

Matter over anti-matter explained in a Double Torus.

Author: Dan Visser, Almere, the Netherlands

Date: July 14 2011

Abstract.

September 1 2009 a new cosmological hypothesis was proposed to imagine the universe otherwise. Many institutional scientists still try to implement their results into the commonly accepted Big Bang theory. I am one of the two scientists who propose a Double Torus as a new shape for the universe. Several 'papers' are hosted at 'vixra' about this subject. This paper adds an explanation to these afore published papers and in particular explains the 'dominance of matter over anti-matter', deduced from the earlier derived 'dark energy force formula' and the perspective of the Double Torus.

Asymmetric time.

Dark energy was discovered in 1998 and appeared to be the energy accelerating the expansion of space about 7 billion years after the Big Bang. Since then dark energy is assumed to be Einstein's cosmological constant, being a negative pressure of vacuum being larger than zero, which expands space in an ever lasting faster speed in a relativistic spacetime. But this is not true anymore, because dark energy was directly present after the Big bang!^[7]

However, a new force, theoretically discovered by Dan Visser in a mathematical 'thought-experiment', and named as the '*dark energy force formula*', performs a different expansion and contraction for space (and time) compared to gravity and the cosmological constant (reference [1]: vixra-paper 0017). Just exactly that, becomes actual by the discovery of dark energy being alive right at the beginning of the Big Bang.

Extensive information, given in more popular 'writings', is summerized as *the dynamics in the Double Torus Universe, which acts more like a 'recalculation-mechanism' than as a Big Bang (according to Dan Visser^[2])*.

The asymmetric time, performing this recalculation, can be imagined as follows: Take two 3D-spaces and imagine them being connected by a 2D surface, while 1/3 of time (out of three time-dimensions) operates in the one 3D-space above the Planck-scale and 2/3 of time operates in the other 3D-space below the Planck-scale. Then the mass-energy in the first 3D-space acts like matter and in the other 3D-space acts like anti-matter. This is exactly what happens according to dimensions of the 'dark energy force formula'. But what more important is: This performs the explanation for the *rise of matter over anti-matter*.

Asymmetric decay.

The 2/3 of time causes a faster decay of anti-matter in one of the 3D-spaces than in the other one with 1/3 of time. This explains the asymmetry between matter and anti-matter. Hence, it explains why more matter than anti-matter is found in the universe.

However, in a Big Bang universe this process can not be explained, because a more overall cosmological model is lacking. On the contrary the new Double torus geometry excludes any beginning of Big Bang dynamics, which is made clear in the afore mentioned 'vixra-paper 0017. Because of that the Big Bang is more a 'false-perception', and mainly caused by the 'recalculation-mechanism' in the overall universal domain, named as the Double Torus geometry. It is the 'recalculation-mechanism' that gives us the 'impression of a space-speed', and not the old feature 'dark energy as the cosmological constant'. So the imagination is to envision a "twin-space universe" instead of "one-space universe, which is recalculated such fast that it suggest a 'single' Big Bang space.

What further matters is an additional flow of matter through the 'inner' dark matter torus of the Double Torus. This 'flow' is an equivalent of the recalculation-process by the 'dark energy force'. So, both the 'torus flow of matter (dark and visible)' and the 'recalculation of twin-space' gives us the 'deceptive acceleration' of space in the Big Bang universe.

A patchwork of evidence is rising.

More ideas launched by institutional scientists about dark energy and dark matter point in the direction of an other shape for the universe, however, none of them dares to interpret this as a Big Bang anomaly. I write a lot about this on my website^[2]. For this 'paper' I add that the British astrophysicist and Advanced Fellow of the UK's Science and Technology Facilities Council, Dr HongSheng Zhao, of the St Andrews University's School of Physics and Astronomy has pointed out that both dark matter and dark energy could be "two faces of the same coin"^[3]. That sounds as music for the 'dark energy formula' and the 'Double Torus hypothesis'.

But he is not the only one. Also particle physics is fully involved^[4]. 'B mesons' can be created in experimental conditions in high energy colliders. They theoretically occur after a collision of two photons. They exist of a quark and anti-quark. They only are supposed to exist after the Big Bang. 'B mesons' may play an important role in the rise of matter over antimatter. I point out, that related to the afore mentioned faster decay in a Double Torus, the new 'dark energy force' performs an asymmetric decay of these 'B mesons', because the anti-quark will decay two time faster than the quark.

Look the evidence is there!

The transition of meson-mass to light in an extreme short moment and in balance with photons (light) suggest a contribution to extra gravity to balance the stable rotation of the galaxies. In this respect I also theoretically disclosed - in a specific 'paper' of the Double Torus (reference [1]: vixra-paper 0014) - that for $\frac{1}{4}$ of the density of dark matter the same strength for gravity occurs between dark matter and visible matter. This is observed in large amounts of dark matter in galaxies^[5]. In other words, there is experimental support for the 'dark energy force formula' and thus for the Double Torus Cosmology by astronomical research and now also in particle physics.

Moreover, dark energy really exist according to concrete observation of the Cosmic Microwave Background^[5]

Conclusion: Awake.

Although this paper doesn't comprehend mathematical derivations, because these are presented in the other 'papers' hosted in vixra, this 'paper' only adds an explanation to the question why 'matter over anti-matter' exists in the Big Bang universe. However, now it is seen from the perspective of the Double Torus hypothesis. This means that, since I, as an independent cosmologist, and Christopher Forbes as a PhD mathematics (physics) and Fellow of the Royal Academy of Astronomical Science, introduced the Double Torus hypothesis based on my 'dark energy force formula', I strongly encourage cosmologists, physicists and writers to "awake" from their Big Bang dream !!

References:

[1] Publications Double Torus Cosmology:

<http://www.vixra.org/abs/0909.0005> ; September 1 2009; Authors: Dan Visser, Cristhopher Forbes, Keith Lees, titled: "A Short Article On A Newly Proposed Model Of Cosmology".

<http://vixra.org/abs/0910.0016> ; October 11 2009; Author Christopher Forbes, titled "Mathematical and Phenomenological Elements of the Twin-Tori Model of Physics and Cosmology".

<http://www.vixra.org/abs/0911.0061> ; November 28 2009; Authors Christopher Forbes, Dan Visser, titled: "A New Quantum Gravity Framework Based on the Twin-Tori Model of Cosmology (Part 1)".

<http://vixra.org/abs/1010.0013> ; October 7 2010; Author Dan Visser: Describing the original "dark energy formula" in retrospective.

<http://vixra.org/abs/1010.0014> ; October 7 2010; Author Dan Visser, titled: "Deeper Properties derived from the 1-st derivative of the Dark Energy Force Formula".

<http://vixra.org/abs/1010.0063> ; October 29 2010; Author Dan Visser, titled: "Dark matter and visible matter fundamentally related to a new cosmological Model and Recalculated".

<http://vixra.org/abs/1101.0096> ; Februari 2 2011; Authors Dan Visser, Christopher Forbes, titled: "Entanglement related to cosmology-TTM."

<http://vixra.org/abs/1103.0012> ; March 11 2011; Authors Dan Visser, Christopher Forbes, titled: "Double torus cosmology reveals cosmic background to measure dark energy."

<http://vixra.org/abs/1104.0085> ; April 29 2011; Author Dan Visser, titled: "Dark Matter Formula for Fundamental Calculation of Satelite Flybys in Hyperbolic Orbits."

<http://vixra.org/abs/1105.0022> ; May 13 2011 ; Athor Dan Visser, titled: "Hard theoretical evidence for the dark energy force formula in a double torus universe."

<http://vixra.org/abs/1105.0033> ; May 23 2011; Author Dan Visser, titled: "Discussion Needed About Three (New) Cosmological Models Based on Mathematics and Physics."

<http://vixra.org/abs/1107.0017> ; July 10 2011; Author Dan Visser, titled: "Recalculation-mechanism of the Big Bang in a Double Torus Universe".

[2] Website Dan Visser: www.darkfieldnavigator.com

[3] Journal References: Science and Technology Facilities Council. "Dark Fluid: Dark Matter And Dark Energy May Be Two Faces Of Same Coin." *ScienceDaily*, 1 Feb. 2008. Web. 13 Jul. 2011. Dr Zhao and his collaborators' findings have recently been published by *Astrophysical Journal Letters* in December 2007, and *Physics Review D*. 2007.

[4] Syracuse University. "Observation of rare particles may shed light on why the universe has more matter than antimatter." *ScienceDaily*, 19 Jun. 2011. Web. 14 Jul. 2011. Journal references: V. Khachatryan, A.M. Sirunyan, A. Tumasyan, W. Adam, T. Bergauer, M. Dragicevic, J. Erö, C. Fabjan, M. Friedl, R. Frühwirth et al. Search for a heavy gauge boson W' in the final state with an electron and large missing transverse energy in pp collisions at $\sqrt{s} = 7$ TeV. *Physics Letters B*, 2011; 698 (1): 21 DOI: 10.1016/j.physletb.2011.02.048 S. Chatrchyancj, V. Khachatryancj, A.M. Sirunyancj, A. Tumasyancj, W. Adamck, T. Bergauerck, M. Dragicevicck, J. Eröck, C. Fabjanck, M. Friedlck, R. Frühwirth et al. Measurement of $W W$ production and search for the higgs boson in pp collisions at $\sqrt{s} = 7$ TeV. *Physics Letters B*, 25 March 2011 DOI: 10.1016/j.physletb.2011.03.056

[5] *Nature* 461, 627-628 (1 October 2009) | doi:10.1038/nature08437; titled "Universality of galactic surface densities within one dark halo scale-length".

[6] <http://physicsworld.com/cws/article/news/46572> Read Dan Visser's Comment (6)