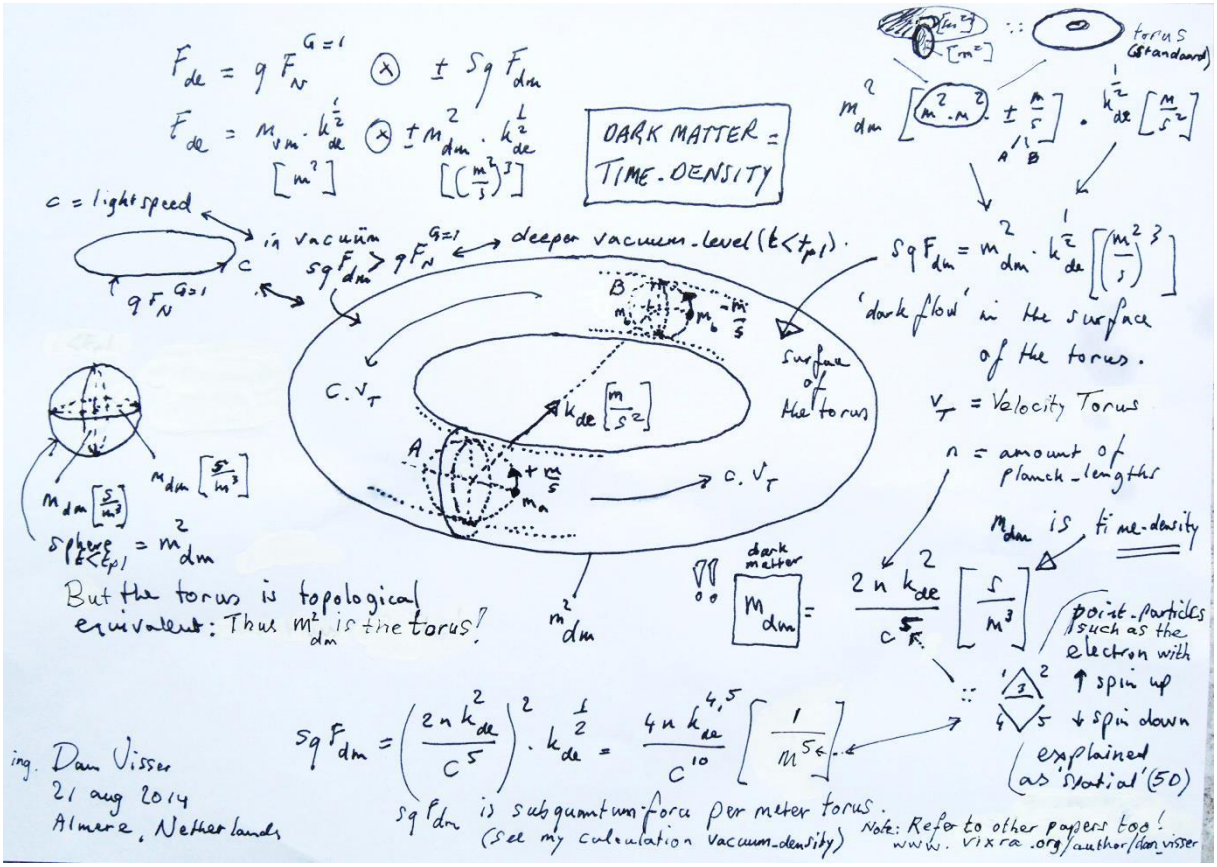

Fig. 1: Dark Matter (m_{dm}) is Time-Density ([sm^{-3}]); sub-quantum dark matter force (sqF_{dm}) eliminates the anomaly of vacuum-energy-density calculated by quantum-theory for $n.L_{pl}$ and variable dark energy accelerations (k_{de}) for $0 \le G' < G \le 1$.

2. Formulations of quantum-Newton-force and sub-quantum dark matter force.

Here the formulations are given, which express new dark energy and dark matter.

$$F_{de} = qF_N{}^{G=1}\left[m^2\right] \otimes \pm sqF_{dm}\left[\left(\frac{m^2}{s}\right)^3\right] \qquad (1)$$

(originated from my basic new dark energy force-formula derived in my thought-experiment of April 10 2004)[3].

F_{de} is a new dark energy force, which is not the cosmological constant. The $qF_N{}^{G=1}\left[m^2\right]$ is the quantum Newton-force. And $sqF_{dm}\left[\left(\frac{m^2}{s}\right)^3\right]$ is the force of 'dark flow' in a 3D surface per

second.[4] In this exposure the equalization is given by $qF_N{}^{G=1}\left[m^2\right]=sqF_{dm}\left[\left(\frac{m^2}{s}\right)^3\right]$, because beyond the minimum level for $qF_N{}^{G=1}\left[m^2\right]$ the $sqF_{dm}\left[\left(\frac{m^2}{s}\right)^3\right]$ starts to rise as a 'dark flow' in a 3D surface. This set of formulations comprehends $k_{de}=\frac{c^5L^2{}_{pl}}{2G}\left[ms^{-1}\right]$, as a mutual acceleration for both parts in the F_{de} equation (1). This exposes F_{de} as follows:

$F_{de}=m_{vm}\left(k_{de}\right)^{\frac{1}{2}}\left[m^2\right]\otimes\pm m^2{}_{dm}\left(k_{de}\right)^{\frac{1}{2}}\left[\left(\frac{m^2}{s}\right)^3\right]$, with m_{vm} is visible matter and $m^2{}_{dm}$ is dark matter.

The term $\pm m^2{}_{dm}\left(k_{de}\right)^{\frac{1}{2}}\left[\left(\frac{m^2}{s}\right)^3\right]=\pm m^2{}_{dm}\left(k_{de}\right)^{\frac{1}{2}}\left[m^2.m^2.\left(\pm\frac{m}{s}\right).\frac{m}{s^2}\right]$, whereof $\left[m^2.m^2.\left(\pm\frac{m}{s}\right)\right]$ is 'spatial dark matter', which accelerates with $k_{de}\left[ms^{-1}\right]$. That causes the 'dark matter force', which is a 'dark flow' in the 3D surface of the torus. (2)

From $k_{de}=\frac{c^5L^2{}_{pl}}{2G}\left[ms^{-1}\right]$ follows $G=\frac{c^5L^2{}_{pl}}{2k_{de}}\left[\left(\frac{m^2}{s}\right)^3\right]$, which is a '3D surface for a 'G-flow' as a quantum-gravitation force. For a maximum G, thus for G=1, follows: k_{de} is a minimum acceleration.

Then substitution in the Newton's force $F=G\frac{m_1m_2}{r^2}\left[N\right]$ changes the Newton-force in a Newton-quantum-force for $r=L_{pl}\left[m\right]$ into equation (3). The mass-particles m_1m_2 change into 'duonistic-particles', m_am_b. From this follows:

$$qF_N=\frac{c^5L^2{}_{pl}}{2k_{de}}\left[\left(\frac{m^2}{s}\right)^3\right].\frac{m_am_b}{L_{pl}{}^2}\left[\frac{kg^2}{m^2}\right]=\frac{c^5L^2{}_{pl}}{2k_{de}}.\frac{m_am_b}{L_{pl}{}^2}\left[kg^2\frac{m^4}{s^3}\right] \quad (3)$$

Here the dimension is a Newton-gravitational quantum-torus ([m².m²]) per sec (which is standard time), wherein also extra sub-quantum-time per second-squared is involved.
Note: For $r<L_{pl}$ the quantum-Newton-force qF_N decreases relative to the sub-quantum dark matter-force, which then changes into in $sqF_{dm}\left[\left(\frac{m^2}{s}\right)^3\right]$.

Furthermore the conservation of the universal principle of centripetal force, $F_c = \frac{mv^2}{r}\left[N\right]$, is valid for dark matter. That follows from the transformation of the dimension $\left[\left(\frac{m^2}{s}\right)^3\right]$ into $\left[kg^2\frac{m^4}{s^3}\right]$, for G=1, as follows:

$$\left[kg^2\frac{m^4}{s^3}\right] = k_a.\left[\left(\frac{m^2}{s}\right)^3\right], \text{ whereof follows } k_a = G\left[N\right]. \quad (4)$$

From that follows:

$$\left[kg^2\frac{m^4}{s^3}\right] = G\left[N\right].\left[\left(\frac{m^2}{s}\right)^3\right] = \left[kg\frac{m}{s^2}\left(G\frac{m^3}{s^2}\right)\frac{m^3}{s}\right] = \left[kg\frac{m}{s^2}kg\frac{m^3}{s}\right] = \left[kg^2\frac{m^4}{s^3}\right]$$

Thus, it is allowed to equalize the following equations (quantum-Newton force and sub-quantum dark matter centripetal force):

$$\frac{c^5L^2{}_{pl}}{2k_{de}}.\frac{m_am_b}{L_{pl}{}^2}\left[kg^2\frac{m^4}{s^3}\right] = \frac{m_{dm}v_T{}^2}{L_{pl}}\left[kg^2\frac{m^4}{s^3}\right] \quad (5)$$

Here m_am_b have become dark matter, such that follows:

$$\frac{c^5L^2{}_{pl}}{2k_{de}}.\frac{m^2{}_{dm}}{L_{pl}{}^2} = \frac{m_{dm}v_T{}^2}{L_{pl}}$$

From this follows:

$$m_{dm} = \frac{2v_Tk_{de}}{c^5L_{pl}}\left[\frac{m^2s^{-2}ms^{-2}}{m^5s^{-5}m}\right].$$

That gives:

$$m_{dm} = \frac{2v_Tk_{de}}{c^5L_{pl}}\left[\frac{s}{m^3}\right] \quad (6)$$

Dark matter is a time-density in seconds per cubical meter.

According to the evidence of equations (4) and (5) the conservation of the centripetal force for dark matter also justifies $g = \frac{v^2}{r}$, whereof follows:

$k_{de} = \frac{v^2{}_T}{n.L_{pl}}$, wherein $n.L_{pl}$ represents the scale-size for dark matter.

From this follows:

$v^2_T = k_{de} n L_{pl}$ From this follows: $m_{dm} = \frac{2 k_{de} n L_{pl} k_{de}}{c^5 L_{pl}} \left[\frac{s}{m^3} \right]$, and from this follows:

$$\boxed{m_{dm} = \frac{2n\left(k_{de}\right)^2}{c^5} \left[\frac{s}{m^3} \right]}$$

Dark Matter Time-Density. (7)

Where (n) is the amount of Planck-lengths L_{pl} , k_{de} is the dark energy-acceleration powering the centripetal force in a deeper level of a vacuum-sub-quantum-torus. The light-speed is c.

Equation (7) implies a detailed formulation for the sub-quantum dark matter-force, as follows:

$$sqF_{dm} = \left(\frac{2n}{c^5} \left(k_{de}\right)^2 \right)^2 . k^{\frac{1}{2}}_{de} \left[\frac{1}{m^5} \right] \quad (8)$$

$$\boxed{sqF_{dm} = \frac{4n\left(k_{de}\right)^{4,5}}{c^{10}} \left[\frac{1}{m^5} \right]}$$

Sub-quantum dark matter-force (Reference fig. 1) (9)

The sub-quantum dark matter-force enables to calculate the vacuum-density of quantum-theory, which is a factor 10^{122} too large compared to calculations made in GRT. The (n) is the amount of Planck-lengths L_{pl} , k_{de} is the dark energy-acceleration powering the centripetal force in a deeper level of a vacuum-sub-quantum-torus. The light-speed in vacuum is c. The visualization is in fig.1 (chapter 1). The calculation is made in chapter 3.

Explanation

The $\left(k_{de}\right)^{\frac{1}{2}}$ is variable from $0 \le G' < G \le 1$, for example:

For G=1 is $\left(k_{de}\right)^{\frac{1}{2}} = \left(\frac{c^5 L^2_{pl}}{2} \right)^{\frac{1}{2}} = 1.78x10^{-14} \left[ms^{-1} \right]$ with $qF_N{}^{G=1} = sqF_{dm}$

For G is $\left(k_{de}\right)^{\frac{1}{2}} = \left(\frac{c^5 L^2_{pl}}{2G} \right)^{\frac{1}{2}} = 2.1795x10^{-10} \left[ms^{-1} \right]$ for $qF_N > sqF_{dm}$

note: In former 'papers' sometimes for G=1 the value $\left(k_{de}\right)^{\frac{1}{2}}$ is written as 2.8 x 10^{-14} [ms^{-2}] due to an omission with the squared L_{pl}-value).

Just as with G, where $\left(k_{de}\right)^{\frac{1}{2}}$ is written as 0.3527 x 10^{-10}[ms^{-2}]. This is not of main-importance to expose the rest of the framework of the Double Torus Theory.

Now it is about the implication of $\left(k_{de}\right)^{4,5} << \left(k_{de}\right)^{\frac{1}{2}}$, which is due to the variation of G according $0 \le G' < G \le 1$. This means some variable values of k_{de} in the $\left(k_{de}\right)^{4,5}$ can be adjusted in the exponent, for example such that an exponent exists of 4.45 or 4.9. Thereby an exponent 4.45 might belong to the 4.45% visible matter observed, which I already theoretically

predicted in my sub-quantum-manifest in 2004. Also an exponent 4.9 may be related to the 4.9% visible matter the Planck-satellite measured in 2012. I think more detailed astronomical measurements will eventually come to 4.45% visible matter in the future.

3. Calculation of k_{de} to prove the elimination of the anomalous factor 10^{122} of QT-vacuum-energy-density, which proves the Double Torus Theory is right.

Now I give the calculation, whereof is proved the conventional Quantum Theory and the exposed dark matter both perform an acceleration $\left(k_{de}\right)^{\frac{1}{2}}.\left(k_{de}\right)^{\frac{1}{2}} = k_{de}$. The anomaly of the discrepancy in vacuum-energy-density says: the calculations from QT, compared to GRT, result in a factor 10^{122} to large. This is eliminated by equation (9) for $sqF_{dm} = 10^{-122}$, whereof I can show the belonging k_{de} represents dark matter at a scale which is definitely not the scale of the Big Bang. The k_{de} is the combination of as well the acceleration of the Newton-force as the acceleration of the dark matter-force. Hence, I need $\left(k_{de}\right)^{\frac{1}{2}}$ at a length-scale smaller than 1.78 x 10^{-14} [ms^{-2}], for example 10^{-14} [ms^{-2}] (instead of 1.78x10^{-14} [ms^{-2}]), which thus will represent the $sqF_{dm} > qF_N$.

This will prove the Double Torus Theory (DTT) to be real. I already made that clear in earlier papers, but now in this paper it worked out alternatively rather well. Look for yourself:

$$sqF_{dm} = \frac{4.n.\left\langle \left\{ \left(k_{de}\right)^{\frac{1}{2}} \right\}^2 \right\rangle^{4.5}}{c^{10}} = \frac{4.n.\left\langle \left\{ \left(10^{-14}\right) \right\}^2 \right\rangle^{4.5}}{c^{10}} = 10^{-122}$$

$$n = \frac{3^{10}}{4} 10^{-122}.10^{80}.10^{126} = 14762x10^{84} \cong 1.5x10^{88}$$

$$scale_{DTT} = 1.5x10^{88} x 1.6x10^{-35} = 2.4x10^{53}\left[m\right] \qquad (10)$$

This is no Big Bang-scale (10^{26} [m]), but a Double Torus Universe-scale (10^{53} [m])>(10^{26})^2 due to a tiny smaller k_{de} than k_{de} = 1.78 x 10^{-14}.

The main-conclusion is: The discrepancy for vacuum-energy-density is solved with the introduction of sub-quantum dark matter force, which is based on time smaller than the Planck-time in a new cosmological model, called Double Torus Universe.

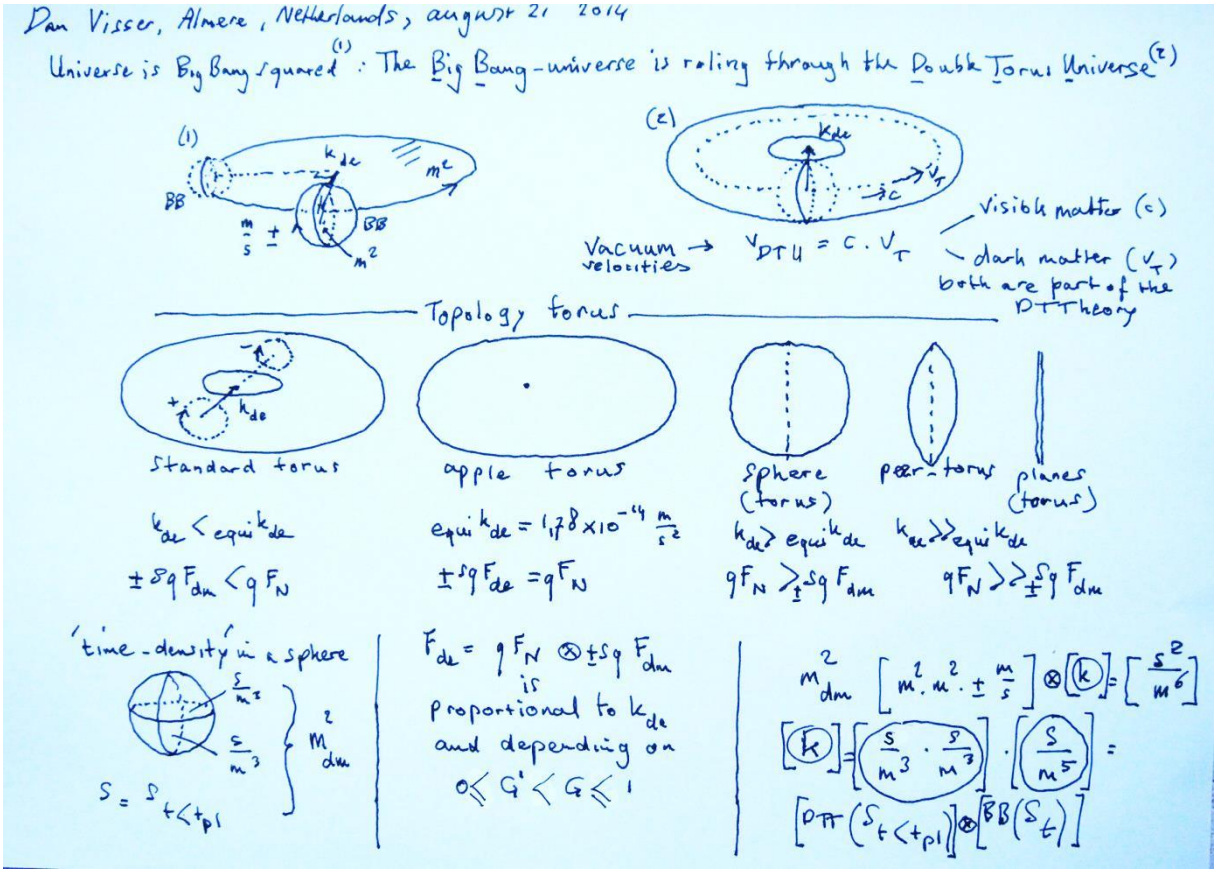

Fig. 2: The Big Bang-universe can be interpreted as rolling through the Double Torus Universe. Shown is also how the new dark energy-acceleration (k_{de}) causes variations and changes the topology of the torus. This is proportional to the balance of quantum Newton-force (qF_N) and sub-quantum dark matter-force (sqF_{dm}). Both are combined in a new dark energy force (F_{de}). Visible matter and dark matter contribute to the velocity (v_{DTU}) in the Double Torus Universe. The dimension of time smaller than the Planck-time (DTU ($s_{t<tpl}$)) and standard Big Bang-time (BB(s_t)) are both the base of performing events in the Double Torus Universe (DTU). This makes the DTU a rotational universe, as well as an eternal universe and also a quantum-recalculated universe. The performance by 'sub-quantum time of dark matter time-densities' stands central. The 'apple-torus topology' for the Double Torus Universe leads to a scale of 10^{52} [m]. This is the squared Big Bang-universe scale $(10^{26})^2$ [m].

4. Calculation of neutrinos-faster-than-light-speed in vacuum due to the dominance of sub-quantum dark matter time-densities.

Here the calculation is given that proves neutrinos might sometimes be faster than light-in-vacuum. I earlier calculated this in one of my papers[1], but at that time the commotion was rather unpleasant by conflicting press-results.

Firstly I derived the calculation from equation (7), which is dark matter as 'time-density'. This includes both accelerations , which means for $sqF_{dm} = qF_N$, and which predicts a dark matter 'hit' will not be strong enough to interact with standard time in the visible world.

The calculation is as follows:

$$m_{dm} = \frac{2n\left(k_{de}\right)^2}{c^5}\left[\frac{s}{m^3}\right], \text{where } scale = n.L_{pl}$$

For $n = 10^{21}$ the $scale = 10^{21} x 1.6x10^{-35} = 1.6x10^{-14}\left[m\right]$

$$k_{de} = \left\{\left(k_{de}\right)^{\frac{1}{2}}\right\}^2 = \left(1.78x10^{-14}\right)^2 \text{ for } sqF_{dm} = qF_N$$

From this follows:

$$m_{dm} = \frac{2x10^{21}\left\{\left(1.78x10^{-14}\right)^2\right\}^2}{\left(3x10^8\right)^5}\left[\frac{s}{m^3}\right]$$

$$m_{dm} = 0.026x10^{-75}\left[\frac{s}{m^3}\right]$$

$$m_{dm} = 0.026x10^{-117}\left[\frac{s}{\left(10^{-14}\right)^3 m^3}\right] \tag{11}$$

The prediction is correct. Such a small value of 'time-density' will hardly be of influence on the standard time-clock of the visible quantum-world. However, I show for stronger dark matter, this story changes the current paradigm!

For stronger dark matter in equation (7) the acceleration for visible quantum-matter becomes related to $qF_N = 1$, because the maximum quantum-Newton-force is reached. This changes the equation (7) in one acceleration for dark matter and one for quantum-Newton-force. Then the inversion of the light-speed is demanded. From this follows:

$$m_{dm} = \frac{2n\left\{\left(k_{de}\right)^{\frac{1}{2}}\right\}^2}{\frac{1}{c^5}} = 2n\left\{\left(k_{de}\right)^{\frac{1}{2}}\right\}^2 c^5\left[\left(\frac{m}{s^2}\right)^2\frac{m^5}{s^5}\right] \tag{12}$$

$$\left[\left(\frac{m}{s^2}\right)^2\frac{m^5}{s^5}\right] = \left[\frac{m^2}{s^4}\frac{m^5}{s^5}\right] = \left[\frac{m^7}{s^9}\right] = \left[\frac{m^4}{s^4}\frac{m}{s}\left(\frac{m}{s^2}\right)^2\right] = \left[\left(\frac{1}{G}N\frac{m}{s}\frac{m}{s^2}\right)\frac{m}{s^2}\right] \tag{13}$$

As one can see, $qF_N = 1$ (which is a maximum Newton-force), now dimensionally involved in stronger dark matter, such that $\frac{1}{G}N$ gets an angular momentum (tangential velocity), and is also effected by two accelerations, which models the whole picture into a rotation. But to keep this in perspective of time-density dimension in [s/m^3], one has to notice the original equation (7) has been divided by one acceleration k_{de}, while c^5 was inverted. Therefore dimension (13) has to be multiplied by a dimensional factor to put it back in 'time-density', as follows:

$\left[\frac{s^2}{m}\right]\left[\frac{s^{10}}{m^{10}}\right] = \left[\frac{s^{12}}{m^{11}}\right]$, within the equation (13) follows:

$$\left[\frac{m^7}{s^9}\right]\Rightarrow\left[\frac{m^7}{s^9}\right]\left[\frac{s^{12}}{m^{11}}\right]=\left[\frac{s^3}{m^4}\right]$$

This dimension is the time of one standard time-clock and time of the two sub-quantum-time-clocks,per torus. So, it will be put back when the dimension of equation (13) is adjusted with this dimensional factor, as follows:

$$\left[\left(\frac{1}{G}N\frac{m}{s}\frac{m}{s^2}\right)\frac{m}{s^2}\right]\left[\frac{s^3}{m^4}\right]=\left[\left(\frac{1}{G}N\frac{m}{s}\frac{m}{s^2}\right)\frac{s}{m^3}\right]$$

Now it is related to 'time-density'.

The formulation for stronger dark matter then becomes:

$$m_{dm}=\frac{2n\left\{\left(k_{de}\right)^{\frac{1}{2}}\right\}^2}{\frac{1}{c^5}}\left[\left(\frac{1}{G}N\frac{m}{s}\frac{m}{s^2}\right)\frac{s}{m^3}\right] \qquad (14)$$

The dark matter as described in this equation (14) is a maximum quantum-Newton-force with an angular-velocity in a time-density. This is to be visualized as a 'quantum-Newton-force-clock'. However, the equation (7) was expressed without this 'quantum-Newton-force-clock' instead.

Hereafter the calculation is given to prove neutrinos can be affected by such a 'quantum-Newton-force clock' and well at sub-quantum-scale (this is a torus-geometry):

For $n=10^{21}$ the $scale=10^{21}x1.6x10^{-35}=1.6x10^{-14}\left[m\right]$, which is the atomic-scale.

$k_{de}=\left\{\left(k_{de}\right)^{\frac{1}{2}}\right\}^2=\left(0.3574x10^{-14}\right)^2$ for stronger dark matter force ($sqF_{dm}>qF_N$),

Whereof follows:

$$m_{dm}=\frac{2x10^{21}\left\{0.3574x10^{-14}\right\}^2 10^{-42}}{\frac{1}{3^5x10^{40}}}=62x10^{-9}\left[\left(\frac{1}{G}N\frac{m}{s}\frac{m}{s^2}\right)\frac{s}{\left(10^{-14}\right)^3 m^3}\right] \qquad (15)$$

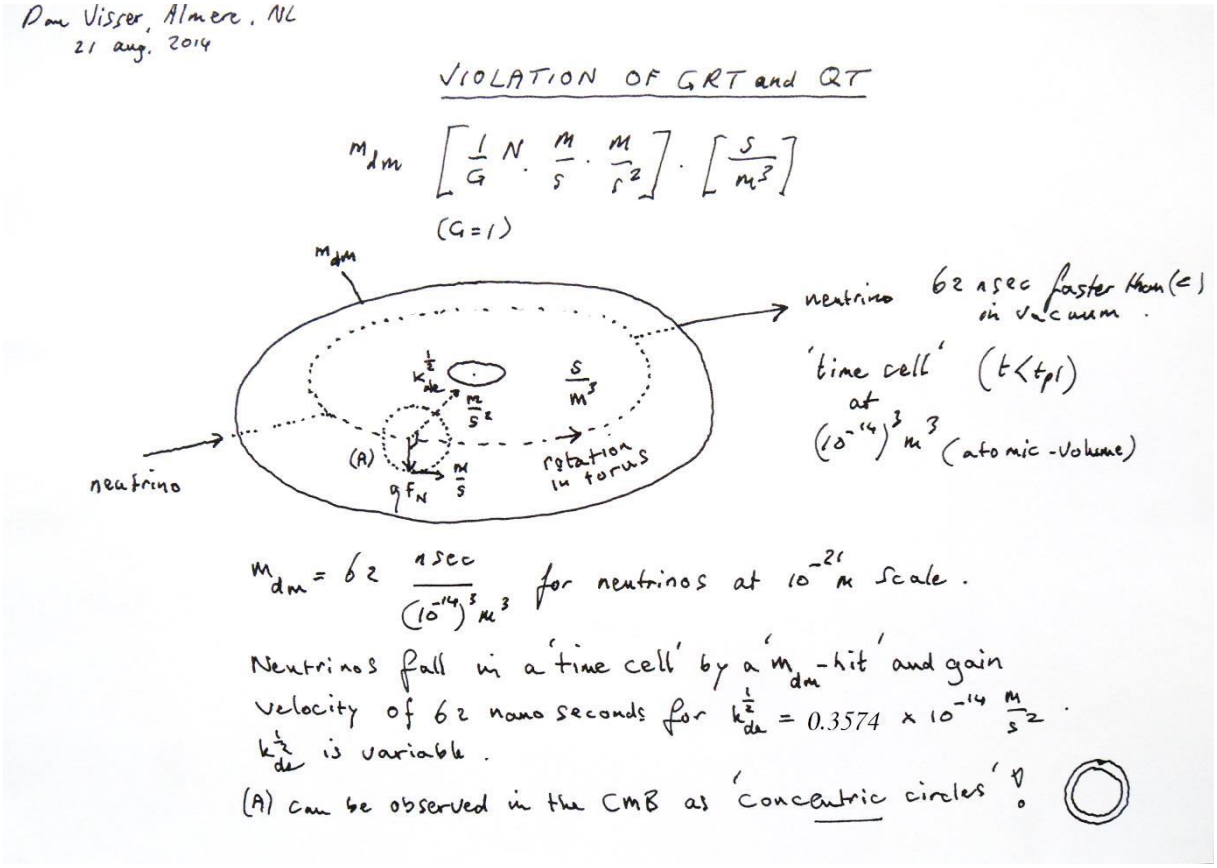

Fig. 3: Violation of GRT and QT by dark matter as 'time cells'.

On the neutrino-high-energy-scale, at 10^{-21} [m], neutrinos might be affected by a 'dark matter time-density' at an atomic scale. The 'dark matter hit' looks like a neutrino falls in a 'faster time-clock'. This clock is faster than the standard time-clock used for light. Within such an event neutrinos gain velocity compared to light-speed in vacuum.

I prove neutrinos can be faster with 62 nanoseconds by applying a smaller $(k_{de})^{1/2} = 0.3574 \times 10^{-14}$ [ms^{-2}] than 1.78×10^{-14} [ms^{-2}], of which the latter belongs to $qF_N = sqF_{dm}$. The smaller $(k_{de})^{1/2}$ is, the more rotational qF_N becomes located within the influence of the sqF_{dm}.

Note-1: $(k_{de})^{1/2}$ is variable.
Note-2: The neutrino velocity-gain depends on the variable $(k_{de})^{1/2}$.

Talking about dark matter, is talking about 'cells of time'. One dark matter 'hit' is a 'hit' of one time cell. That speeds-up particles, like neutrinos. I am convinced, despite all the institutional- and press-commotion of OPERA an ICARUS in 2011 and 2012, which respectively marked neutrinos firstly faster- and then secondly not-faster than light in vacuum, that the GRT-violation-paradigm is a real thing. Neutrinos indeed can go faster than light in vacuum! They do so, when dark matter (time-cells) are in their way and enclose them for a 'split-second'.

My formulations and calculations also shows that the vacuum-discrepancy automatically is solved by accepting the new model for the universe in the shape of a 'Double Torus Universe' with its formulations. Besides the new visualization of dark matter as 'time-cells', also implies the acceptance of time smaller than the Planck-time. This explains, moreover, 'concentric circles' being present in the CMB. The rotational characteristic implies the CMB-dipole. The Cosmic Microwave Background, however, is not a sign from a state after a beginning of the Big Bang universe, but a view on deeper depths that are located within the torus-structure.

Some reference 'papers' of mine, which also have described values for dark matter, are in fact less detailed to reveal what dark matter really is. That implied, for example, I calculated dark matter on 1560 GeV per [m^3]. However, the time-component in the dimension never became clear. Time remained hidden those formulations. This 'paper', however, changes this point of view.

5. Dark matter-detection needs a light-clock.

How to detect dark matter as 'time-cells'? Answer: Put the dark matter detector in a light-clock! Eventually the detector itself must be the time-clock! I show an additional calculation for explaining this, as follows:

According to calculation (15):

$$m_{dm} = 62x10^{-9}\left[\left(\frac{1}{G}N\frac{m}{s}\frac{m}{s^2}\right)\frac{s}{\left(10^{-14}\right)^3 m^3}\right]$$

However, G=1, which means the dimensions can be re-written as:

$$m_{dm} = 62x10^{-9}\left[\frac{J}{\left(10^{-14}\right)^3 m^2 s^2}\right] = 62x10^{-9}x6.25x10^{18}\left[\frac{eV}{\left(10^{-14}\right)^3 m^2 s^2}\right]$$

Wherein the energy is per [m^2s^2]. However, because G=1, the dimension [m^2] is a surface of a light-second $1/c^2$ [s^2]. Thus [m^2s^2] = [$(1/c^2)s^2s^2$] = [$(1/c^2)s^4$] = [s^4/c^2].

From this follows:

$$m_{dm} = 387\left[\frac{GeV}{\left(10^{-14}\right)^3 s^3 \frac{s}{c^2}}\right] = \frac{387[GeV]}{\left(10^{-14}s\right)^3}.\frac{c^2}{s} \qquad (16)$$

Now becomes clear dark matter is a 'time energy-density'. It is a 'time-density' at a time-volume on a scale of 10^{-14} [s]). However, simultaneously a 'small light-flash per second' is involved. This happens when a dark matter 'hit' occurs. Dark matter is not the usual assumed energy-density in [GeV/m^3]. The here calculated value of 387 GeV belongs to neutrinos faster-than-light in vacuum, but as explained before, the accelerations $(k_{de})^{1/2}$ can vary and so the values can change and be calculated in advance.

Put a clock into the detection-configuration of dark matter and the energy of the time energy-density will change the clock-period!! Simultaneously a small light-flash occurs!!

[*i*] Research and author: Ing. Dan Visser, M. Ruyshof 20, 1333 JL Almere, the Netherlands
Phone: +31 36 54 99 701

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