

Remark on Unified Vortical Singularity (UVS) model in Comparison with Navier-Stokes Cosmology

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Abstract

In this paper , we review shortly UVS model of the Universe, based on information in their website. Universal Vortical Singularity (UVS) is a postulated cosmic archetype of a nested vortical hypersphere system. All sorts of its torus transformed hypersphere structures, are perceivable to be ubiquitously manifested in the observable universe throughout macrocosms and microcosms. We also discuss briefly a new model that we call Navier-Stokes cosmology, because we realize that the Cosmic Web of large scale structure of the Universe can only be approached using turbulence/NS theory. This short review is of course not complete, and therefore more research is needed.

Introduction

In this paper, we review shortly UVS model of the Universe, based on information in their website. Universal Vortical Singularity (UVS) is a postulated cosmic archetype of a nested vortical hypersphere system. All sorts of its torus transformed hypersphere structures, are perceivable to be ubiquitously

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manifested in the observable universe throughout macrocosms and microcosms. We also discuss briefly a new model that we call Navier-Stokes cosmology, because we realize that the Cosmic Web of large scale structure of the Universe can only be approached using turbulence/NS theory. In a separate paper, we review 3 ways to describe scale invariant turbulence Cosmology model as we discuss how to connect from Burgers equation, KAM theory and Golden ratio too.

UVS model

According to its website:¹

“Universal Vortical Singularity (UVS) is a postulated cosmic archetype of a nested vortical hypersphere system. All sorts of its torus transformed hypersphere structures, are perceivable to be ubiquitously manifested in the observable universe throughout macrocosms and microcosms.

In the reality paradigm shift of the UVS model, it can systematically postulate the underlying structures and mechanisms for the observed natural phenomena that demonstrate hyperspheric vortical characteristics.

And with the epistemological paradigm shift to the epistemic process and methodology of the UVS research, it can invoke the perspectivism of the UVS worldview with its transcendental perceptions to perceive these natural phenomena in its conceptual framework.

Heuristically, the observable universe is vortically formed in the closed system of a hyperspheric vortice as an aetheric



Fig.1. A nested torus structure.

¹ <http://www.uvs-model.com>

nested 3-vortice; the observable universe is in a torus transformed nested hypersphere structure formed by aether vortical motion.

The hyperspheric vortical universe with the precession effects in its grand vortical motion, harmonically spawns elementary particles that are vortically impelled and resonated in an almost all-pervasive medium of aether. In the grand vortical motion, the elementary particles that inherit the forms and characteristics of the hypersphere system in the hyperspheric vortical universe, are thus vortically coalesced as subatomic and atomic particles in their nested vortical structures.

In the harmonics of the nested spheroidal unisonal vortex that encapsulates the observable universe, all sorts of compound that are vortically coalesced from atomic particles in the microcosms, are thus resonated in the macrocosms to vortically form and transform as a unisonal system of planetary systems, star systems, globular clusters, satellite galaxies, galaxies, galaxy group, galaxy clusters, and superclusters.

The structure of the observable universe is a nested spheroidal vortical formation that has formed and transformed in the torus paradigm of a nested spheroidal unisonal vortex. “

Among other things, in their website they also present an alternative to Mendeleev periodic table of elements, described in Klein bottle scheme.

The UVS periodic table model of a Klein bottle topology

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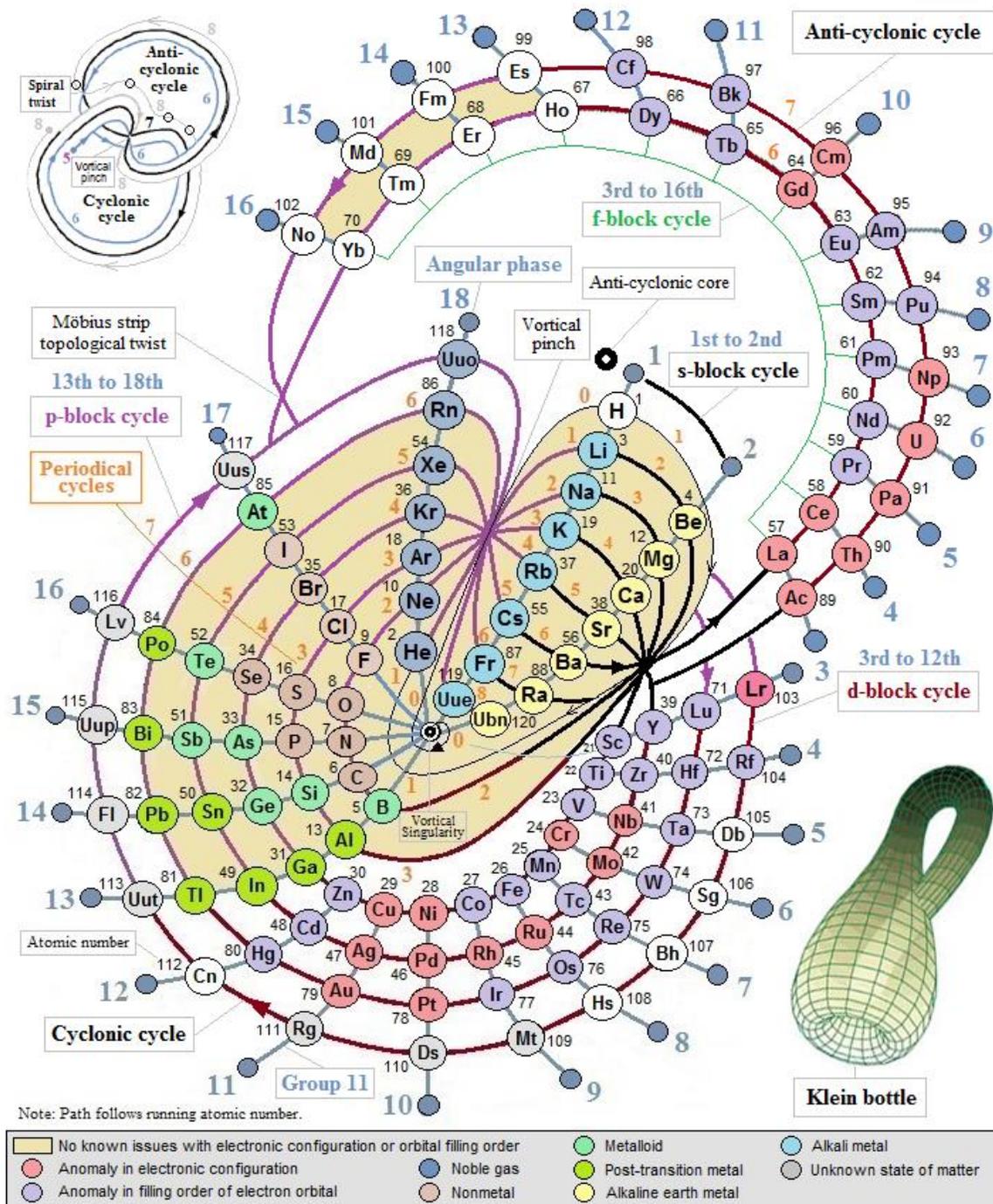


Figure 2. Klein-bottle inspired periodic table of elements (www.uvs-model.com)

Comments on UVS

UVS has a relationship to Maxwell's equations described by Maxwell, where Maxwell describes space as being filled with interconnected aether rotors. We appreciate it that UVS is based on nested vortices, related to the Helmholtz model of the electron we published recently. Galactic Plasmoids are also vortex formations. The nested vortex concept strikes me as scalable from the SubQuantum to the Macro-cosmic.

This UVS paradigm has a lot of things right, but they have left many things and behaviors out of the picture. Also, there are no "black holes". Black holes are a non-physical false artifact of E's version of relativity. The only location they can exist is in some peoples fevered imaginations. They are imaginary. Even if they were real in some way, by definition they could not be imaged.

Only plasmoids can make astronomical "jets" of matter. Plasmoids make jets of charged matter in the laboratory. At the core of each galaxy is a plasmoid vortex. Some of the more energetic plasmoids shoot out matter jets many light years long, at faster than light velocities.

These FTL jets have been observed and various excuses were made about the FTL, all of which wanted to find some artifice to somehow agree with the speed of light limit, which is a lie. 100 years of making excuses and lies to support previous lies, has been the majority of astrophysics during the past century.

Anyway, I like UVS, as far as it goes. It is tied in to my SubQuantum dynamics, but the UVS folks have not considered Bhutatmas.

These people want everything to be vortices, but observable facts demonstrate that concept is wrong, due to the fact that there are all manners of events and items that are not vortical, especially not at the scale we live in.

Certainly vortices are here to stay, but there people need to expand their horizons a bit and include all the rest of everything, and realize that there are limits and boundary conditions which are situation-dependent.

These folks have found a new tool, nested vortices. But they are acting like the man whose only tool is a hammer. To such a man, everything looks like a nail.

Maxwell, et al, examined such behaviors as streamlines and other fluidic and gas dynamic behaviors. However, the 5 phase state aether was never included in their investigations during the days of Weber and Maxwell.

If they do some more work on their paradigm and make it more complete by including items that are not entirely vortical, and including E and B, and the SQ, and then get rid of the "black hole" nonsense, some really good things can happen.

Turbulence exists at all scales, down to at least the Kolmogorov limit at $10e^{-58}$ m

However, rocks and trees and mountains and so on, are not observably turbulent. Solid phase state items are like that. And there are a lot of them about.

The most important thing they have neglected is polarity. All known Forces exhibit polarity.

Polarity arises as the SQ aether is displaced by some activity. Then the aether acts to generate an equal and opposite force to bring the local condition back to equilibrium, so it can go back to hanging out and taking it easy.

If there is any delay between action and reaction, due to vast volumes of displaced discomfoted aether, the reaction will be produced from the entire displaced volume, which can be up to light years across and take up to months

to generate the compensating force and return it to the origin of the disturbance. The larger the affected volume, the larger is the equilibrating force. Reaction forces are volumetricly additive.

Without forces, their UVS can't make whirlpools or vortices. We hope they fix it.

By the way, the measurable forces are always preceded by aether streaming events, known as vector potentials. Some think that vector potentials cause the known forces, rather than the forces causing vector potentials.

Comparison with Navier-Stokes equations and fluid crowd cosmology

Navier-Stokes turbulence equations can exhibit crowd model, and it seems these equations can go for cosmology too. Therefore, in the past few years we sought a consistent cosmology inspired by turbulence approach. Two papers have been presented earlier this year (2019), see [1][2].

In this section, we will discuss four possible applications of the proposed Navier-Stokes-Cosmology:

- a. Active Galactic Nuclei;
- b. Oceanography; and
- c. Vortex model of elementary particles.

While we quoted most of these applications from some existing literatures, but to my present knowledge there is no attempt so far to view these applications under a unified theme of Navier-Stokes cosmology. It is interesting to note here that some features of this framework may gave similarities with the fractal vortex universe model of Patrick Driessen, who also mentioned similarity between galaxies and particles [3].

a. Dipole toroidal vortex model in Active Galactic Nuclei

The 2D Navier-Stokes equation for a steady viscous flow can be written as follows:

$$\rho(\vec{v} \cdot \nabla)\vec{v} = -\nabla p + \rho\vec{f} + \mu\Delta\vec{v} \quad (1)$$

Argentini obtained a general exact solution of ODE version of 2D Navier-Stokes equation in Riccati form as follows [6]:

$$\dot{u}_1 - \alpha u_1^2 + \beta = 0, \quad (2)$$

where:

$$\alpha = \frac{1}{2\nu},$$

and

$$\beta = -\frac{1}{\nu} \left(\frac{\dot{q}}{\rho} - f_1 \right) s - \frac{c}{\nu}.$$

The solution of Riccati equation is notoriously difficult to find, so we decided to use Mathematica software in order to get an exact analytical solution. The result has been presented in a recent paper [6][7].

Another possible solution of Navier-Stokes equations comes in the form of vortex. For example, it is known that Serrin's swirling vortex is a solution of Navier-Stokes equations. In this regard, it is interesting to remark here that Bannikova and Kontorovich have proposed a dipole toroidal vortex model for Active Galactic Nuclei.[10][11]

They began their paper as follows:

“Starting with the Antonucci and Miller’s outstanding work, tori have been considered as a necessary element of the AGN-structures forming the basis of the AGN unified model. A brilliant achievement was the first direct observation of the obscuring tori described by Jaffe, Meisenheimer, Rottgering *et al.* (2004). Existence of tori was confirmed by observation with VLT optical interferometer equipped with MIDI IR-camera.”[12] They also suggested that “Since the preliminary observational data Jaffe, Meisenheimer, Rottgering *et al.* (2004) point at significantly larger torus sizes, it should be natural to suggest *the “matrjoshka” scheme: there are tori of smaller radii within the outer big torus.* In the case of Eddington luminosity, the mass of torus that replenishes the accretion disk is proportional to its big radius.” [10]

They also concluded that “A dipole–toroidal vortex can be an essential element of AGN-structure, which replenishes the accretion disk.” [10]

The figure below shows their concept [11]:

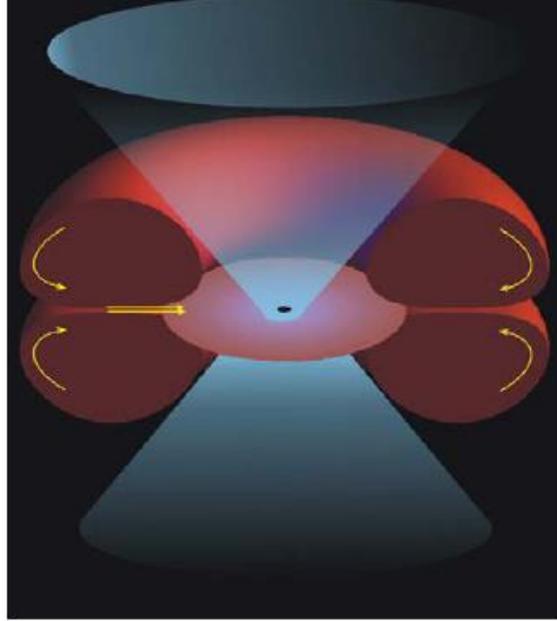


Fig. 1b. Dipole toroidal vortex in the AGN center: 3D picture.
Cones sketch out the wind and radiation.

The momentum is related with circulation and mass, and it is given by [11]:

$$\Gamma = \oint v \cdot dr = 2\pi r \cdot v_{\phi} \quad (3)$$

According to Patrick Driessen, Bohr's quantization condition also holds at galaxies scale where the cosmic Bohr radius can be estimated and it yields value: $A_0=41.8$ Mpc [6].

b. Atmospheric flow and Oceanography

The use of dipole vortex in atmospheric flow has been discussed by Snyder, Plougonven and Muraki [12]. Their paper investigates the generation mechanisms for the stationary inertia-gravity waves embedded within a larger-scale dipole vortex. Similarly, various applications of vortical flows can be

observed in oceanography field. [13] Atmospheric and oceanographic fields are few of applications of Navier-Stokes equations.

c. Vortex model of elementary particles

Now we extend it further to vortex model of elementary particles as proposed by Rockenbauer [19].

According to Rockenbauer, the Dirac equation describes the motion of electrons in electromagnetic field, but it considers spin as intrinsic property without any real motion. Despite the fact that customarily applied point charge models of avoid clarifying whether spin is related to any physical motion, there were efforts to relate certain motion to spin [16].

He argues that spin kinetic energy can be written as [16]:

$$E_{spin} = \frac{3}{2} I \omega_{spin}^2 = m a^2 \cdot \omega_{spin}^2 = m c^2. \quad (9)$$

In other words, the rest energy can be produced in full by the spinning motion of elementary particles if the peripheral speed is equal to the velocity of light. Furthermore, according to Rockenbauer, when the self-system is considered, the elementary particles behave like empty space (vacuum), and we can postulate the elementary particles as vortices defined as spinning confinements of the space.[16]

While surely his model is not complete yet, it can give an outline of vortex model of elementary particles, including equations for quarks and neutrino [16]. In short, it is quite promising alternative framework to understand spinning behavior of elementary particles.

In another perspective, Tkalya has calculated cyclo-toroid nuclear moment of particles, which may indicate the vortical structure of elementary particles [17]. It seems worth to investigate further plausibility of her approach.

Meanwhile, an alternative vortex model of elementary particles has been proposed for instance by James Tassano [18].

Concluding remarks

This paper reviews UVS model of the Universe. But that is just a review that there is coherent hydrodynamics picture for everything in this Universe, from smallest scales to galaxies and beyond.

We also review three applications of the proposed Navier-Stokes-Cosmology:

- a. Active Galactic Nuclei;
- b. Oceanography;
- and
- c. Vortex model of elementary particles.

While we cited most of these applications from existing literatures, but to our present knowledge there is no attempt so far to view these applications under a unified theme of Navier-Stokes cosmology. It is interesting to note here that some features of this framework may gave similarities with the fractal vortex universe model of Patrick Driessen, who also mentioned similarity between galaxies and particles.

It should be noted that the above presentation is not conclusive yet. However, all of these three applications seem to intriguing enough to be investigated, therefore allow me to suggest further research and experiments.

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VC, RNB, FS, DC

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