Hard theoretical evidence for the Dark Energy Force Formula in a Double Torus Universe.

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Abstract.

This paper shows how my 'dark energy force formula' emerges five more space- and two more time-dimensions in nature. The 'formula' is earlier described in vixra-papers, announcing the universe is a Double Torus of dark energy and dark matter. The 'formula' represents a completely different force than the cosmological constant of Einstein, which is used to explain the accelerated expansion in Big Bang cosmology. With this in mind, two independent experimental investigations have given additional proof for my 'dark energy force formula', as follows: 1) The ratio of five extra space-dimensions and two extra time dimensions represent the up- and down electron-spin, behaving in a 'chessboard-structure' and associated with grapheme-experiments. 2) A computer-simulation shows a Double Torus, artificially emerging from two colliding black-holes. These results match with my hypothesis that the universe indeed is a Double Torus of dark energy and dark matter, because my (new) 'dark energy force formula' matches these two investigations. This (new) force could therefore have a link to topological insulators to guide light without scattering in quantum-computers.

(New) dark energy force compared to alternative image for electron-spin.

The theoretical discovery of the 'dark energy force formula' was done by me, Dan Visser, and afterwards mathematically supported by the British Christopher Forbes, PhD mathematics and physics, (and his friend-colleague, Keith Lees) in middle of 2009, after I had published my 'formula' in my website on April 4 2004. This has been discussed in the first three 'papers' hosted in the vixra-archive[5,6,7]. I derived the 'formula' from my 'thought experiment', also hosted in the vixra-archive[8]. This regarded to two black holes (large and small), which were 'scaled-away faster than light', in such a way that their evaporation-radiation simultaneously arrived in equal amounts at an observer. This was written in simple language of mathematics. The result was my 'dark energy force formula'. The British's afore mentioned mathematicians succeeded in fitting my 'formula' into a general-equation.

My original 'dark energy force formula' is:

$$F_{de} = -\frac{c^5 O_e}{2G} m^3 \left[kgm^3 \frac{N}{s} \right]$$

(1)

Where $O_e = (L_{Planck})^2$, c is the speed of light and G is the Newton-gravitational

constant. For (m^3) must be substituted mass consisting of both dark mass (m^2) and visible mass (m). The result provides a dark energy force F_{de} with a "-" sign. Christopher Forbes mathematically revealed the 'dark energy force formula' also has a "+" sign according to the general-equation.

I made equation (1) dimensionally independent of G, which enabled it to act in the 'dark energy and dark matter of the Double Torus universe'.

Starting with the original equation (1):

$$F_{de} = -\frac{c^5 O_e}{2G} m^3 \left[kgm^{3} \frac{N}{s} \right]$$

From this follows:

$$F_{de} = -\frac{c^5 O_e}{2} m^3 \left[\left\langle G^{-1} kg^3 \right\rangle m^3 \frac{N}{s} \right] \tag{2}$$

Substituting the dimensions of G in the F_{de} dimension (see equation 2), will give the dimension 3, as follows:

$$G[Nm^2 kg^{-2}] \rightarrow \left[\left\langle G^{-1} kg \right\rangle \right] = \left[\frac{m^3}{s^2} \right] \Rightarrow \left[kg^3 = \frac{m^5}{s^2} N \right] \tag{3}$$

Which result in:

$$F_{de} = -\frac{c^5 O_e}{2} m^3 \left[\frac{m^8}{s^3} N^2 \right] \tag{4}$$

As you can see the (new) dark energy force (F_{de}) exists of two forces [N^2], one for dark matter and one for visible matter. It also shows the 'dark energy force' has five extra space dimensions [$m^8 = m^3 . m^5$] and two extra time-clock dimensions [$s^3 = s . s^2$]. How wonderful this is matching the way electro-spins are to imaging in 'tiles' in a 'chessboard' structure.

In the quest to discover smaller and faster transistors, studies are conducted, showing the structure of space-time could have a "honeycomb geometry"[1,2] . This is an inference from investigations to use "grapheme" for new transistor-structures. Such a 'grapheme-grid' could be imagined as 'triangle-piles' (fig. 1).

This means electrons, described as point particles in the Standard Model of Particle and Forces, which have angular momentum called 'quantum-spin' act 'up' and 'down ' by discrete places in space. There is a good reason for that: Actually electrons have no surface, because it are point-particles. The investigation suggests the electrons   has to move from one to the other 'triangle-pile' for changing their 'quantum-spin'.

I translate this projection to my 'dark energy force formula'. As you can see <u>five</u>

lines of two 'triangle-piles (with shared baseline) are always adjacent to two 'triangle-piles' only touching their tops. Let's call this combination the 'verse-reverse-ratio'. The five lines replace the point-particle in 3 space-dimensions by 5 extra space-dimensions, So, 8 space-dimensions occur in the dark energy force dimension. This is always in ratio with the top-sharing triangles having still 3 space dimensions each. But their direction is rotated in time for each. That means two extra time-clocks are active at the same time! The dimensional ratio can thus be described as follows:

$$\left[\frac{m^3}{s} \cdot \frac{m^5}{s^2} \right] = \left[\frac{m^8}{s^3} \right]$$, always valid for a 'verse-reverse-combination, as an

alternative to image the electron-spins up and down.

What I want to express in this 'paper' is, that, according to the grapheme-investigation described in reference [1], two electrons could be imagined as being located at the end of each 'segment-line'. As the electrons are point particles in 3D space-time, the 'segment-line' also has to be considered as 3D-spacetime. However, if five segment-lines has to be added to imaging space-time, than 5 extra space-dimensions have to be added, and that is what precisely is the result of the dimensions of the 'dark energy force formula' (equation 4).
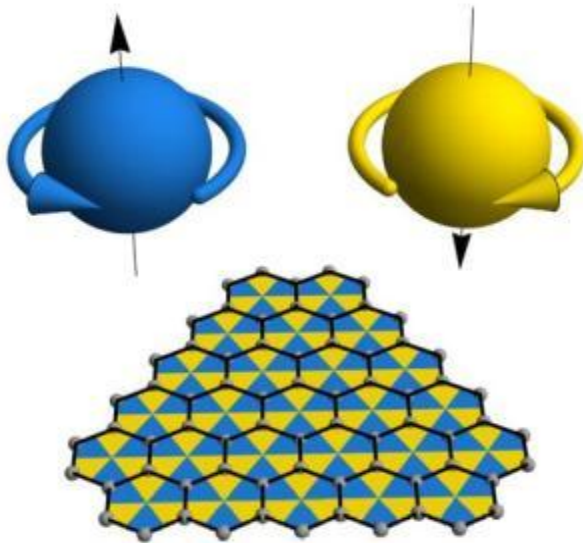

Fig. 1: Electrons are thought to spin, but are point-particles in the Standard Model, and points have no surface, thus cannot spin. The alternative is to place the different spins in separate spaces (the heart of a 'triangle', yellow and blue).
See the original reference [1*].

However, this paper extends the idea yellow or blue. One yellow and blue topping each other, and one yellow and blue sharing their baseline. Both formations are bounded in the dimensional ratio [extra space-dimensions (5) / extra time dimensions (2)].

This gives a match with the dimensions in equation (4),

$$-F_{de}\left[\frac{m^8}{s^3}N^2\right]$$

So, this (new) 'dark energy force' represents an expanding force between the spins of point-particles, a force existing of two separate forces [N^2], one for visible mater and one for dark matter. In this force two extra time-clocks are active. This force is also expressed in a general formula (see reference 1), which has a Double Torus geometry of dark matter and (new) dark energy-time.

2. A computer-simulated collision of black holes provide evidence for a Double Torus universe.

The investigation mentioned in references[3,4] show a computer-simulated pulsation of two black holes after an artificial collision. This is illustrated with 'vortexes' and 'tendexes'. Tendexes are co-operating-expanding tidal forces and vortexes are curved space-lines, whirling around each other. This turns out to be a double ' donut' !!
It is amazing that the 'vortexes' in the 'heart' of the image eject a flat double torus to lead to the next pulsation. That reminds me of Christopher Forbes , who wanted to introduce a mathematical third torus in order to describe the mathematical physics of the double torus universe.
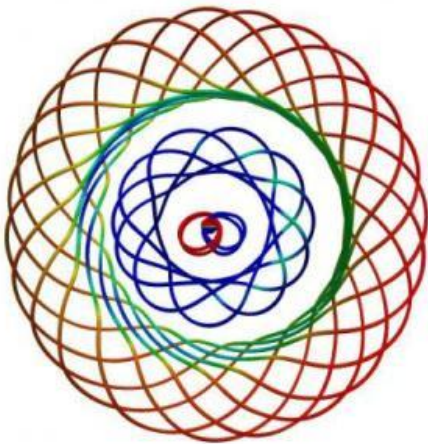

Fig. 2: A two doughnut-shaped vortex, ejected by an artificial pulsating black hole generated by the computer (references [3,4]*).

* The origin of the images are from C. *Regan/CNSI and The Caltech/Cornell SXS Collaboration)*

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