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## ASTROPHYSICAL PHENOMENA

(Article on astrophysics, black hole, gravity, cosmology (6. pp.)

### Introduction

Information in this article disrupts the common “Big Bang” and “black hole” concepts.

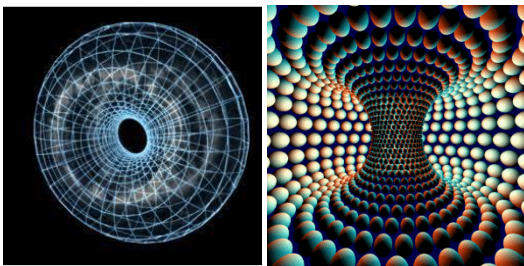
### Abstract

This paper substantiates the true origins of our universe and black holes beyond the Standard Model and opens new frontiers to NextGen astrophysical research and observations.

### New Concepts

Stephen Hawking that introduced the notion of black holes had later denied their existence. Indeed, said cosmic structures are not holes *per se* and can't be “holes” in the homogeneous fabric of space that can only bent, inflate, contract, expand or disintegrate under gravitational pull and field, but could had never pierce itself to create a hole of matter in space-time continuum.

Accordingly, what was previously conceived as a black hole, is a **Clifford-like self-gravitating tori disc (ill. 1)** – a **cosmic supercollider of doubly elliptic strings manifold**, and this explains the origin of relativistic jets from magnetized accretion disks.



**Ill. 1 Clifford torus** (By Wolfram Co,)

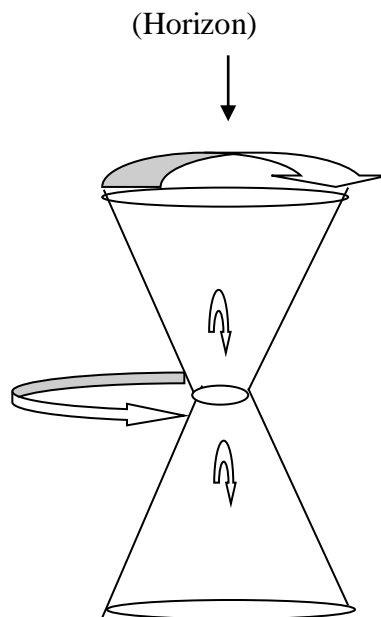
Considering the complexity and ingenuity of that cosmic structure with rotating magnetosphere, we might assume that this is a thermonuclear megacell of energy with centrifugal acceleration of astroparticles to relativistic energies, whose consolidated mass of super-dense mater is trapped in super-strong magnetic field, so the twin/dual “black hole” is a regenerated combination of such thermonuclear megacells created by

**superposition** of their gravitational fields in **quantum supercavitation**. Hence, the light doesn't escape that cosmic superstructure not because of supergravity, but due to quantum supercavitation with **quantum superlensing effect**, whereby that object might look superlarge and twin in shape to observer.

That reactive evolution of the thermonuclear megacells in their regeneration/modulation mode and the cause-and-effect of quantum supercavitation of matter have their simulation on earth in the regeneration/modulation of living cells, and in air/water supercavitation of objects per NextGen quantum aeronautics (superjet designed by me) in no drag and superspeed propulsion in anti-gravity similar to that observed in NLOs.

The correlation of cosmic megacells of mater and living cells on earth in universal biophysics provides for the biochemical/physical concept of the creation of our universe substantiated in my work **The Theory of Transitional Universe**.

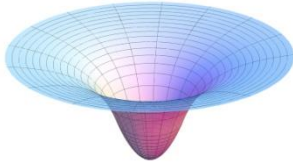
My theory and model of the **Transitional Universe** of the primordial (proto-universe) and our universe constitute the **universal double cone of matter** in the form of quasi sand clock (see **fig. 1**, below), where the rotating gravitational field with cosmic vortex of matter accumulated supermass and volume to become the universal double cone space-time structure and continuum in a transitional thermonuclear evolution without gravitational collapse in the so-called "Big Bang" that never happened in a particular "clot" of universal space, as per "Big Bang" concept.



**Fig. 1**

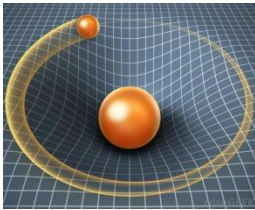
**(Fig. 1.** Universe creation: double cone space-time model with a curved horizon due to rotation and inflated gases, and depicting the downward rotation of the **contracting gravitational field** and **shock wave\* of matter** in the upper cone universe to its

**expanding gravitational field rotation** and shock wave (for **thermodynamics of a double cone and a shock wave** see ref. 4) in the bottom cone universe caused by **Coriolis force\***.

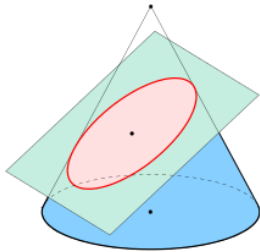


**\*Force field physics. III. 2**

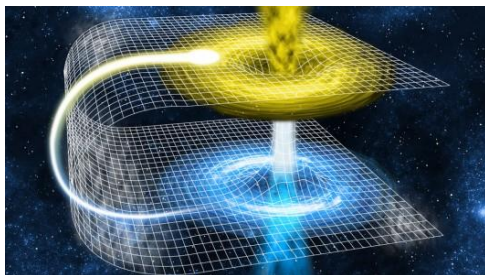
Note the **external gravity field (ill. 3)** that created the **ellipse-like central core (fig. 2.** below) of that double cone universal structure (**fig. 1,** above)



**III. 3**



**Fig. 2.** An ellipse (red) obtained as the intersection of a cone with an inclined plane



**Fig. 3** Compare this double-ellipse gravitational vortex and external, encapsulating C-like gravitational field as in fig. 1, and ill. 3, above, with gravitational vortex of matter

encapsulated by external gravitational field in thermonuclear transition in Coriolis force via central atomic core in the double cone universes (see fig. 1, above).

It means that proto-matter in the upper universal cone transformed itself from the gaseous form to soft, solid and plasma matter in the lower universal cone – our universe.

That transition occurred in Coriolis effect in the **nuclear accelerator dock** in central atomic core intersection of that double cone structure, where universal matter progressed from low energy level in the upper cone to high energy level in the bottom cone in **transverse expansion of distances**.

Reasonable new concept is that the whole double cone structure revolves around its axes, giving thereby the rotating supermass momentum to integrated galaxies, stars and planets in uniform motion which makes the external, encapsulating G-field (see central horizontal arrow in the fig. 1) to contract itself and compress thereby the central atomic core' outer space in **decreased distances in the radial direction** around atomic core' intersection between two universal cones of mater.

If a circular cone is cut by a plane perpendicular to the axis of the cone, the intersection is a circle. .

$$Ax^2 + Bxy + Cy^2 + Dx + Ey + F = 0 \quad \text{where } A, B, C, D, E \text{ and } F \text{ are constants.}$$

As we change the values of some of the constants, the shape of the corresponding conic will also change. It is important to know the differences in the equations to help quickly identify the type of conic that is represented by a given equation. If  $B^2 - 4AC$  is less than zero, if a conic exists, it will be either a **circle or an ellipse**.

Circle	$\frac{(x-h)^2 + (y-k)^2}{2} = r^2$ $(x-h)^2 + (y-k)^2 = r^2$	Center is $(h, k)$ $(h, k)$ .  Radius is $r$ .
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**Conclusion**

Said physical model of space, being **radially compressed by mass**, rather than curved by mass, as in general relativity, yields the same results predicted by Einstein's theory of general relativity. Accordingly, that spatial compression is equivalent to the Lorentz contraction in special relativity. (See Lorentz contraction and relativistic effects).

Ref. 1

**O. Zanotti. Model for an optically thick torus in local thermodynamic equilibrium around a black hole.**

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Ref. 2.

Solomon Budnik, president, UTG: **Quantum Field Theory**. [viXra:1506.0044](#) 2015-06-16

Ref: 3

Solomon Budnik: **The Theory of Transitional Universe**. [viXra:1507.0142](#) 2015-07-18

Ref. 4

**Mon. Not. R. Astron. Soc. 354, 1040–1052 (2004) doi:10.1111/j.1365-2966.2004.08265.x** (see next page)

**Oscillations of vertically integrated relativistic tori – II. Axisymmetric modes in a Kerr space–time**

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**ABSTRACT**

**Gravitating tori orbiting around black holes.** Extending the work done in a Schwarzschild background, here we consider the axisymmetric oscillations of vertically integrated tori in a Kerr space–time.

Ref. 5

**Three-dimensional calculation of the aerothermodynamics of a double cone 25°/55° on an unstructured grid**

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**Abstract.** A three-dimensional numerical simulation of  $25^\circ/55^\circ$  double-cone high-speed aerothermodynamics on an unstructured grid was carried out. For numerical simulation of the flow, a geometric model of a double cone  $25^\circ/55^\circ$  was built. Numerical simulation using air and  $N_2$  (nitrogen) was carried out. For numerical simulation, the CFD computer code UG3D developed in the Institute for Problems in Mechanics of the Russian academy of Sciences was used. This solver is based on the model of Navier-Stokes equations for a perfect gas solved on an unstructured grid. Verification and validation of the results were carried out.

## Introduction

The high-speed flow around a double cone of  $25^\circ/55^\circ$  presents considerable practical and theoretical interest. An object of interest for this flow lies at the junction of two cones, where the **shock wave** from the cone  $25^\circ$  interacts with the boundary layer of the  $55^\circ$  cone. Despite the simple construction of the body, in the case of numerical simulation of the flow there are some significant difficulties with exact calculation of the region of interaction of the shock wave, or the boundary layer. It makes the problem of numerical simulation of such flow a good benchmark for computer codes for high-speed flows. And as a good benchmark the problem has a lot of approved experimental data obtained by various experimental groups. One of the well-known groups is Calspan-University at Buffalo Research Center (CUBRC) [9]. CUBRC conducted many rigorous experiments, which form a significant experimental database for high-speed flows.