The Features For Dark Matter And Dark Flow Found.

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Abstract.

Fly-By- and GPS-satellites reveal an earth-dark matter-halo is affecting the orbit-velocities of satellites. After analysis by a new set of equations, which describe dark matter, dark matter-force and quantum-gravity combined in a new dark energy force-formula, the new formulations match a percentage whereof satellites feel extra gravity. Also the dark matter-density has been calculated. The analysis confirms dark matter exists as a halo around the earth. Secondly it shows what dark matter really is. It also shows what a dark flow is. The dark matter-features are presented in a Double Torus Cosmology, a new model for the universe, which replaces Big Bang cosmology and enables to understand dark matter better!

Introduction.

New dark matter-formulations prove a dark matter-halo around the earth affects Fly-by and GPS-satellites passing and circling around the earth. Corresponding satellite-measurements are put in perspective of a new set of equations belonging to a new cosmological model for the universe, called the rotational Double Torus Universe. The set of equations shows what dark matter really is! It easily calculates dark matter, because this is fundamental in the new model. The analysis given explain why these satellites get an extra orbit-velocity and feel more earth-gravity by a dark matter-halo around the earth. The new equation-framework shows dark matter are not mass-particles in vacuum, but vacuum-torus-particles looking spacious forming an energy-spin-density with specific dimensional features. I prove dark matter are no WIMPs. The WIMPs are a product of super-symmetry from string-theory, but super-symmetry is explicitly ruled out by CERN-experiments. The LUX-experiments measure dark matter wrongly. Dark-vacuum spacious spin-densities appear to be related to a moving smaller Newton-gravity constant. A calculation shows an energy-density of 2.5×10^{-4} J/m^3 per kg^2 and per ms^{-2} for spacious dark matter(thus per two coherent moving masses in a surface and per acceleration). The calculation used a given extra orbit-velocity Δv of the fly-by satellites[1],[2] according to 0.008 ± 0.004 mm/s $> \Delta v < 7.21 \pm 0.07$ mm/s and proved the percentage of extra gravity caused by the spacious dark matter affective on the GPS-satellites matches the given 0.005 to 0.008 %[3]. That match proves dark matter really exists.

Perspective.

This paper is a follow-up on paper[4] 1104.0085v3. That paper presented the average of a smaller Newton-constant playing a role in a possible halo of dark matter around the earth. This led to a calculation for the flow of dark matter energy-density surrounding the earth. The calculation, however, is not part of standard physics. It is part of a new cosmology, called the Double Torus Universe, which is an alternative cosmology replacing Big Bang cosmology without eliminating GRT (General Relativity Theory).

That flow of a dark matter density might empowerment an extra orbit-velocity of several fly-by satellites. However, new investigation on GPS-satellites also are marked with faster velocities

and imply a larger earth-mass of about 0.005-0.008 %. These investigations are performed with standard physics and suggest dark matter might be the cause for the extra-velocity the GPS-satellites. Thus both fly-by- and GPS-satellites are subject to dark matter increasing their orbit-velocity. One can imagine dark matter pulls on the satellites additional to the earth-gravity and suggests the earth having more mass than the AIU has originally calculated.

These investigations urged me to put them in perspective of the set of equations I use in the Double Torus framework. The calculations I use directly are made on dark matter described in the Double Torus theory. Within that framework it is shown how dark matter dimensionally looks like and that is not the same as in standard physics. Standard physics need a fundamental change to realize dark matter are not WIMPs. WIMPs are predicted by super-symmetry from string-theories. But CERN-experiments proved super-symmetry is not confirmed experimentally. So, it is fully expected the LUX Dark Matter-project didn't find dark matter. The chance on finding it diminishes by the day. Their 33GeV per cross-section of 7.6 x 10^{-48} [cm^2] for WIMPs evaporates as a fata morgana. In the new set of equations of the Double Torus Theory dark matter is more like dark vacuum-particles than dark mass-particles in vacuum. Dark matter is particularly a density of space!!

Start of the analysis.

Let's start with the explanations of how the dimensions of dark matter vacuum-particles form a the dark matter energy-density-FLOW, which affects the satellites as if earth attracts them with more gravity. As investigated in my former paper 1104.0085v3 (equation 14) this has all to do with a smaller Newton-gravity constant G' < G compared to the dark matter force. In that paper I calculated an AVERAGE dark matter quantum-spin of:

$$\frac{(1.25+0.0013).10^{-11}}{2} = 0.62565\text{x}10^{-11}\left[\frac{\text{Js}}{\text{m}^4\text{Nkg}}\right] = \left[\frac{\text{Js}}{\text{m}^3}\frac{1}{\text{mNkg}}\right] \qquad (1)$$

This dimension characterizes as a *spin-density* (Js per m^3) per m, per N and per kg.
Then I calculated the dark matter energy-density for a satellite-orbit-velocity at 40.000 km/s:

$$0.62565\text{x}10^{-11}\left[\frac{\text{Js}}{\text{m}^4\text{Nkg}}\right].4\text{x}10^{7}\left[\frac{\text{m}}{\text{s}}\right] = 2.5\text{x}10^{-4}\left[\frac{\text{J}}{\text{m}^3}\right]\left[\frac{1}{\text{N}}\frac{1}{\text{kg}}\right] \qquad (2)$$

Now I will dimensionally prove this dark matter-density is a FLOW caused by a smaller G written as G' by G'.v, where G' is smaller than the Newton-gravity constant.
It means G'v is moving gravity at small scales. The velocity v is the orbit-velocity of a satellite!!

I Start with this specific G', which is also related to dark matter force, causing the extra-velocity of the fly-by satellites, where Δv/v was a dimensionless number according to formulations in the 1104.0085v3 paper. But not in this paper. Here it is:

$$\frac{\Delta v}{v} = 0.62565 \text{x} 10^{-11} \left[\frac{\text{Js}}{\text{m}^4 \text{Nkg}} \right] \quad (3)$$

I will prove this dimension can be correctly related to the standard physics of the Newton-constant G in the dimension [N.(m²/kg²)].

So, firstly in standard physics the dimension of $\frac{\Delta v}{v}$ is 1 (dimensionless) (4)

But for :

$$G\left[N \frac{m^2}{kg^2} \right] \quad \text{and} \quad (5)$$

$$\frac{1}{G}\left[\frac{1}{N} \left\langle \frac{kg^2}{m^2} \right\rangle \right] \quad (6)$$

Follows $G.\frac{1}{G} = 1$ also dimensionless. (7)

Dimension (6) shows an energy-density (squared) is per Newton, but it also per $\left\langle \frac{kg^2}{m^2} \right\rangle$ as for dark matter-mass $\left(m_{dm}\right)^2 \left[\left\langle \frac{kg^2}{m^2} \right\rangle \right]$ as I describe in the dark matter-force of the new dark energy-force equation within the set of equations of the Double Torus theory. This sset of equations will be mentioned just afterwards.

This legitimizes to put the energy-density dimension $\left\langle \frac{kg^2}{m^2} \right\rangle$ into the dark matter energy-density as $\left[\frac{J}{m^3} \right]$, so that follows:

$\left(m_{dm}\right)^2 \left[\frac{J}{m^3} \left(\frac{1}{N} \right) \right]$. But then there is still missing a dimensional part $\left\langle \frac{1}{kg} \right\rangle$ which is embedded in $G\left[\frac{m^3}{kgs^2} \right] = \left[\frac{1}{kg} \frac{m^3}{s^2} \right]$ (8)

This makes G for dark matter in the flyby-satellite case dimensionally correct per N and per kg, as: $G' = 0.62565\text{x}10^{-11}\left[\frac{\text{Js}}{\text{m}^4}\frac{1}{\text{Nkg}}\right]$. This is the *spin-density of dark matter* in a torus-geometry with dimensions [$m^2.m^2$] and per N and per kg.

From this spin-density in a torus, which is a FLOW, follows by the movement of the smaller Newton-gravity constant G' < G = 6.6 x 10^{-11} [$N.(m^2/kg^2)$]. But G' is changed in another order of dimension as *dark matter spin-density*. That FLOW is affected by a velocity, as:

$$G'\left[\frac{Js}{m^4 Nkg}\right]v\left[\frac{m}{s}\right]=G'v\left[\frac{J}{m^3 Nkg}\right]=\left[\frac{J}{m^3}\frac{1}{Nkg}\right] \tag{9}$$

This is a an energy-density of dark matter (per N and par kg).

My set of equations of the new dark energy-force.

The set of equations for the new dark energy-force is formulated could be retrieved in my other vixra-paper, but in general I give them here:

$$F_{de}=qF_z\left[\dim 1\right]\otimes sqF_{dm}\left[\dim 2\right] \tag{10}$$

$$qF_z=m_{vm}\left(k_{de}\right)^{\frac{1}{2}}\left[\dim 1\right] \tag{11}$$

$$sqF_{dm}=\left(m_{dm}\right)^2\left(k_{de}\right)^{\frac{1}{2}}\left[\dim 2\right]$$

Firstly:

for G = 6.6 x 10^{-11} [$N.(m^2/kg^2)$] follows:

$$\dim 1=\left[kg\frac{m}{s^2}\right]=\left[N\right] \text{ and } \dim 2=\left[\frac{\left(kgm\right)^3}{s}\right] \tag{12}$$

from that follows:

$$qF=m_{vm}\left(k_{de}\right)^{\frac{1}{2}}\left[N\right] \tag{13}$$

$$sqF_{dm}=\left(m_{dm}\right)^2\left(\pm k_{de}\right)^{\frac{1}{2}}\left[\frac{\left(kgm\right)^3}{s}\right] \tag{14}$$

$$\pm F_{de}\left[\dim 1.\dim 2\right]=\left[\left(kgm\right)^{3}\frac{N}{s}\right] \tag{15}$$

$$\left(\pm k_{de}\right)^{\frac{1}{2}}=\left(\pm\frac{c^{5}O_{e}}{2G}\right)^{\frac{1}{2}}\left[\frac{m}{s^{2}}\right] \tag{16}$$

$$O_{e}=\left(L_{Planck}\right)^{2} \tag{17}$$

Equation (15) is the original dark energy force formula from April 2004 adapted with the + sign in September 2009, written as follows:

$$F_{de}=\pm\frac{c^{5}O_{e}}{2G}m^{3}\left[\left(kgm\right)^{3}\frac{N}{s}\right] \tag{18}$$

Secondly:

for G = 1 follows $\dim 1=\left[m^{2}\right]$ and $\dim 2=\left[\left(m^{2}m^{2}\frac{m}{s}\right)\frac{m}{s^{2}}\right]$ (19)

That is for maximum gravity. As well as the universe as the Planck-scale. So then follows:

$$qF=m_{vm}\left(k_{de}\right)^{\frac{1}{2}}\left[m^{2}\right] \tag{20}$$

$$sqF_{dm}=\left(m_{dm}\right)^{2}\left(\pm k_{de}\right)^{\frac{1}{2}}\left[\left(\frac{m^{2}}{s}\right)^{3}\right] \tag{21}$$

$$\pm F_{de}\left[\dim 1.\dim 2\right]=\left[\frac{m^{8}}{s^{3}}\right] \tag{22}$$

Summarized as in its full definition, as follows:

$$\pm F_{de} = \left\langle m_{vm} \left(k_{de}\right)^{\frac{1}{2}} \right\rangle_{quantum} \otimes \left\langle \left(m_{dm}\right)^2 \left(\pm k_{de}\right)^{\frac{1}{2}} \right\rangle_{subquantum} \left[\frac{m^8}{s^3}\right]$$

$$\left(\pm k_{de}\right)^{\frac{1}{2}} = \left(\pm \frac{c^5 O_e}{2\kappa}\right)^{\frac{1}{2}} \left[\frac{m}{s^2}\right]$$

$$\kappa = \left(0 < G' < G\right)$$

$$\kappa \neq 0 \rightarrow otherwise - no - universe$$

$$\kappa = 1 \rightarrow Planck - scale$$

$$\kappa = 1 \rightarrow Univer\,\mathrm{se} - scale$$

$$O_e = \left(L_{Planck}\right)^2$$

(23)

For $0 < G' < G$ the smaller Newton-gravity constant G' starts moving by the product of G' and the velocity (v)related to the dark mass $(m_{dm})^2$, which is embedded in dark matter vacuum-particle-density with dimension $[m^2 .m^2 .(ms^{-1})]$ and empowered by acceleration $(ms^{-2})]$ in order to generate the dark matter force. I will describe the dark matter force by combining my theoretical set of equations with the equation from the reality of the fly-by and GPS-satellites.

Dark matter force.

The formulation of the dark matter force is be as follows:

$$F_{dm} = \left(m_{dm}\right)^2 .\left(\pm k_{de}\right)^{\frac{1}{2}} \left[\left(m^2 m^2 \frac{m}{s}\right)\frac{m}{s^2}\right] = G' v_{orbit} \left(\pm k_{de}\right)^{\frac{1}{2}} \left[\left(\frac{J}{m^3}\frac{1}{Nkg}\right)\frac{m}{s^2}\right] = \left[\dim 3\right]$$

$$\left[\dim 3\right] = \left[\frac{J}{m^2}\frac{1}{Nkgs^2}\right] = \left[\frac{J}{m^2}\frac{1}{kg\,\frac{m}{s^2}\,kgs^2}\right] = \left[\frac{J}{m^3}\frac{1}{kg^2}\right]$$

(24)

Shortly:

$$F_{dm} = \left(m_{dm}\right)^2 .\left(\pm k_{de}\right)^{\frac{1}{2}} \left[\left\langle\left(m^2 m^2 \frac{m}{s}\right)\frac{m}{s^2}\right\rangle\right] = G' v_{orbit} \left(\pm k_{de}\right)^{\frac{1}{2}} \left[\left(\left\langle\frac{J}{m^3}\right\rangle\frac{1}{kg^2}\right)\right] \qquad (25)$$

The dark matter force is a dark matter vacuum-energy density per two masses each in kg.

From this follows:

$$\left(m_{dm}\right)^2 = G'v_{orbit}\left[\frac{J}{m^3}\frac{1}{Nkg}\right] = \left[\frac{J}{m^3}\frac{1}{kg\frac{m}{s^2}kg}\right] = \left[\frac{J}{m^3}\frac{1}{kg^2}\frac{1}{\frac{m}{s^2}}\right] \quad (26)$$

In the case of the fly-by satellites the result is:

$$m_{dm}^{\ 2} = 0.62565x10^{-11}\left[\frac{Js}{m^4 Nkg}\right].4x10^7\left[\frac{m}{s}\right] = 2.5x10^{-4}\left[\frac{J}{m^3}\frac{1}{kg^2}\frac{1}{\frac{m}{s^2}}\right] \quad (27)$$

Shortly: $$m_{dm}^{\ 2} = 2.5x10^{-4}\left[\frac{J}{m^3}\frac{1}{kg^2}\frac{1}{\frac{m}{s^2}}\right] \quad (28)$$

To a further understanding, I continue as follows:

Dark matter-energy-density can only be detected in $\left[\frac{J}{m^3}\right]$ or $\left[\frac{GeV}{m^3}\right]$ if one accelerates two masses simultaneously in a surface as per kg^2 !! That is the reason the LUX dark matter project didn't detect any significant WIMPs-dark matter signal. LUX measures the energy per surface in $\left[\frac{GeV}{m^2}\right]$ and not three dimensional.

LUX found: 33 GeV / 7.6 x 10^{-48} [cm^2] which is 33GeV / 7.6 x 10^{-44} [m^2].

But according to equation (28), I found an energy density:

$$m_{dm}^{\ 2} = 2.5x10^{-4}\left[\frac{J}{m^3}\frac{1}{kg^2}\frac{1}{\frac{m}{s^2}}\right] \quad (29)$$

$$m_{dm}^{\ 2} = 2.5x10^{-4} x6.24x10^{18} \left[\frac{eV}{m^3} \frac{1}{kg^2} \frac{1}{\frac{m}{s^2}} \right] \tag{30}$$

$$m_{dm}^{\ 2} = 1560 \left[\frac{GeV}{m^3} \frac{1}{kg^2} \frac{1}{\frac{m}{s^2}} \right] \tag{31}$$

So I find a dark matter mass energy-density of **1560 GeV / [m³]** per two masses, which form a surface, and per acceleration for fly-by and GPS satellites passing (and circling) around the earth.

This is expressed in fig. 1.

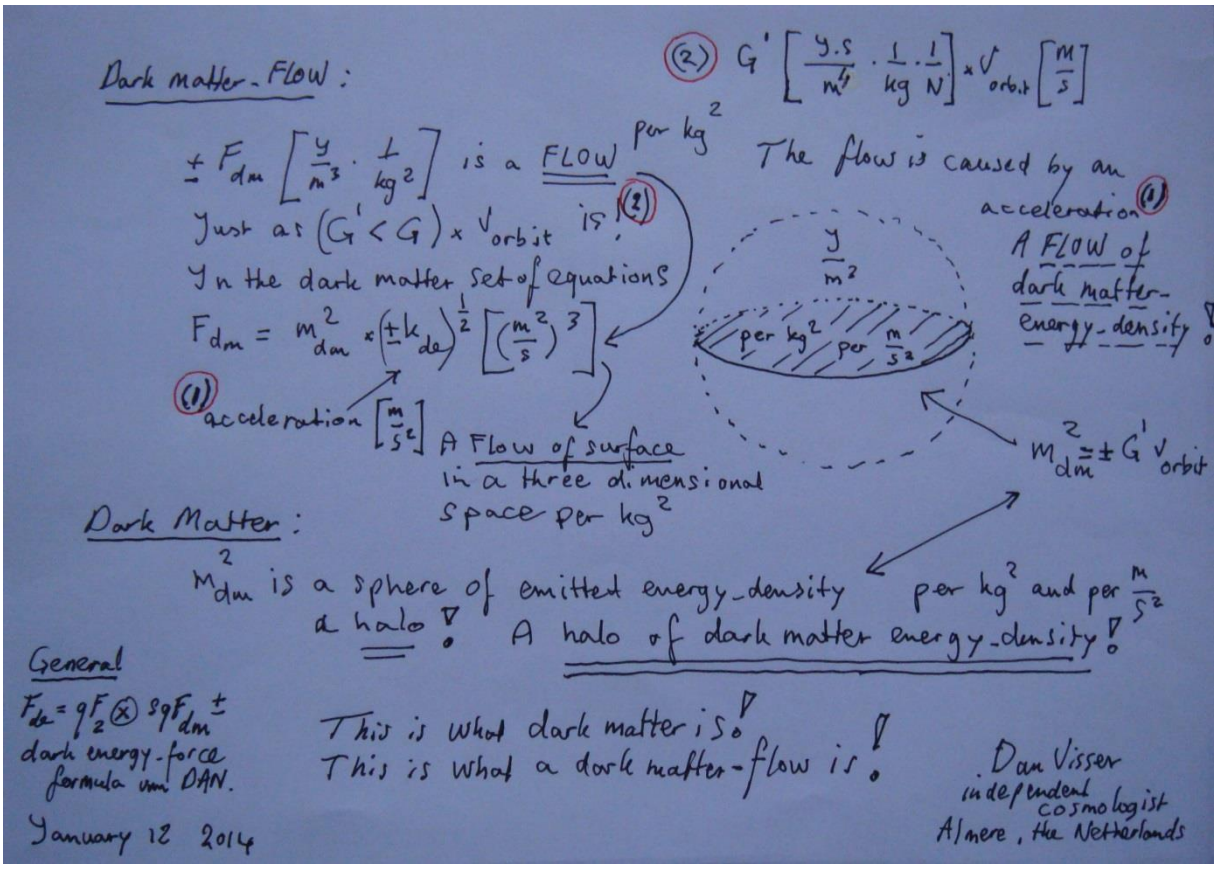

Fig. 1: Dark Matter and Dark Flow (by Dan Visser, Almere, the Netherlands)

The calculated value cannot been compared to what LUX tried to measure. The value **33GeV / 7.6 x 10^{-44} [m^2].** LUX will not find dark matter, because it lacks to measure the energy-density in three dimensional way. Moreover WIMPs are a prediction of super-symmetry, which CERN explicitly ruled out. Dark matter exists of spacious vacuum-particle shaped as a torus. This dark matter contributes as well to quantum-gravity as to quantum-expansion, depending on the

acceleration-direction of the surface-coherent moving duo-mass! Then LUX will be more successful according to my analysis. But this is not the end of my analysis. I will check the percentage published for the GPS-satellites feeling more gravity.

Check the percentage for the GPS-satellites from this analysis.

This check applies a factor that the earth mass-density differ from the calculated dark matter vacuum energy-density. The factor is directly applicable on the extra orbit-velocity of a GPS-satellite around the earth.

It starts as follows:

$$\frac{m_{dm}}{m_{earth}} = \frac{\Omega^{E}{}_{dm}}{\Omega^{m}{}_{earth}} \sim \frac{2.5x10^{-4}\left[Jm^{-3}kg^{-2}\left(ms^{-2}\right)^{-1}\right]}{10^{4}\left[kgm^{-3}\right]} \qquad (32)$$

$$\frac{m_{dm}}{m_{earth}} \sim 2.5x10^{-8}\left[mkg^{-2}\right]$$

The ratio is a length in meter per kg^2. This is related to an extra orbit-velocity.

$$\Delta v_{orb} = \frac{\Delta v_{esc}}{\sqrt{2}} = \frac{\Delta\sqrt{\frac{Gm}{r}}}{\sqrt{2}} = \frac{\sqrt{\frac{Gx\Omega^{E}{}_{dm}m_{earth}}{r}}}{\sqrt{2}} = \frac{\sqrt{\frac{Gx2.5x10^{-8}m_{earth}}{r}}}{\sqrt{2}} \qquad (33)$$

Where G x 2.5 x 10^{-8} x m_{earth} is the extra gravity effect by dark matter.

So the correlation of the increment of the orbit-velocity to dark matter is:

$$\Delta v_{orb} = \frac{1.25x10^{-4}\sqrt{\frac{Gm_{earth}}{r}}}{1.4} = 0.89x10^{-4}\sqrt{\frac{Gm_{earth}}{r}} \qquad (34)$$

$\Delta v_{orb} = 0{,}89x10^{-2}\,procent = 0.0089\,procent$ of the earth-escape velocity EXTRA. That points to extra gravity affecting the satellites by earth-gravity.

This matches the experimental GPS-satellites-results. These feel an extra orbit-velocity of 0.005% to 0.008 % given by the extra gravity caused by a dark matter halo around the earth.

References.

[1] http://en.wikipedia.org/wiki/Flyby_anomaly.

[2] http://www.planetary.org/news/2008/0228_Researchers_Investigate_New_Cosmic.html .

[3] http://www.scientificamerican.com/article.cfm?id=dark-matter-exotic-possibilities&WT.mc_id=SA_CAT_SPCPHYS_20140109.

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