

Gödelizing Fine Structure

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The Fine Structure Constant (FSC) is measured in terms of other constants; therefore its fundamental origin remains a profound mystery. One must go 'out of bounds' to obtain a holistic picture. Our understanding of the physical world has progressed from Classical to Quantum; and now to the brink of the 3rd regime of the Unified Field Mechanics (UFM). We review 3rd regime UFM within its current stage of development and discuss empirical protocols for gaining access to the 3rd regime. We find most interesting the curious formulation by Stanbury:

(137.035999 Codata 2014)

$$\alpha^{-1} = 4\pi^3 + \pi^2 + \pi^1 = \pi = \pi(4\pi^2 + \pi + 1) = 137.0363037\dots$$

(Value in Euclidean Space)

$$\alpha^{-1} = 4\pi^3 + \pi^2 + \pi = \left(\pi(4\pi^2 + \pi + 1) \right) \equiv 137$$

(Value in Non-Euclidean Space)

If alpha [fine-structure constant] were bigger than it really is, we should not be able to distinguish matter from ether [vacuum, nothingness], and our task to disentangle the natural laws would be hopelessly difficult. The fact however that alpha has just its value 1/137 is certainly no chance but itself a law of nature. It is clear that the explanation of this number must be the central problem of natural philosophy - Max Born.

It is also obvious that from the point of view of life the value of the FSC cannot change arbitrarily. Were its value very different carbon atoms would not be stable and organic life as we know it would not be possible. This evidence increasing underlines the significance of 137 as an integer and, at the same time, as a mediator or controlling number [Gray 1989]

The circle cannot be squared in Euclidean space, but *can* be in Non-Euclidean Space).

Criticism that ‘piety’ FS doesn’t calculate to observed 137 Codata is thus easily got around. Standard usage of π is for Euclidean space. Recent Planck satellite observations were not set for observing flatness of space but geared for observing CMB spectra. But data still applied to space curvature sufficiently not ruling out an AdS5 dodecahedral wrap-around universe. In Riemann space π is smaller & in Lobachevsky space larger, point being that π can equal 3 in another space.

In cosmology small fluctuations in Lambda and the Planck constant around zero is possible. It is easy to likewise predict a similar oscillation for the FSC around a 3 based piety for zero flatness. It may be possible to predict the curvature of wrap-around space based on piety while we wait ~ 10 years for Planck satellite observations to be realigned for more precise space curvature.

Any Reason FS Should = 137?



Mmm,
just right...

136.99

137

137.01

137 Exactly???

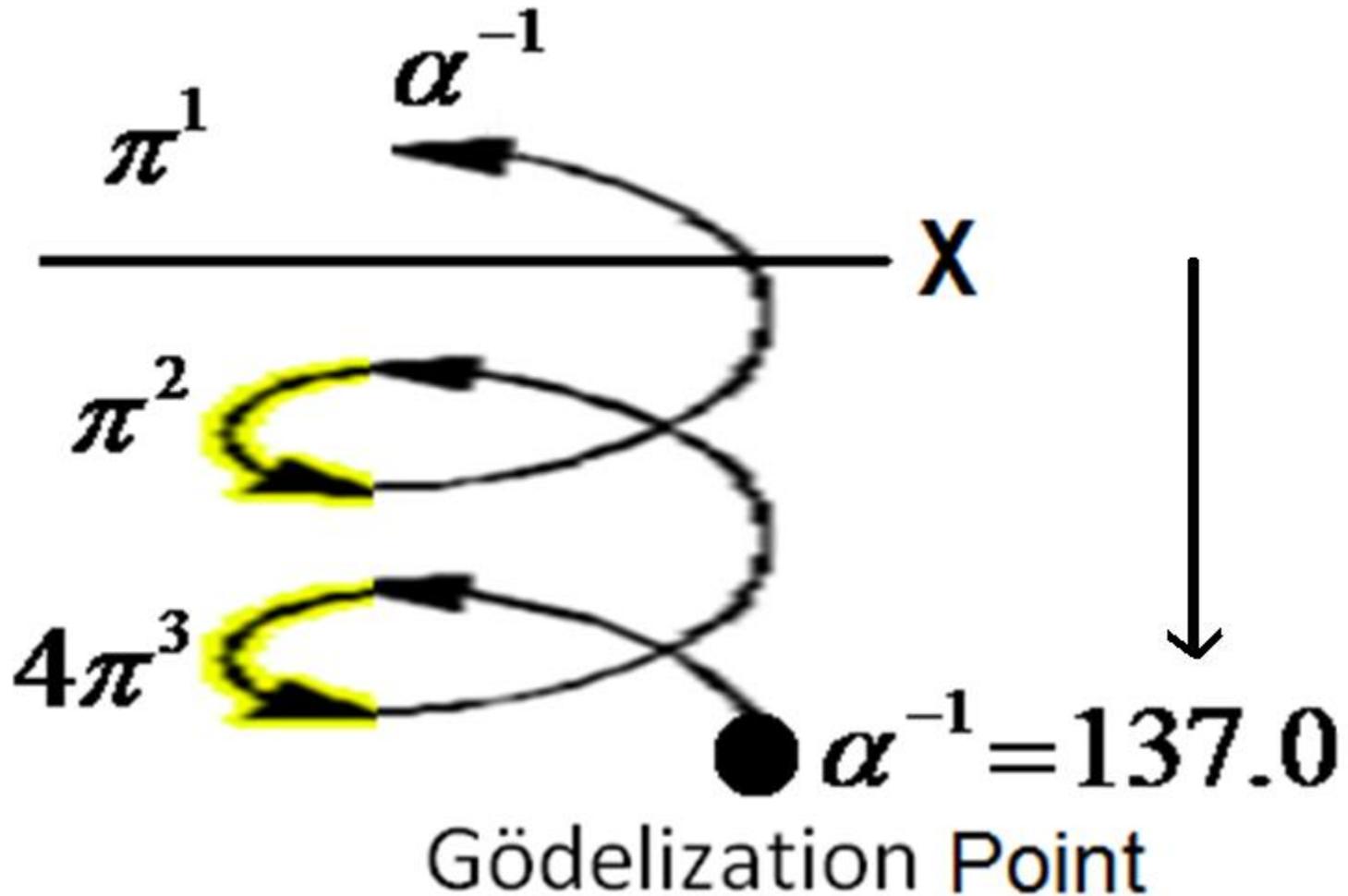
Arthur Eddington argued that the value of alpha could be "obtained by pure deduction" relating it to the 'Eddington number' (estimated number of protons in the Universe) Led to his 1929 conjecture that its reciprocal was PRECISELY the integer 137. Other physicists rejected his conjecture and arguments. By the 1940s experimental values for $1/\alpha$ deviated sufficiently from 137 (1950 value = 137.0429) to refute Eddington's argument! Tsk Tsk...

Evolving Value of FSC

1950	value = 137.0429
1952	value = 137.0377
1955	value = 137.0373
1963	value = 137.0388
1968	value = 137.036 0
1973	value = 137.035 63 (42)
1986	value = 137.036 204 4 (85)
1998	value = 137.036 000 (20)
2002	value = 137.035 988 0 (51)
2006 CODATA	value = 137.035 999 679 (94)
2010 CODATA	value = 137.035 999 074 (44)
2012 CODATA	value = 137.035 999 173 (35)
2014 CODATA	value = 137.035 999 139 (31)
2025 NODATA	value = 137.000 000 000 000 000 (01)?

LOOKING DEEPER THAN 4D

$$\alpha^{-1} = 4\pi^3 + \pi^2 + \pi = 137.0363 \dots$$



'PIETY' FINE STRUCTURE

$$\alpha^{-1} \equiv 4\pi^3 + \pi^2 + \pi$$

Substituting a value of 3.141303857420 for pi in Stanbury's equation gives a value for alpha of:
137.000000000011.

3.141592653589	Standard Euclidean Value
3.141303857420	'Piety' Non-Euclidean Value
<hr/>	
0.000288796169	Difference

THE FSC IS NOT FUNDAMENTAL

The Fine Structure Constant (FSC) describes how strongly a charged particle (Notably electron or proton) interacts with an em field.

The FSC is one of few numbers in science that cannot be predicted theoretically. It is only produced by experimentation as a dimensionless number with no associated units.

FINE STRUCTURE DETERMINED IN TERMS OF OTHER “FUNDAMENTAL CONSTANTS”

$$\alpha = \frac{1}{4\pi\epsilon_0} \frac{e^2}{\hbar c}$$

where

e is elementary charge + proton or - electron

$$\alpha = \frac{\mu_0}{4\pi} \frac{e^2 c}{\hbar}$$

$\hbar = h / 2\pi$ the reduced Planck constant

c speed of light in vacuum

$$\alpha = \frac{k_e e^2}{\hbar c}$$

ϵ_0 permittivity of free space for electric charge

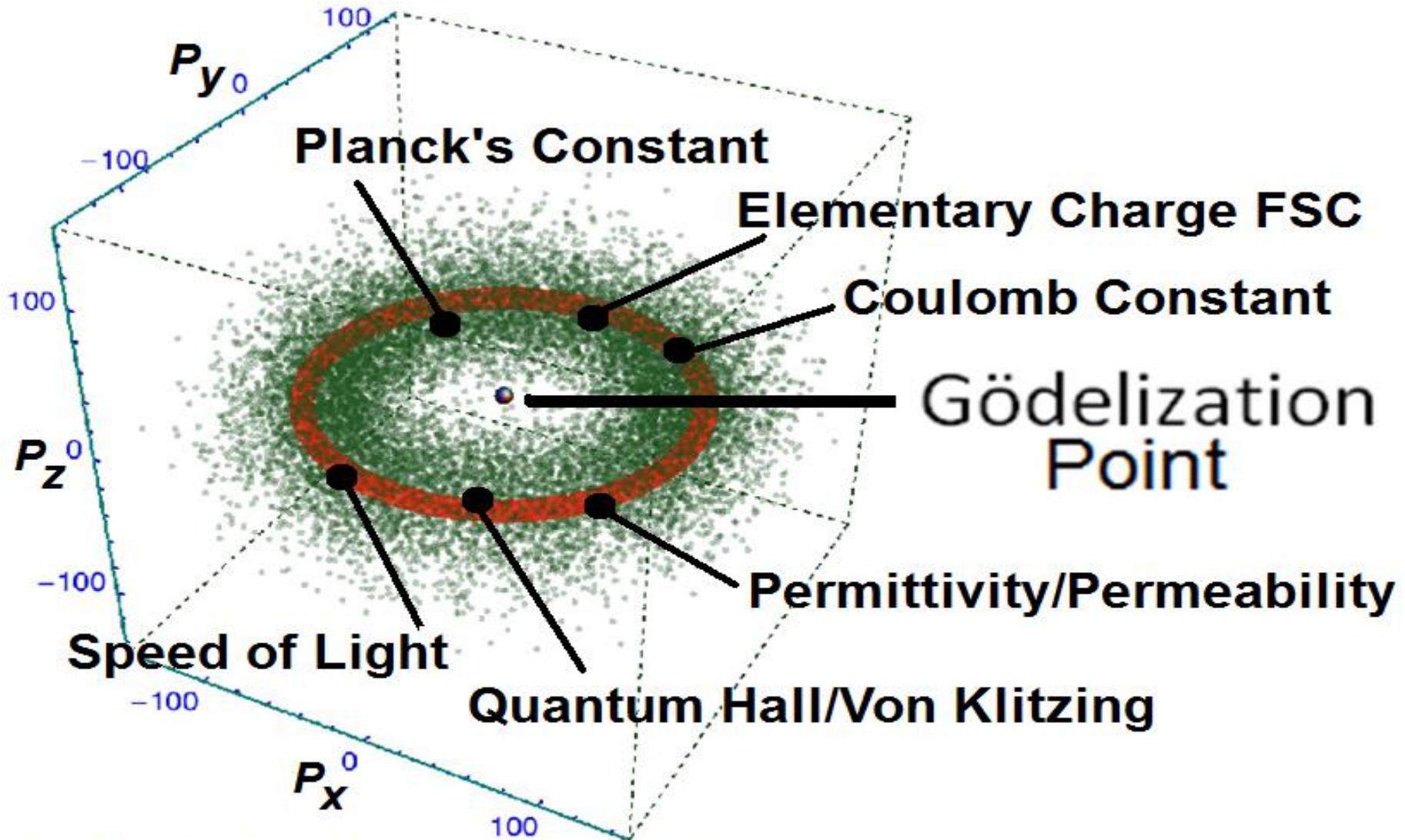
μ_0 permeability of free space or magnetic constant

$$\alpha = \frac{c \mu_0}{2R_K}$$

K_e The Coulomb or electrostatic force constant

R_K quantum Hall effect or von Klitzing constant

ORIGIN OF FINE STRUCTURE?



Gödelizing Fine Structure

FSC NOT FUNDAMENTAL

The FSC is derived in terms of several other Constants with no theory of its fundamental origin. Physics is currently stuck on the cusp of demonstrating dimensionality beyond the 4D of the Standard Model. The SM is confined to a 0D singularity or Fermionic point particle (math). String Theory proposes a 1D vibrational extension as the fundamental object; M-Theory introduces n-dimensional branes. If we assume physicality for M-Theory, an electron, the fundamental Fermion, could be a 6D or 9D object with additional degrees of freedom in the form of UFM de Broglie-Bohm symmetry guiding control Factors totaling a 12D reality.

We propose that the fundamental basis of the FSC will be discovered within the additional dimensional regime of UFM.

We will not elaborate on this scenario further now, but spend the remaining time discussing an experimental protocol to demonstrate additional dimensionality for developing a theory of the origin of FS.

ANTHROPIC PRINCIPLE

The anthropic principle is a controversial argument of why the FSC has the value it does: stable matter, and therefore life and intelligent beings, could not exist if its value were much different. For instance, were α to change by 4%, stellar fusion would not produce carbon, so that carbon-based life would be impossible. If α were > 0.1 , stellar fusion would be impossible and no place in the universe would be warm enough for life as we know it. However, if multiple coupling constants are allowed to vary simultaneously, not just α , then in fact almost all combinations of values support a form of stellar fusion.

Variable (Oscillating) Elements in Multiverse Cosmology

1) $\pi \approx 3.1415$ to 2.9999 (± 3)

2) \hbar (10^{-33} cm) (what one might suspect for
Black Hole compactification).

A virtual asymptote never reached in terms of variable T_S

Oscillates from virtual \hbar to Larmor radius of Hydrogen

3) $\Lambda \pm 1$ ($8\pi G$), Small oscillation

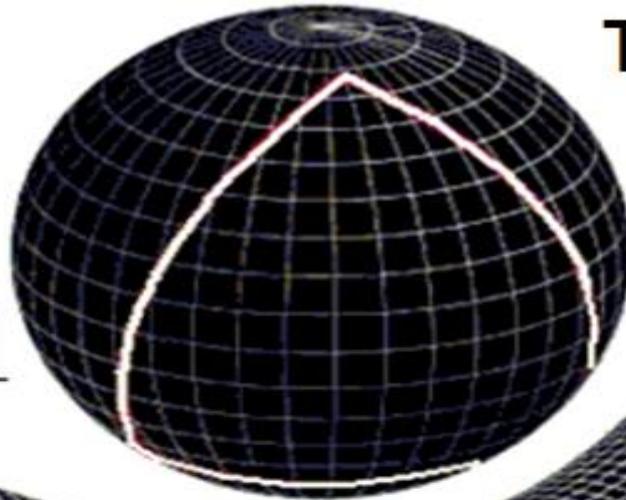
4) Space curvature, Ω_0 Locally Euclidean (flat), Oscillates ± 1

H_R Dodecahedral 'Wrap around' proposed

GEOMETRY OF SPACE

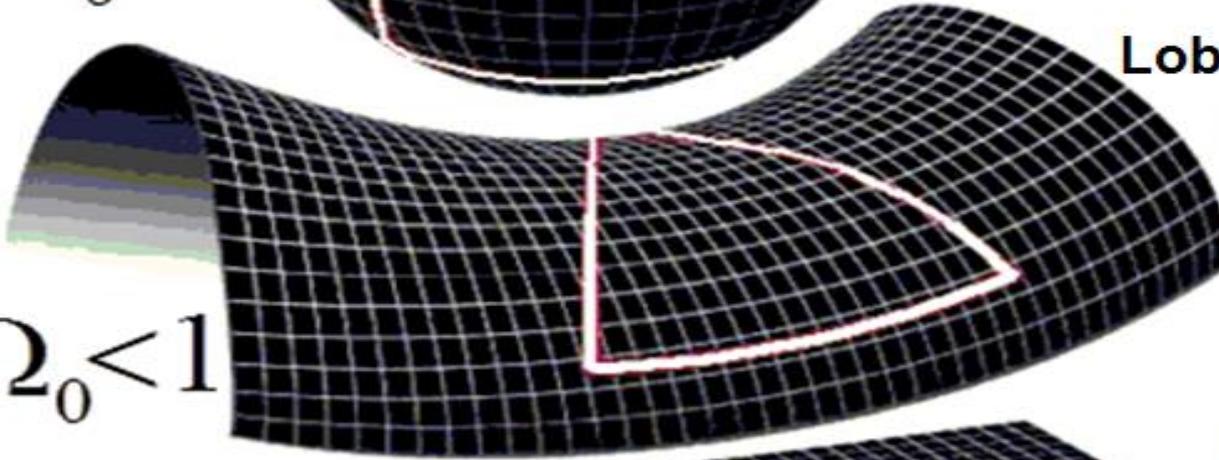
TRIANGLE POSTULATE & SPACE CURVATURE

$$\Omega_0 > 1$$

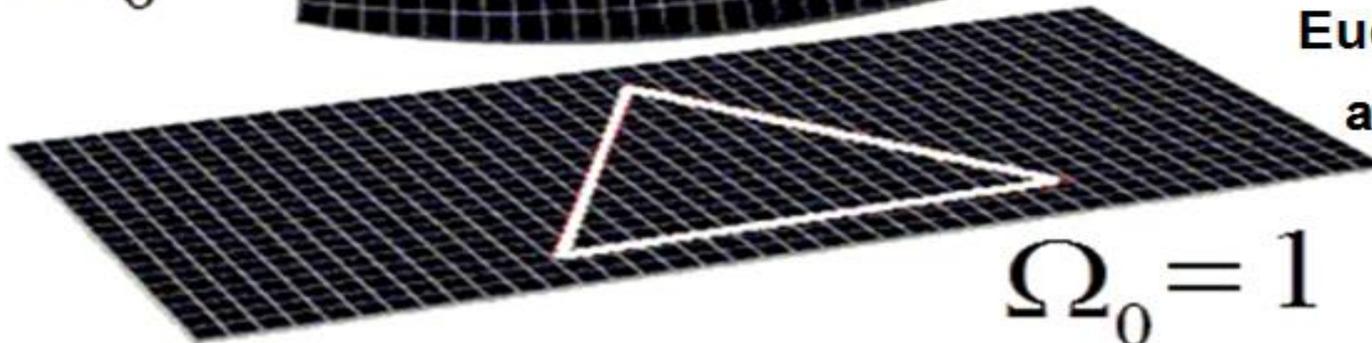


Riemann spherical space:
 $a + b + c > 180^\circ$
(Angular excess)

$$\Omega_0 < 1$$



Lobachevsky hyperbolic
AdS Space:
 $a + b + c < 180^\circ$
(Angular deficit)



Euclidean space:
 $a + b + c = 180^\circ$

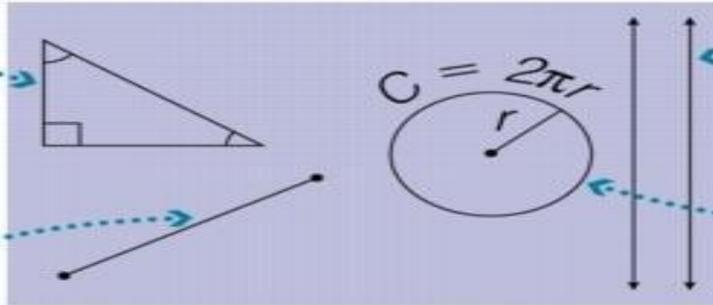
$$\Omega_0 = 1$$

WHAT IS THE GEOMETRY OF SPACE

Triangle: sum of angles is 180° .

Flat

Straightest Possible Path: is a straight line.



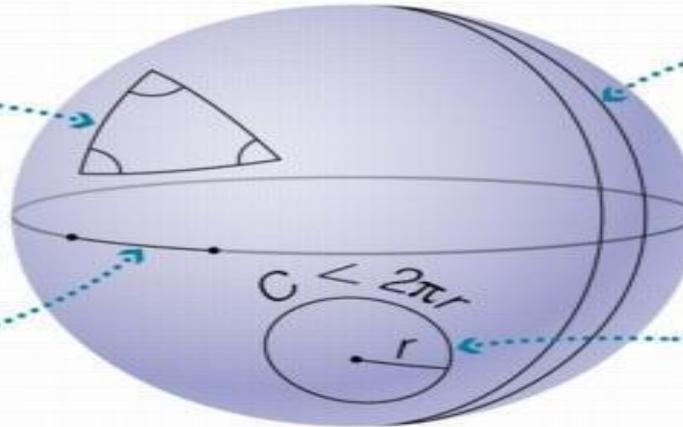
Parallel Lines: remain parallel.

Circle: $C = 2\pi r$.

Triangle: sum of angles is greater than 180° .

Spherical

Straightest Possible Path: is a piece of a great circle.



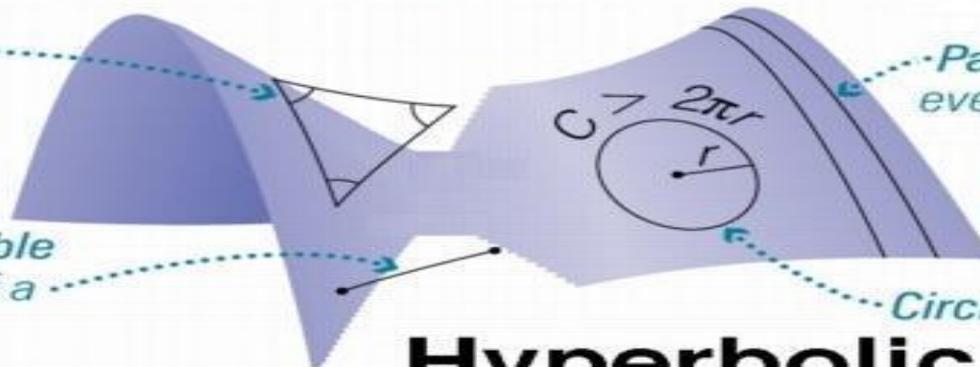
Parallel Lines: eventually converge.

Circle: $C < 2\pi r$.

Closed

Triangle: sum of angles is less than 180° .

Straightest Possible Path: is a piece of a hyperbola.



Parallel Lines: eventually diverge.

Circle: $C > 2\pi r$.

Open

Hyperbolic

TOPOLOGY OF SPACE

Topologies of space-time are open, flat or closed. A useful parameter when talking about curvature of the universe is the **DENSITY PARAMETER (Ω)** where $\Omega = \Omega_m + \Omega_{rel} + \Omega_\Lambda$.

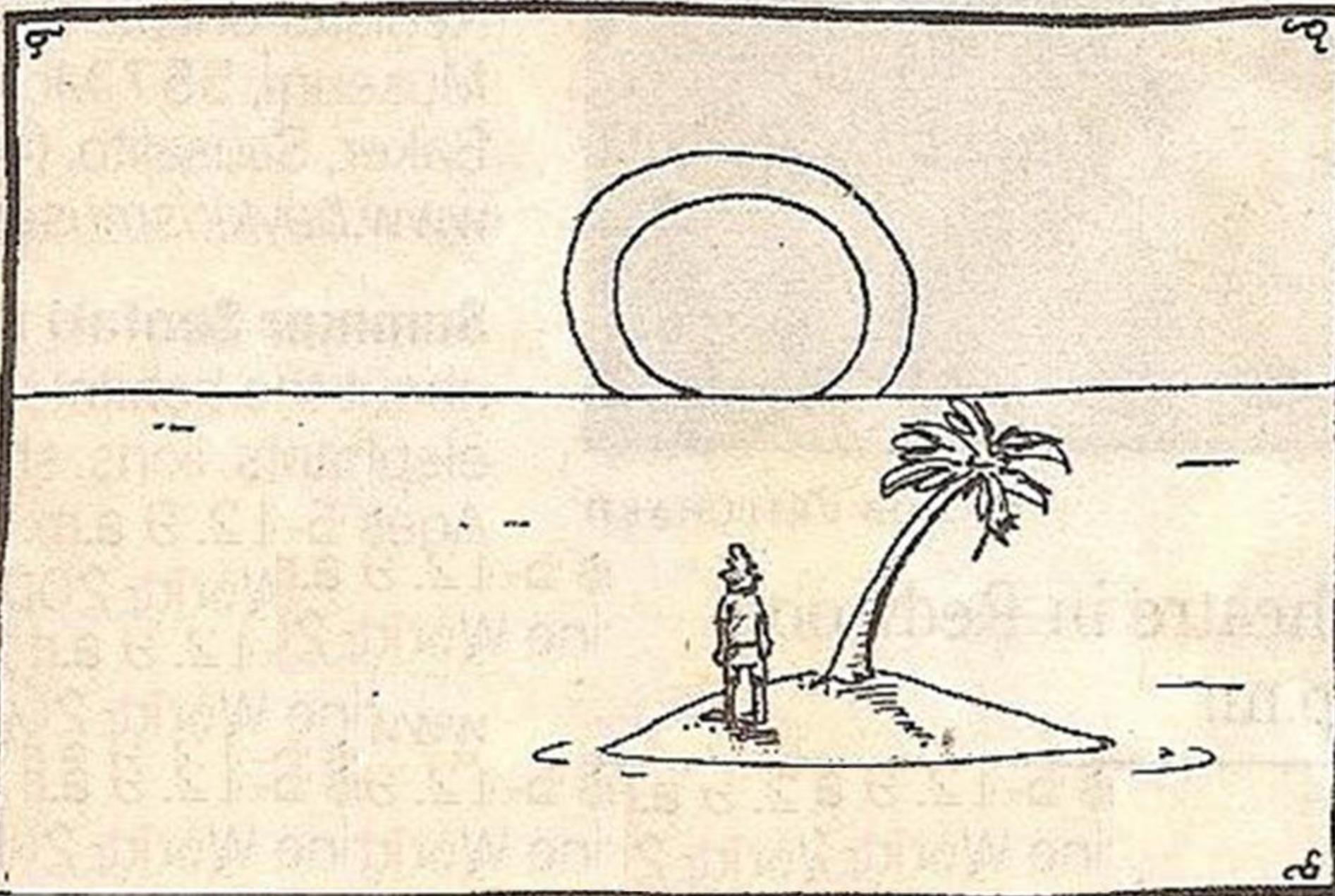
Ω_m is the mass density of ordinary, baryonic matter.

Ω_{rel} is the equivalent mass density of relativistic particles made up of em energy and neutrinos.

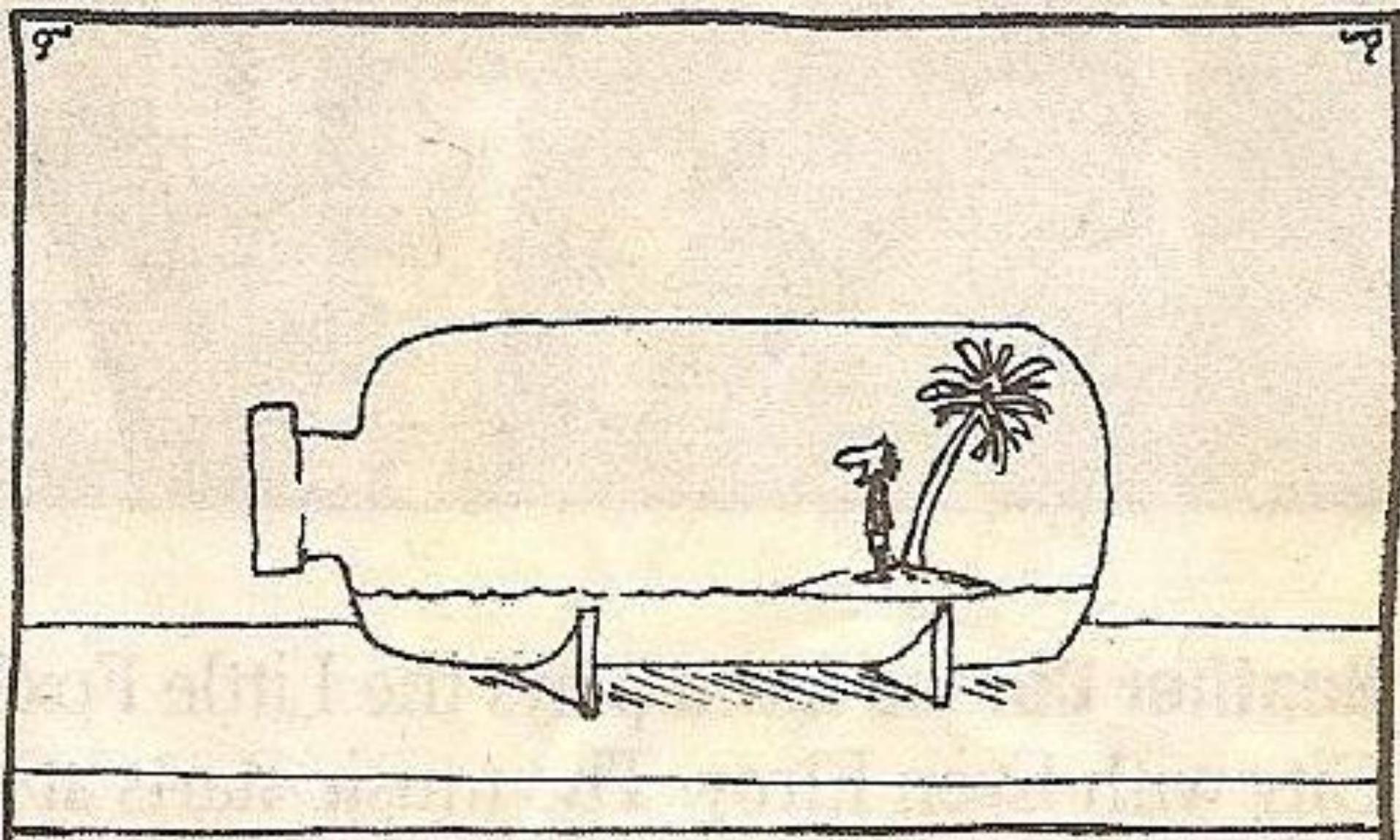
Ω_Λ is the effective mass of the universe dominated by dark energy (cosmological constant).

The density parameter of the universe is given by the density divided by the critical density to result in a flat universe. If the density is exactly equal to the required density for a flat universe, Ω will be equal to 1. Current measurements give $\Omega = 1.005 \pm 0.0007$. Our universe is nearly flat! This can be seen using the Cosmic Microwave Background in a simple relationship.

CURRENT VIEW OF REALITY

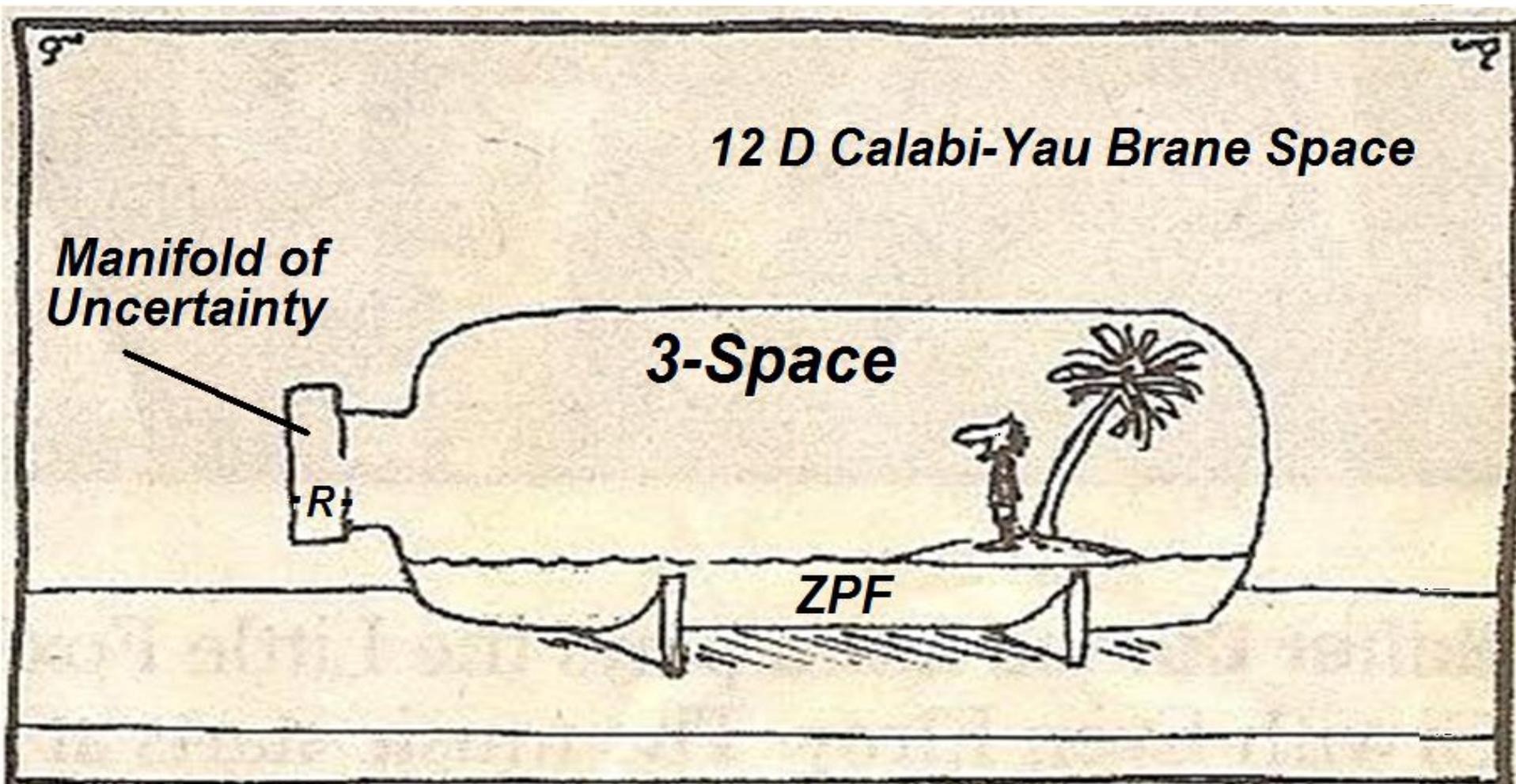


OUR 3(4)D REALITY IS VIRTUAL



Orthogonal Higher Dimensional Multiverse View.

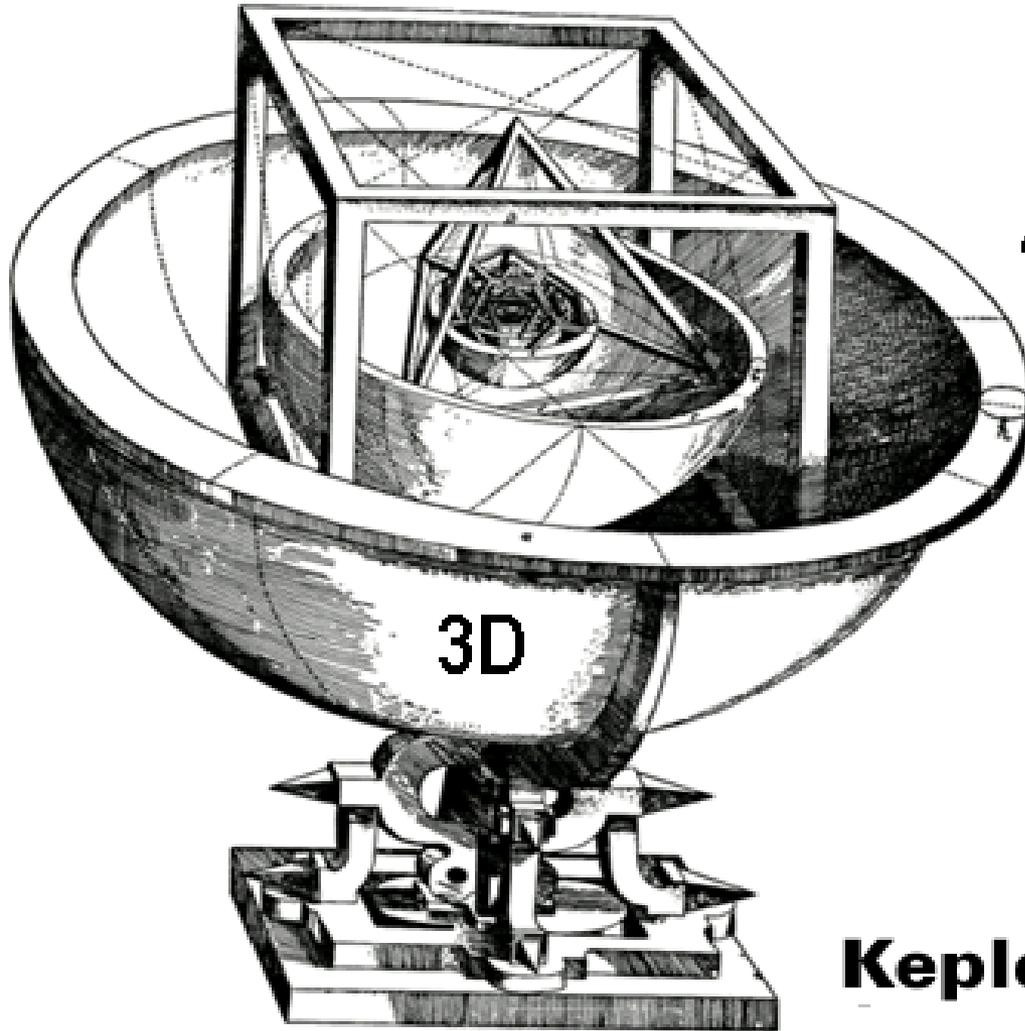
Euclidean/Minkowski REALITY IS VIRTUAL



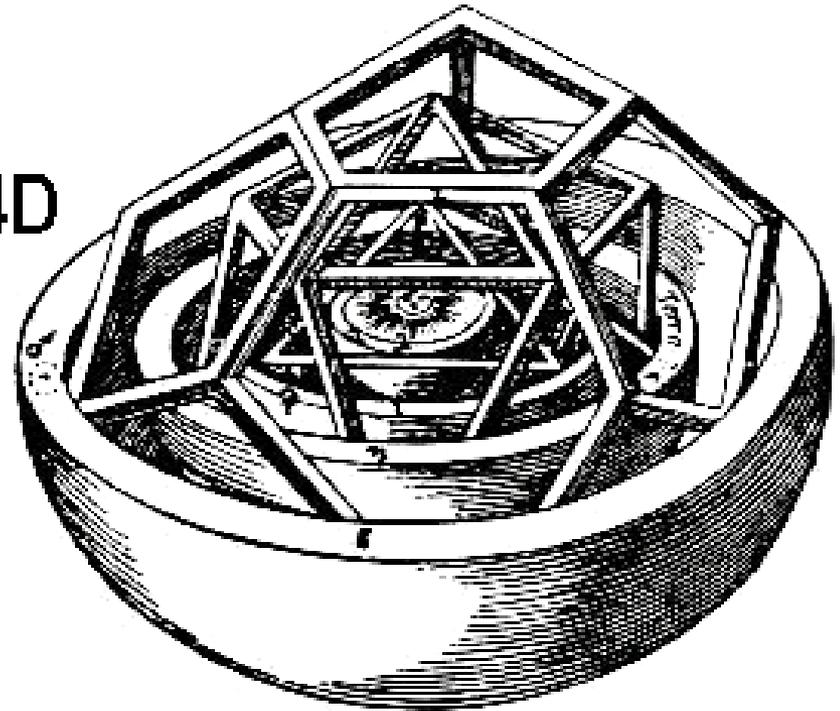
Beyond The 4D Standard Model Lies Infinite Size Dimensionality (LSXD) 'Hidden' by Uncertainty.

EXTENDING REALITY

WHAT'S BEYOND A VEIL OF UNCERTAINTY?



4D



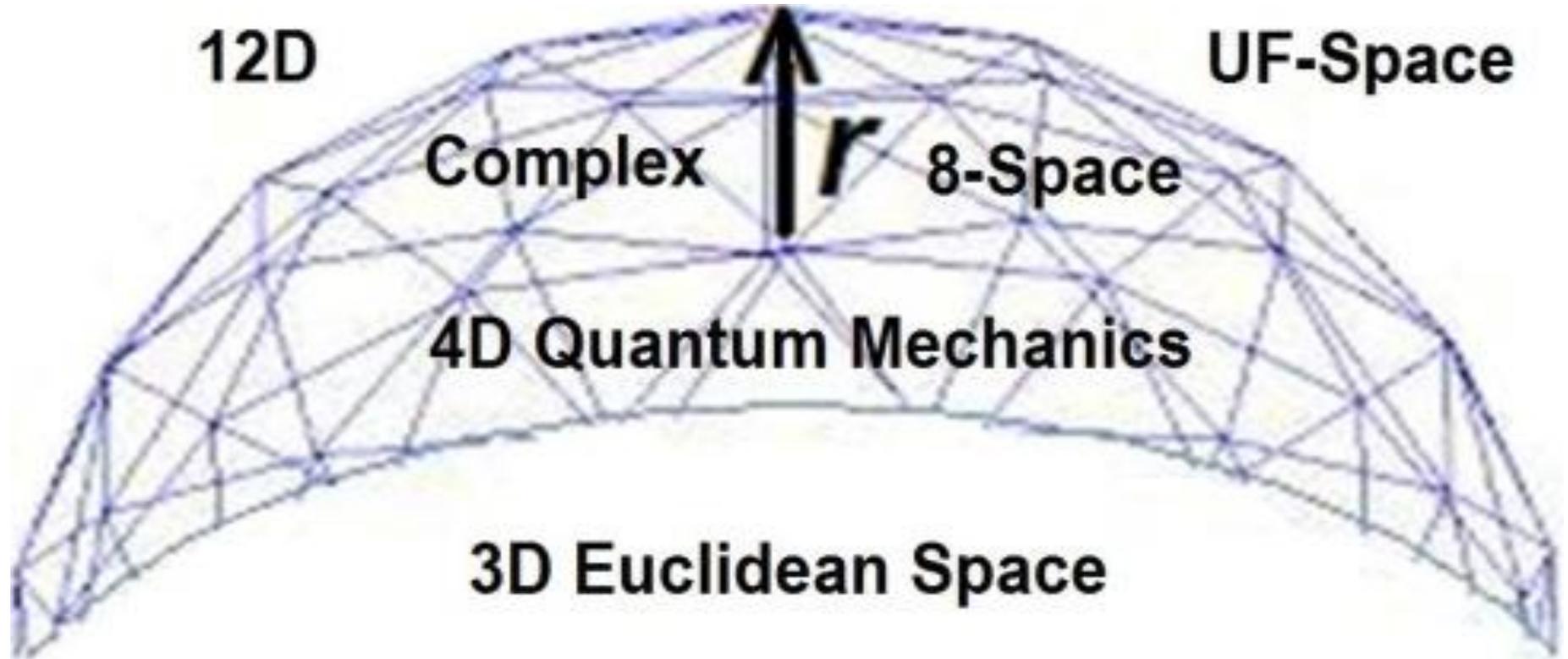
Details of Inner Sphere

Kepler's Mysterium (1596)

Broader View of Uncertainty

Usual consideration of quantum uncertainty accords with Heisenberg-Pauli-Weyl uncertainty formulation on the real line. However there are other formats such as the Breitenberger uncertainty on the unit circle (for 2π periodic functions) all of which have been generalized to Riemannian manifolds such as spheres, projective spaces, flat tori & hyperbolic spaces. POSTULATE: UNCERTAINTY IS A MANIFOLD OF FINITE RADIUS.

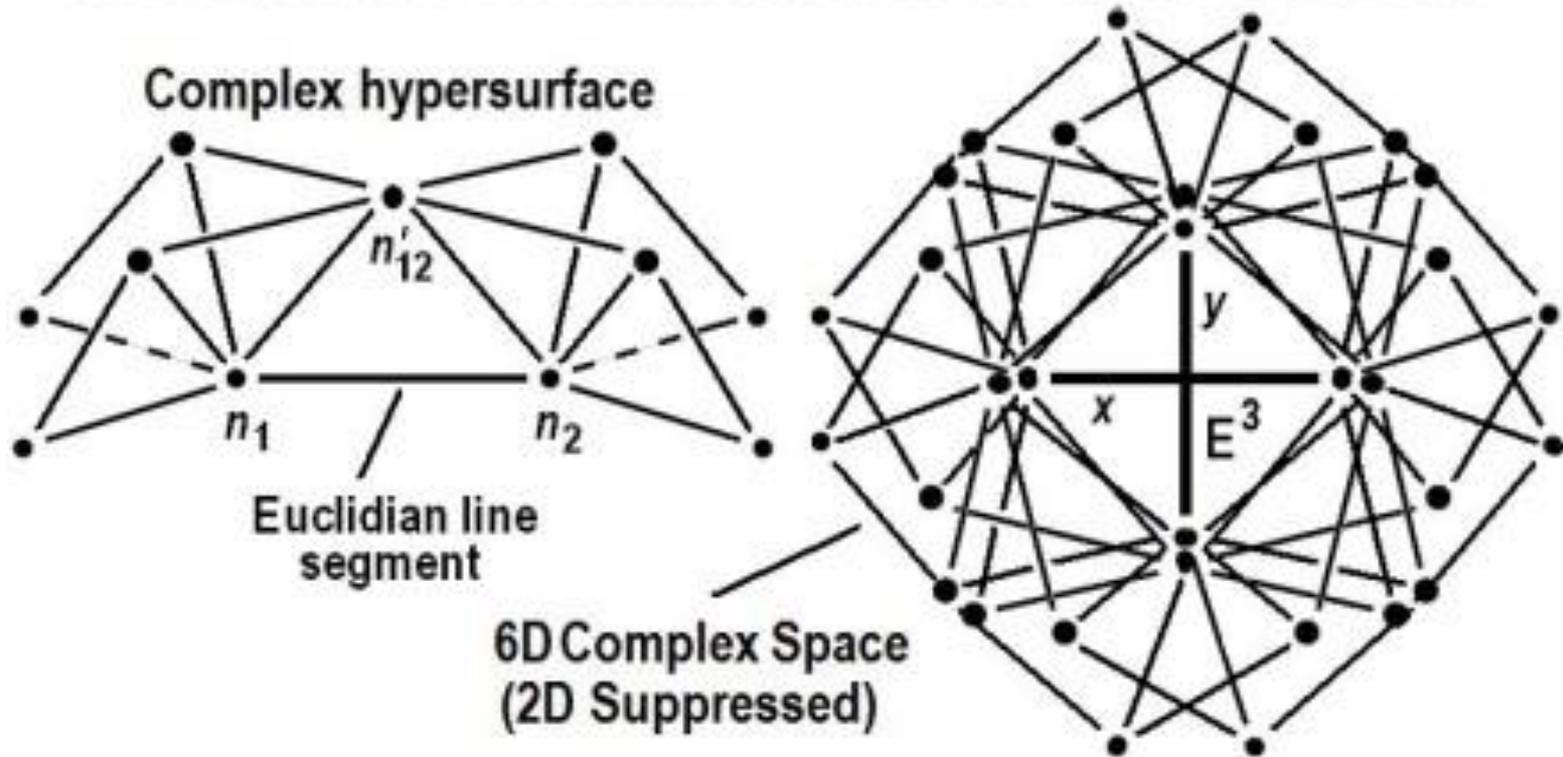
MANIFOLD OF UNCERTAINTY



Proposed 2D to 5D Manifold of Uncertainty (MOU). Partial hyperspherical view.

COMPLEX HD MANIFOLD OF UNCERTAINTY

UNCERTAINTY AS A MANIFOLD OF FINITE RADIUS



Suppressed conceptualized planar views of proposed 2D to 5D Manifold of Uncertainty (MOU). A space-antispaces nilpotency with 64 quaternionic elements (some suppressed) with Euclidean space, E_3 as the resultant subspace of virtual 'points' forming observed reality.

HYPERVOLUME UNCERTAINTY

For preliminary predictions we could calculate hyperspherical volume or surface area of 4D-5D H-MOU. The general n -volume equation is

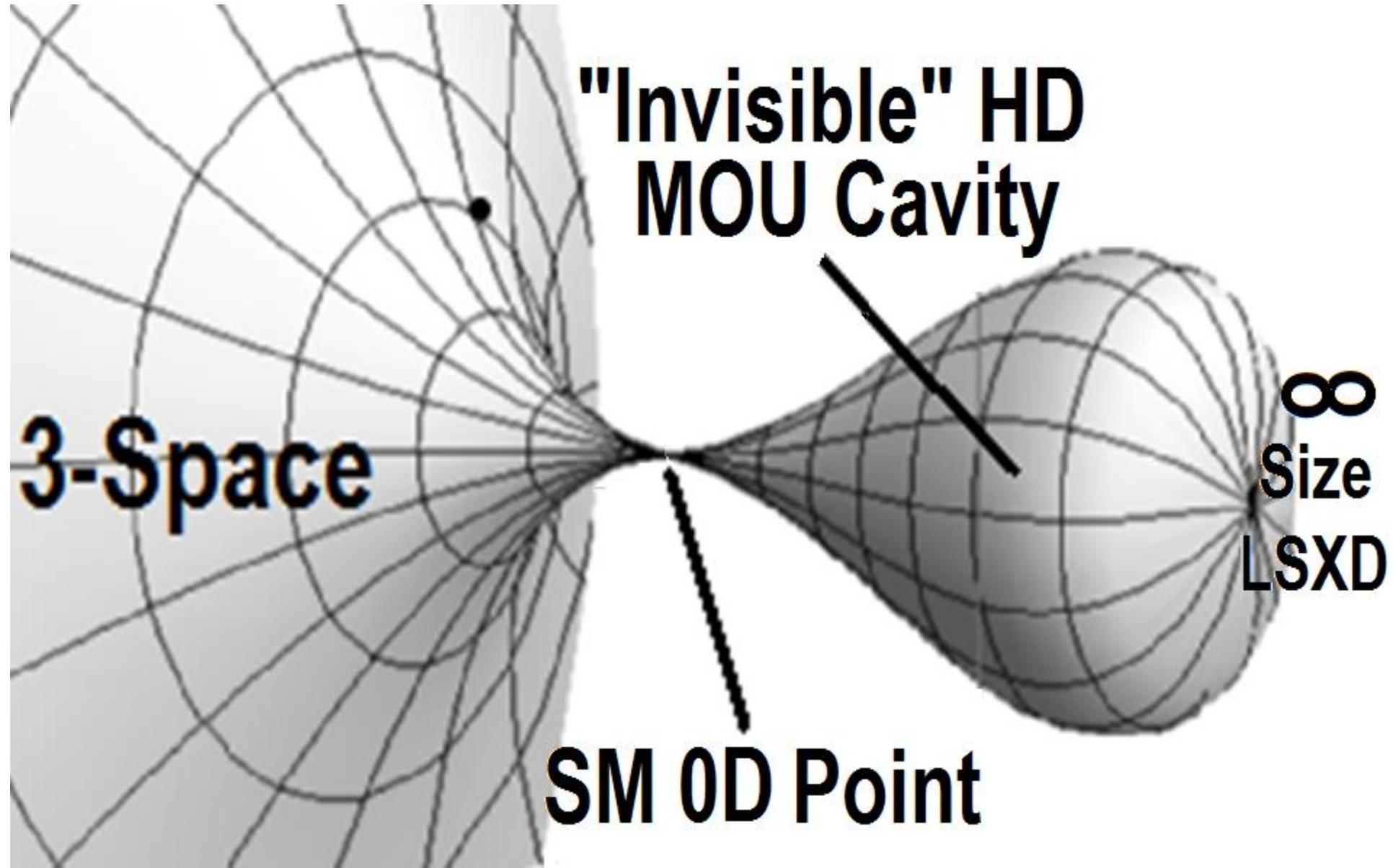
$$V(n, r) = \pi \frac{n}{2} r^n / \Gamma\left(\frac{n}{2} + 1\right)$$

n		$V(n, 1)$
0	0	0
1	2	2
2	π	≈ 3.1416
3	$4 / 3\pi$	4.1888
4	$1 / 2\pi^2$	4.9348
5	$8 / 15\pi^2$	5.2638
6	Degenerate ?	∞

where $V_{n,r}$ is volume per number of dimensions, n of radius r and Γ a factorial constant. We relate these n -volume equations to volumetric properties of the MOU for calculating HD cavity volume.

Table: Standard Hypervolume values for increasing n -dimensionality and radius, r of a unit sphere or n -ball equal to 1.

HIDDEN HD Cavities in MOU

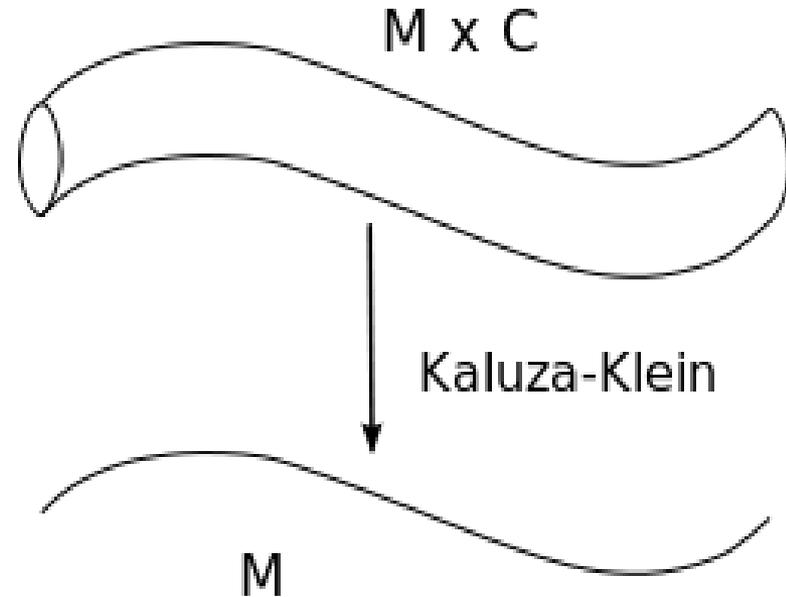


A correspondence path to unified theory began in 1919, but not until the 1940's was Kaluza-Klein theory completed:

$$\tilde{g}_{\mu\nu} \equiv g_{\mu\nu} + \phi^2 A_\mu A_\nu, \quad ds^2 \equiv \tilde{g}_{ab} dx^a dx^b =$$

$$\tilde{g}_{5\nu} \equiv \tilde{g}_{\nu 5} \equiv \phi^2 A_\nu, \quad \tilde{g}_{55} \equiv \phi^2 \left(g_{\mu\nu} dx^\mu dx^\nu + \phi^2 \left(A_\nu dx^\nu + dx^5 \right)^2 \right)$$

where index 5 is the 5th coordinate. This metric implies an invariant 5D line element:



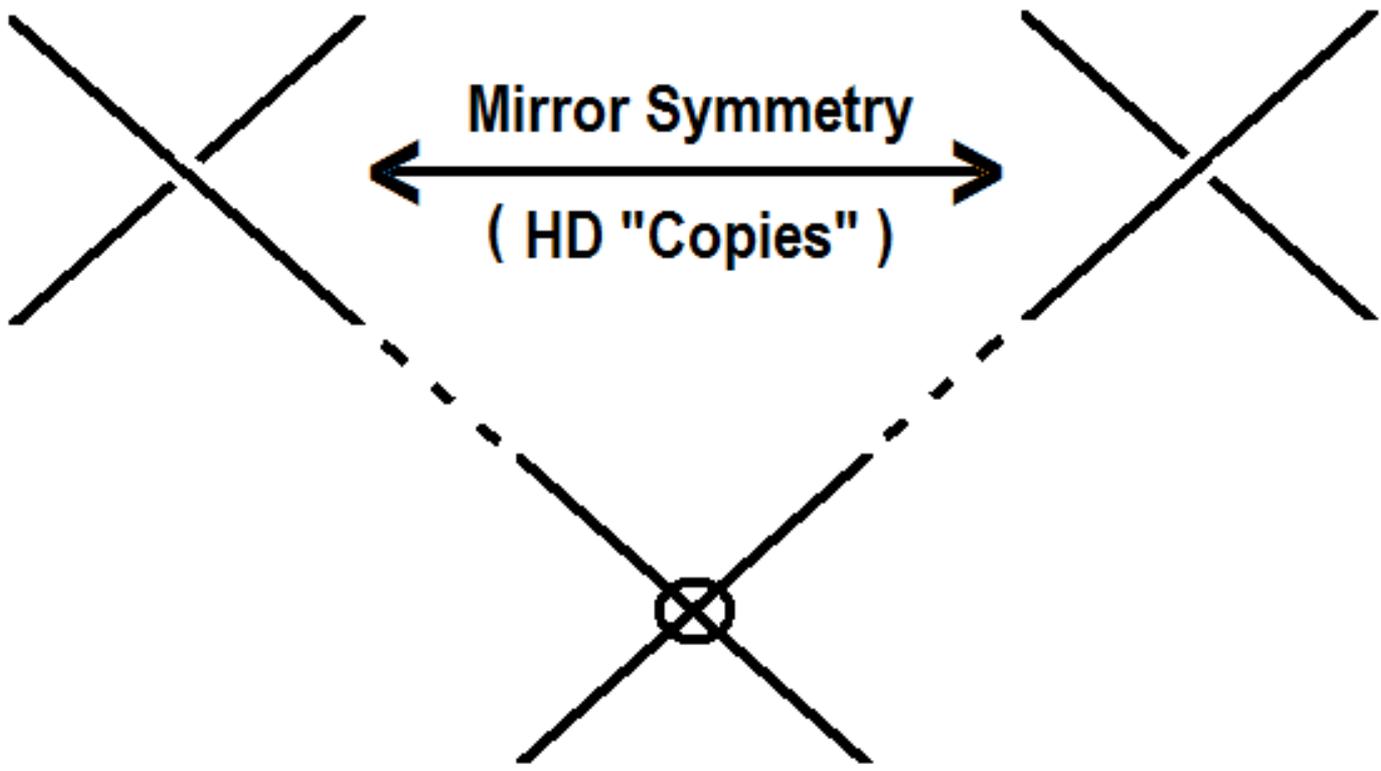
In the figure Kaluza-Klein space, $M \times C$ is compactified over the set C ; which after K-K decomposition produces a field theory over M .

Kaluza-Klein and Beyond

Kaluza-Klein proposes a 5th dimension suggested to be compactified or curled up microscopically at the Planck scale because it is invisible. A better interpretation for invisibility of XD is 'Subtractive Interferometry'. This interpretation allows for infinite size additional dimensionality (LSXD) as proposed by Amoroso & Randall-Sundrum. 'Subtractive Interferometry' relates to the uncertainty and Anthropic principles.

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Calabi-Yau Mirror Symmetry (1st Level)

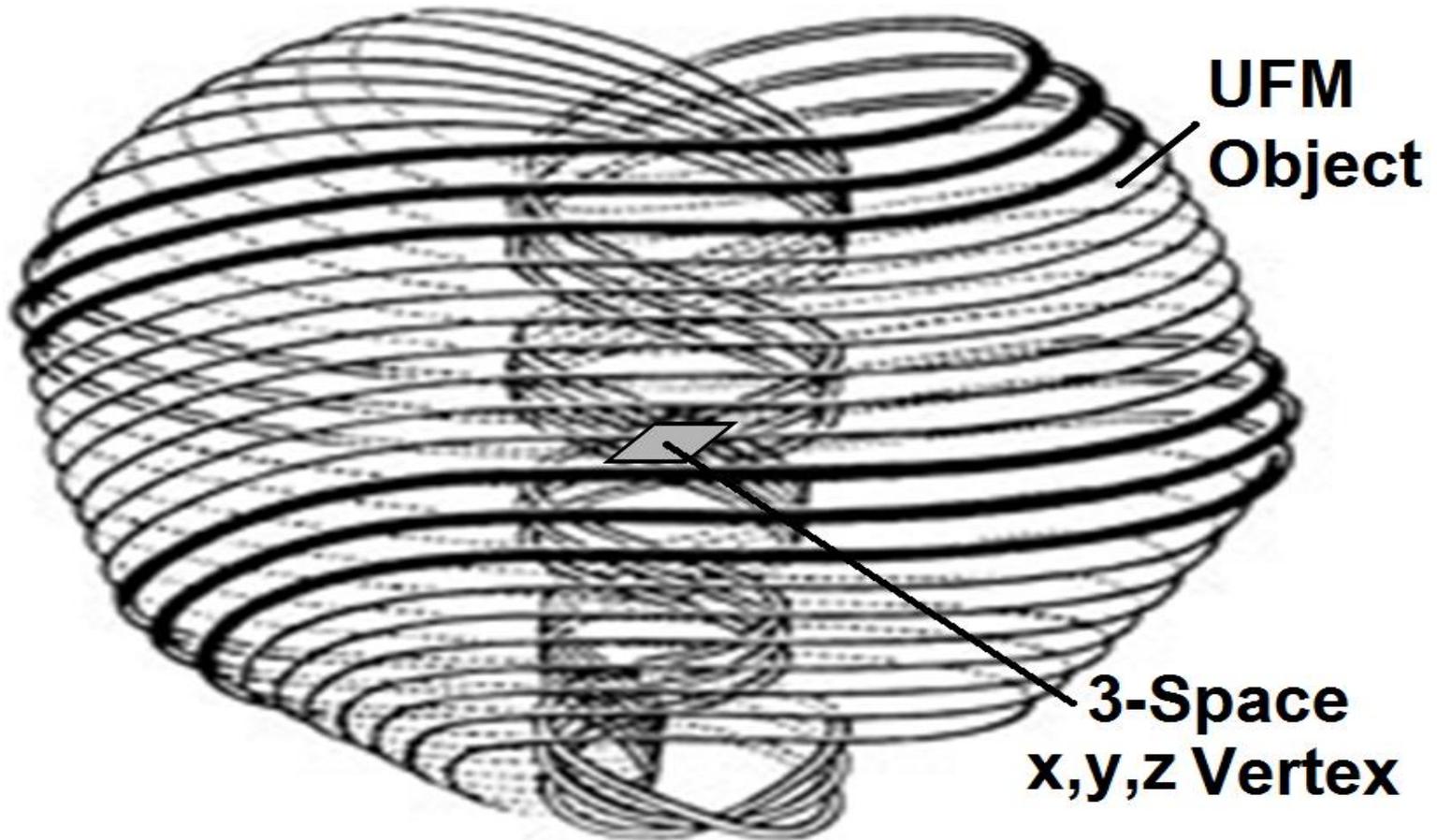


Crossing "Shadow" = 3D Quantum State
'Particel in a Box' Collapse Resultant

HD Space has M-Theoretic Conformal Scale-Invariant
"Copies" of the 4D Quantum 'Particle in a Box'

Proton, Electron, Photon?

Gödelizing Fine Structure will reveal additional Unified Field Mechanical atomic structure beyond the current 4D model of the 3D Fermionic 0D singularity.



ESSENTIAL SYMMETRY

Feynman talked of a 'Synchronization Backbone' (SB). In our version of the Multiverse an SB is inherent in the Spacetime backcloth. It relates to an Anthropic Principle (AP) of the Unified Field. Physicists look to the T.O.E. as a completion of the Standard Model with a Planck scale stochastic foam as the basement of reality. But a TOE requires a 3rd regime of Unified Field Mechanics (UFM) that injects an atemporal AP into temporal living systems with a holophote (like a lighthouse) beat frequency as a highly symmetric 'Force of Coherence' * hidden from view Quantum Mechanically behind a 'Manifold of Uncertainty' (MOU) that can be surmounted by resonant incursive oscillation.

* NOTE: This is why Gravity is not quantized.

Spacetime Singularity Evolution

M-Theory Versus HAM / Hadronic, T_S The noetic form of string tension does not correspond to the usual M-Theoretic form which is fixed; but to the earlier form utilized in the original Hadronic form of string theory that had no superpartners and where string tension took a variable form. In HAM cosmology T_S is aligned with the original Stoney precursor to Planck's constant and oscillates from asymptotic virtual Planck (never reached) to the Larmor radius of the hydrogen atom.

EVOLUTION OF FERMIONIC SINGULARITY STRING TENSION

STANDARD MODEL

Zero
Dimensional
Vertex



M-Theory
Fixed
addition

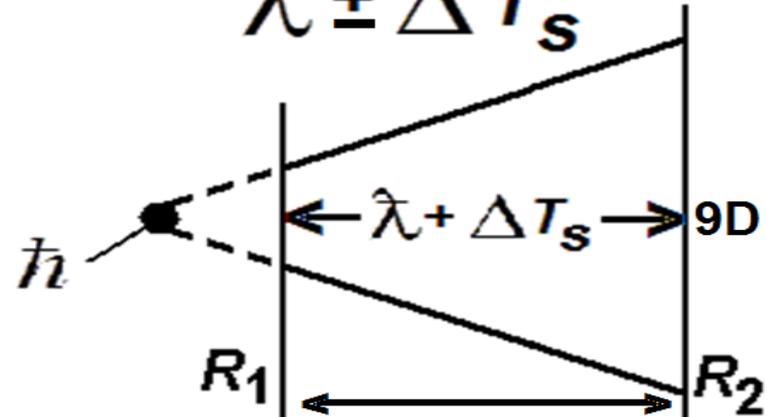
to \hbar

$$\hbar + T_S$$



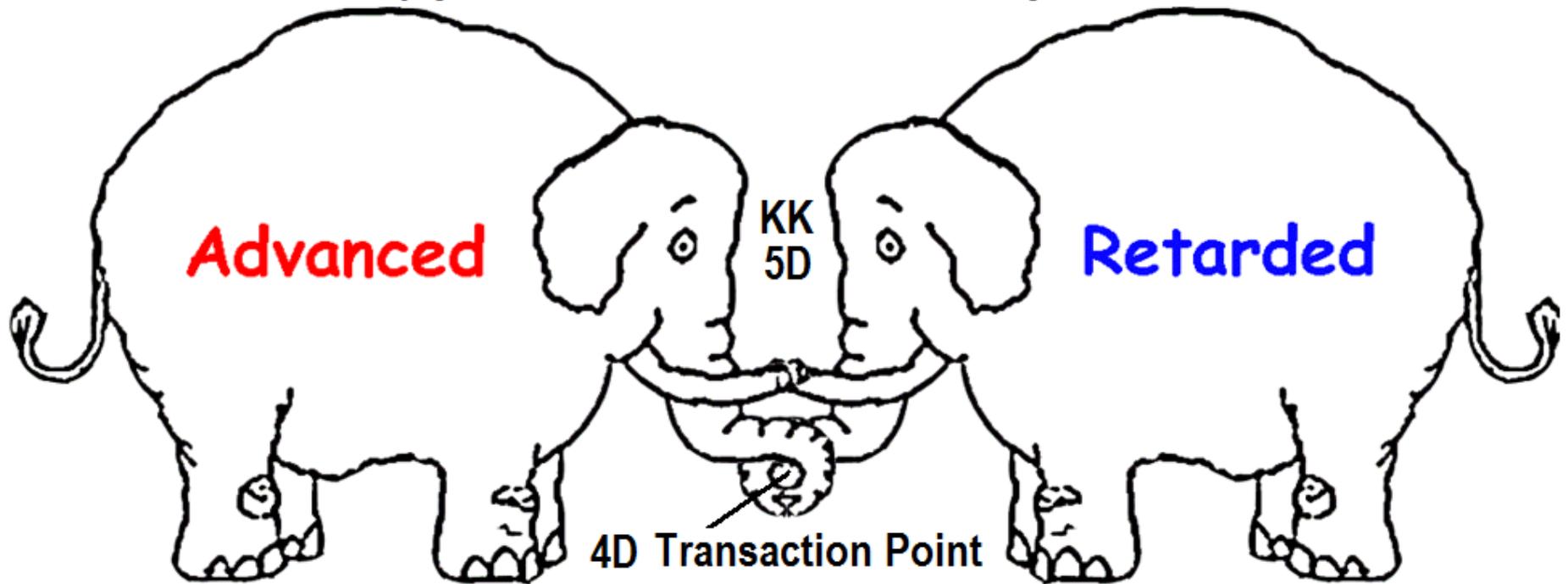
HAM Cosmology
Variable form of $\hat{\lambda}$

$$\hat{\lambda} \pm \Delta T_S$$



Symmetry of HD Dimensionality

12D Panoply of 6D Calabi-Yau Dual Mirror Symmetric 3-Tori



HD Dimensionality Based on Extension of Cramer
Hyperspherical Standing Wave Future-Past Transaction

Covariant Polarized Dirac Vacuum

*** BEST EVIDENCE IS***

- Casimir Effect**
- Zeeman Effect**
- Aharonov-Bohm Effect**
- Sagnac Effect**

**GIVES SOLID THEORETICAL GROUND
FOR A PERIODIC PHOTON MASS & Tenets
of Extended Electromagnetic Theory**

The three primary methods to measure curvature are luminosity, scale length and number.

- **Luminosity** requires finding some standard 'candle', such as brightest quasars, and following them out to high redshift.
- **Scale length** requires that some standard size be used, such as the size of the largest galaxies. **Number counts** count the number of galaxies in a box as a function of distance.

All these methods are inconclusive because brightest, size and number of galaxies changes with time in ways not yet understood. So far measurements are consistent with a flat Universe - esthetically popular.

$$P_i = C/D$$

- Euclidean geometry - exactly pi (3.1415...)
- Lobachevskian - greater than pi (3.2...)
- Riemannian - less than pi (CAN = 3.000...)

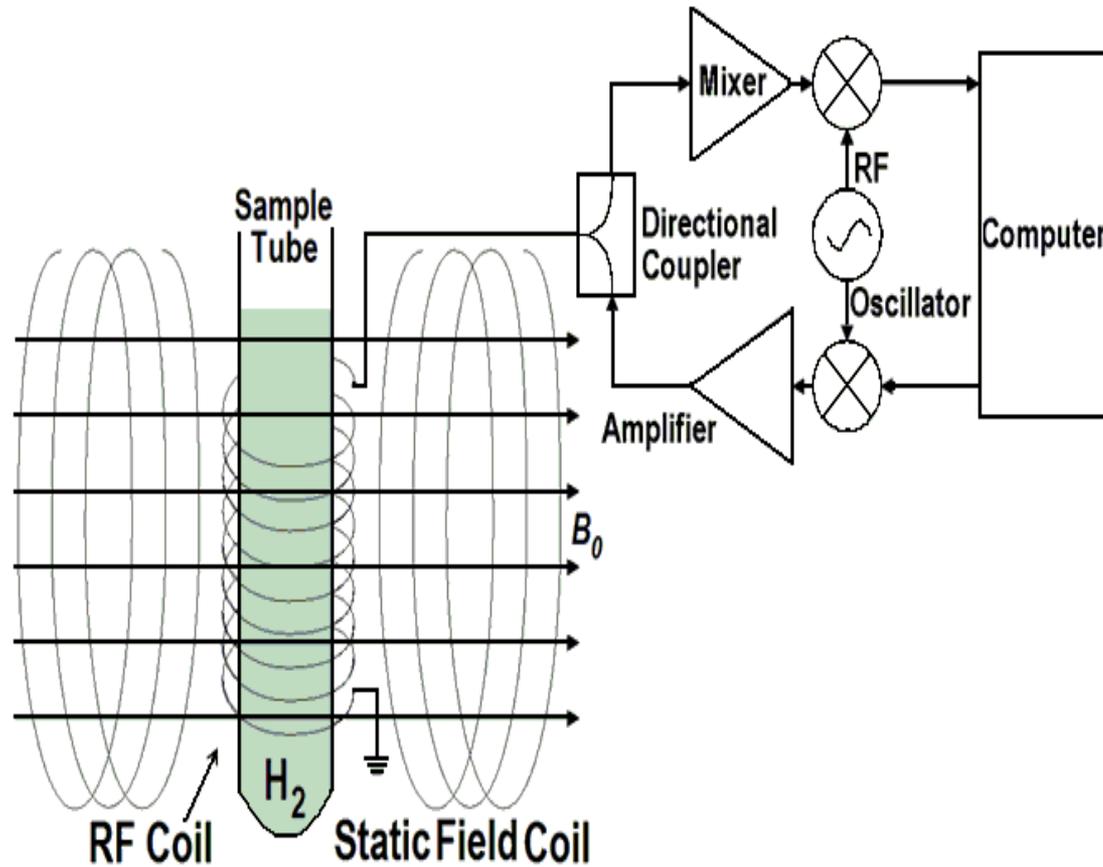
Pythagorean Theorem

- Euclidean: $c^2 = a^2 + b^2$
- Lobachevskian: $c^2 > a^2 + b^2$
- Riemannian : $c^2 < a^2 + b^2$

On Extending the Standard Model

Nobelist YANG “Much effort and attention have been devoted by theoretical physicists to the analytic continuation from physically observable experience into unphysical regions. In particular, it has been tried by extrapolation to study properties of the singularities in the unobserved region... Is the continuum concept of space time extrapolatable to regions of space 10^{-14} cm to 10^{-17} cm, and to regions smaller than 10^{-17} cm?”

SIMPLISTIC EXPERIMENTAL SETUP



NMR apparatus designed to manipulate TBS in Hydrogen. The Fig. only shows possible details for rf-modulating TBS QED resonance, not the spectrographic recording and analysis components.

STRING TENSION

M-Theory, is based essentially on one parameter, string tension, T_s

$$T_s = e / l = (2\pi\alpha')^{-1}; \quad (4.1)$$

where e is energy, l is length of the string and α' the fine structure constant, $e^2 / \hbar c$ where this e is the electron charge. It is well known that the gauge condition is an approximation suggesting Planck's constant, \hbar needs to be recalculated to satisfy the parameters of M-Theory. Since HAM cosmology is aligned with an extension of Einstein's energy-dependent spacetime metric $\hat{M}_{3(4)}$, the Stoney e^2 / c , an electromagnetic precursor to Planck's constant, is therefore the choice for studying the recalculation. The factor added to \hbar is string tension T_s , where T_0 can increase the size of \hbar to the Larmour radius of the hydrogen atom in the small scale and lead to infinite size additional dimensionality cosmologically Thus the fine-tuned Stoney, $\tilde{\lambda}$ and the cosmological constant, Λ adjust the microscopic and cosmological domain limits of H_e respectively. Equation (4.2) illustrates the initial historical basis for this distinction

$$l_p = \sqrt{\frac{\hbar}{mc} \cdot \frac{Gm}{c^2}} \quad \text{or} \quad l_s = \sqrt{\frac{e^2}{4\pi\epsilon_0 mc^2} \cdot \frac{Gm}{c^2}}, \quad (4.2)$$

where l_p and l_s are the length of the Planck and Stoney respectively. One example for rescaling Planck's constant comes from Wolf $\Delta x \Delta p = \hbar \rightarrow \hbar_0 \pm \Delta \hbar$. (4.3)

He then suggests that

$$\Delta \hbar = \frac{\hbar v^2}{c} \tau_0 L_0 \quad (4.4)$$

where τ_0 and L_0 are time uncertainty and a discrete spacetime correction respectively. Wolf is able to speculate that this Planck rescaling has application to Neutron stars, CMBR and black hole formation. Our approach for a time, τ_0 and spacetime corrections, L_0 are different.

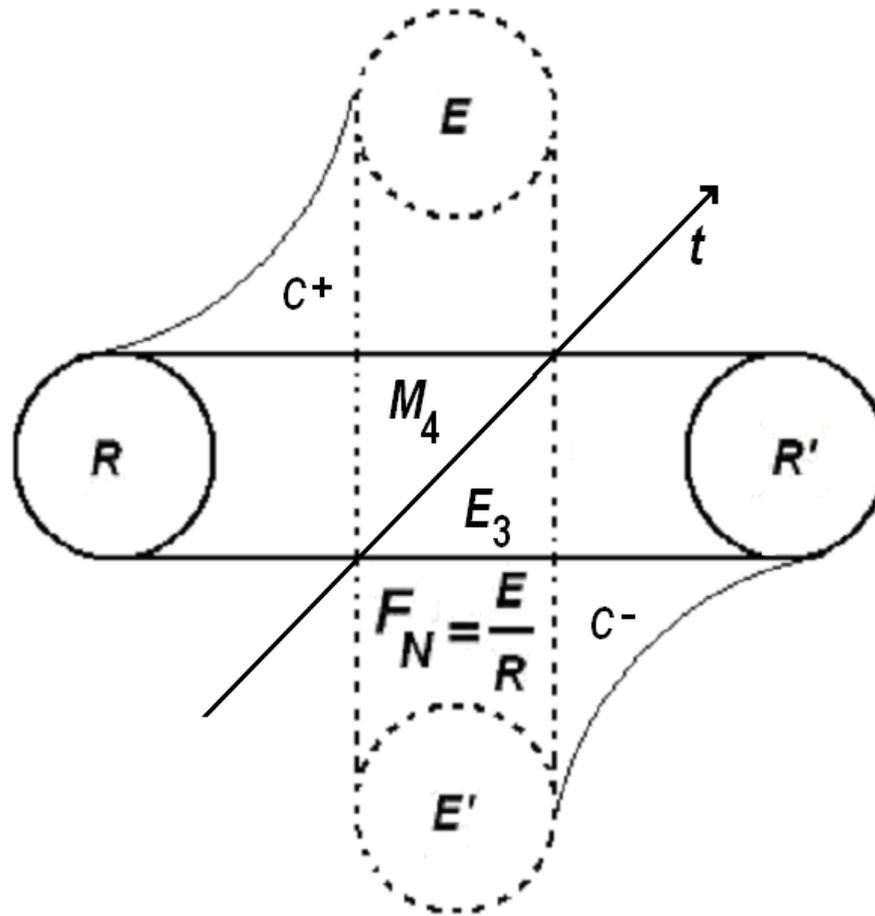
ALTERNATIVE DERIVATION OF T_S

An alternative derivation of T_S is developed in the context of HAM cosmology. Recall that the Schrödinger equation, Einstein's geometrodynamics and Newton's gravity equation all reduce to Newton's dimensionless second law of motion, $F = ma$ which we use as the starting point for deriving the noetic formalism for continuous-state cosmology from the $\dot{R} \equiv c$ hypothesis above. First substituting Einstein's mass-energy relation $E = mc^2$ into Newton's second law, $F = ma$ we obtain: $F_N = E / c^2 a$ where F_N is the new noetic force and E a form of self-organized relativistic energy, E . Next the derivation of the noetic field equation is generalized for the holographic multiverse based on the axiomatic use of Eddington's large number hypothesis described above as applied to cosmological scaling that suggests all lengths in the universe are scale-invariant. Beginning with the heuristic relation $c \equiv \dot{R}$ or $\dot{R} = L / t = c$ where \dot{R} represents the rate of change of scale in the universe. This corresponds to the putative Hubble relation for Doppler expansion of the universe where $H_0 = \dot{R} / R$ and $a = \dot{R} \times H_0$. By substituting \dot{R}^2 / R for a in the original equation $F_N = E / c^2 a$, then for final substitution we have $F_N = E / c^2 \times \dot{R}^2 / R$. Since $c = \dot{R}$ the c^2 & \dot{R} terms cancel leaving

$$F_N = E / R$$

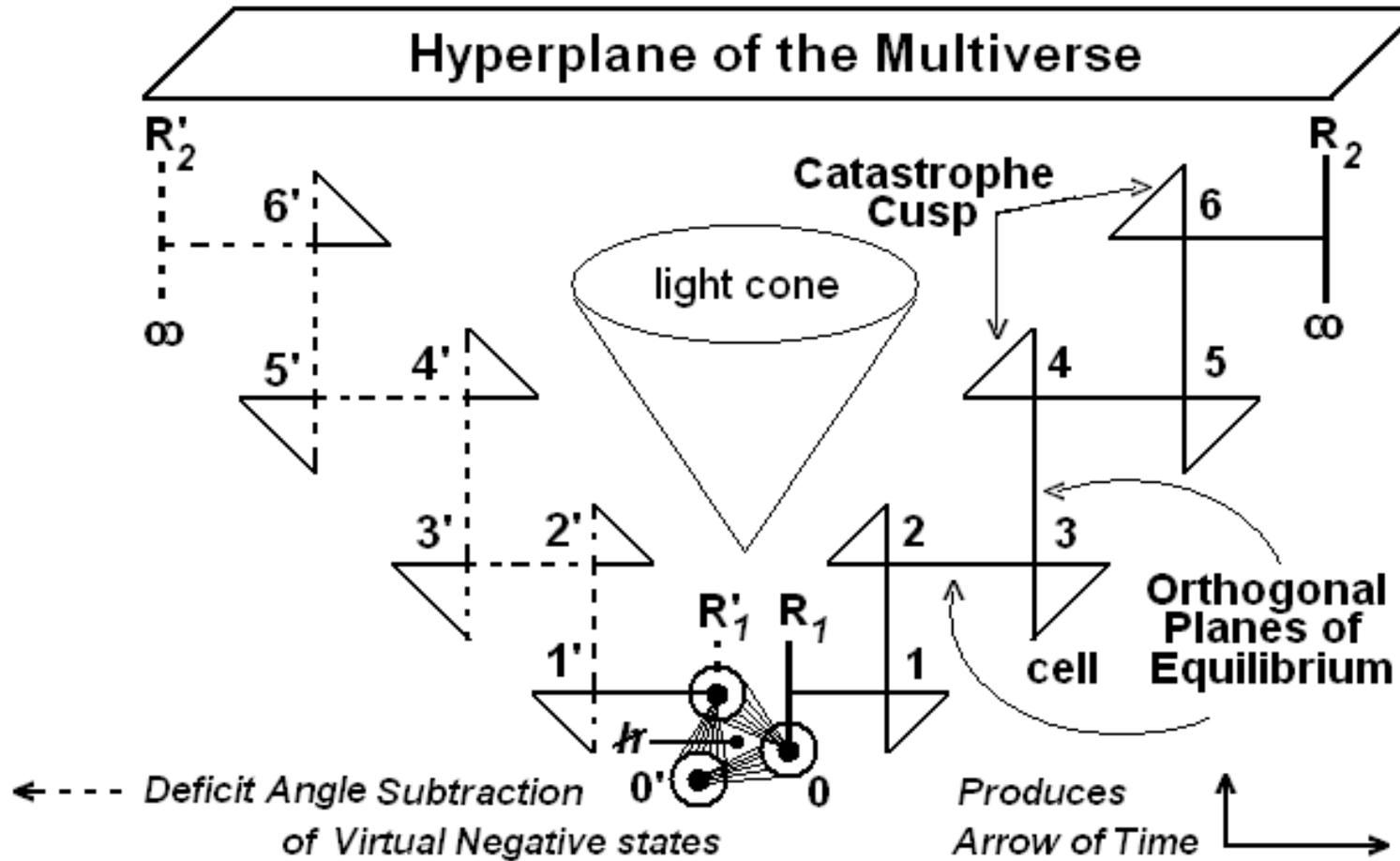
the same form as string tension, $T_S = e/l$ where e is again energy and l the length of the vibrating string.

EXCIPLEX GEOMETRY OF THE NOETIC FIELD EQUATION



Geometric representation of the Noetic Unified Field equation, $F_{(N)} = E/R$ for an array of cosmological least-units. Solid lines represent extension, dotted lines represent field. Where $F_{(N)}$ is the anthropic or coherent force of the unified field driving self-organization, total E equals the hysteresis loop energy of the hypervolume, R is the scale-invariant radius of the action and the domain wall (curves) string tension, T_0 .

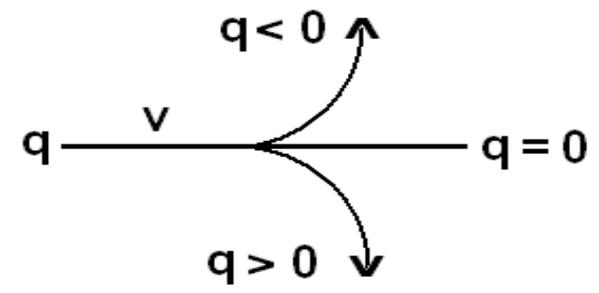
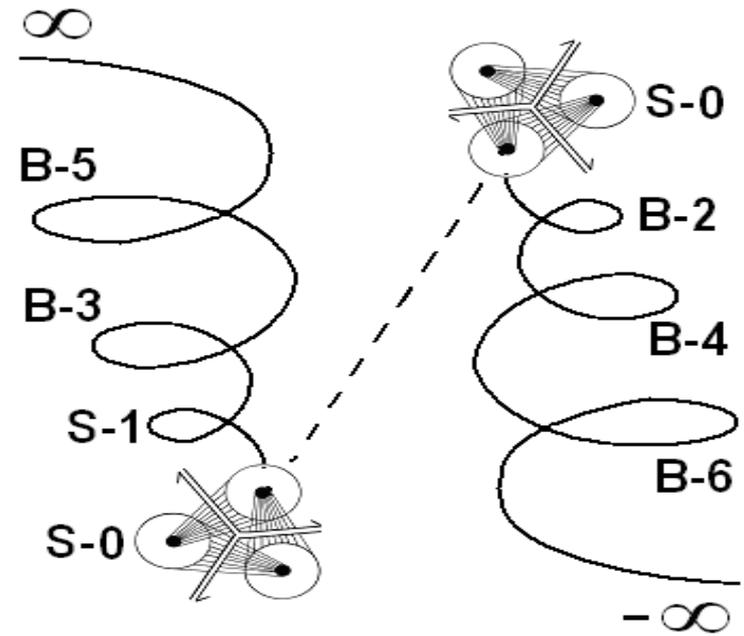
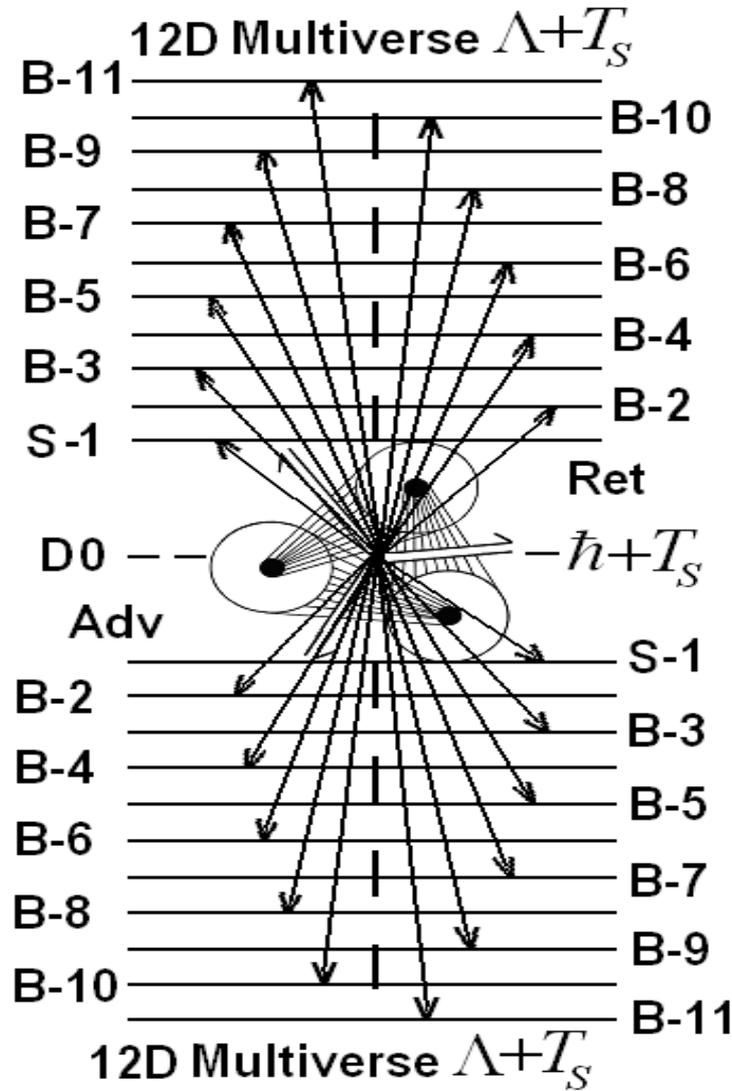
CALABI-YAU MIRROR SYMMETRY



Scale Invariant Hierarchical Domains of Noetic Cosmology

Mirror symmetry has Cramer future-past parameters relating to the dimensional reduction compactification process.

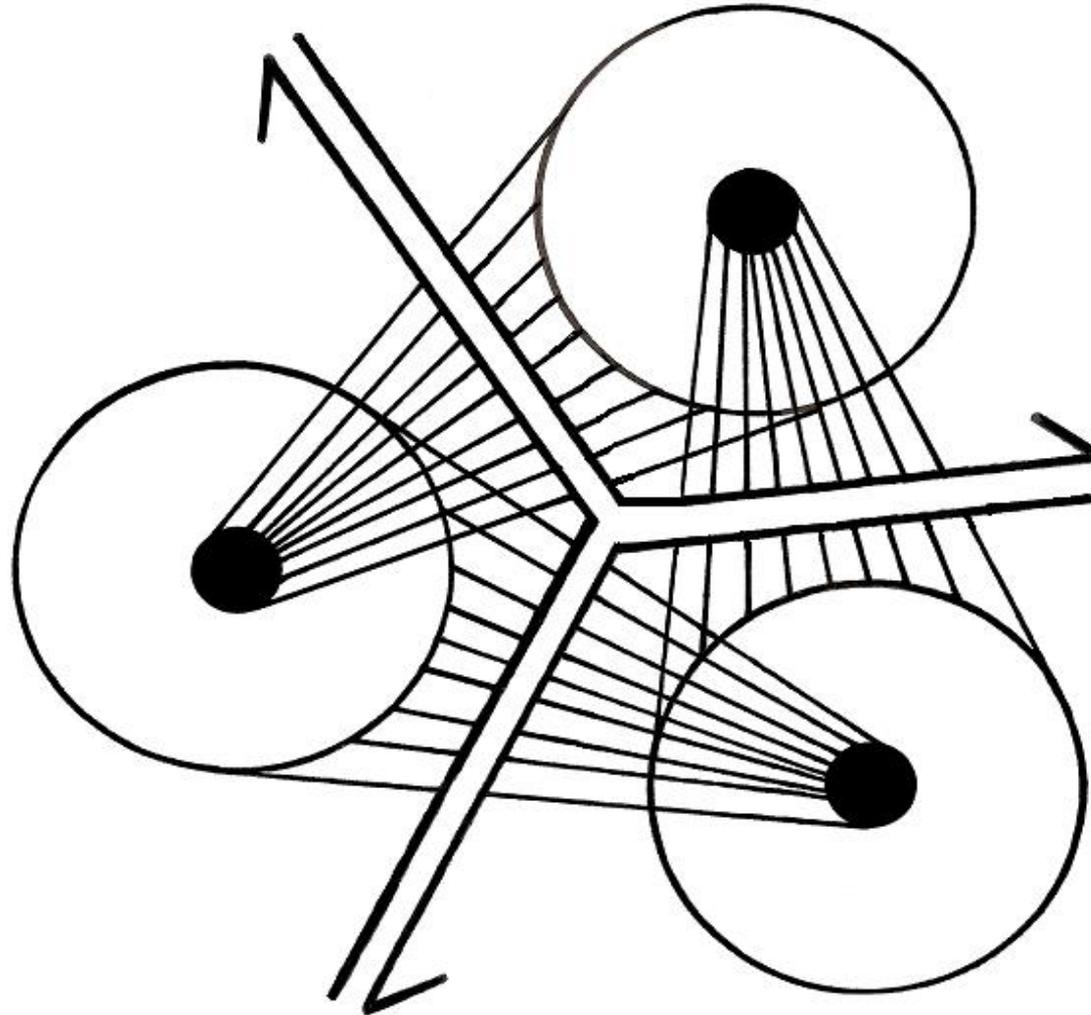
Compactification goes odd to even D



Lorentz force, $F = q(E + v \times B)$

The dimensional reduction - compactification cycle proceeds odd to even.

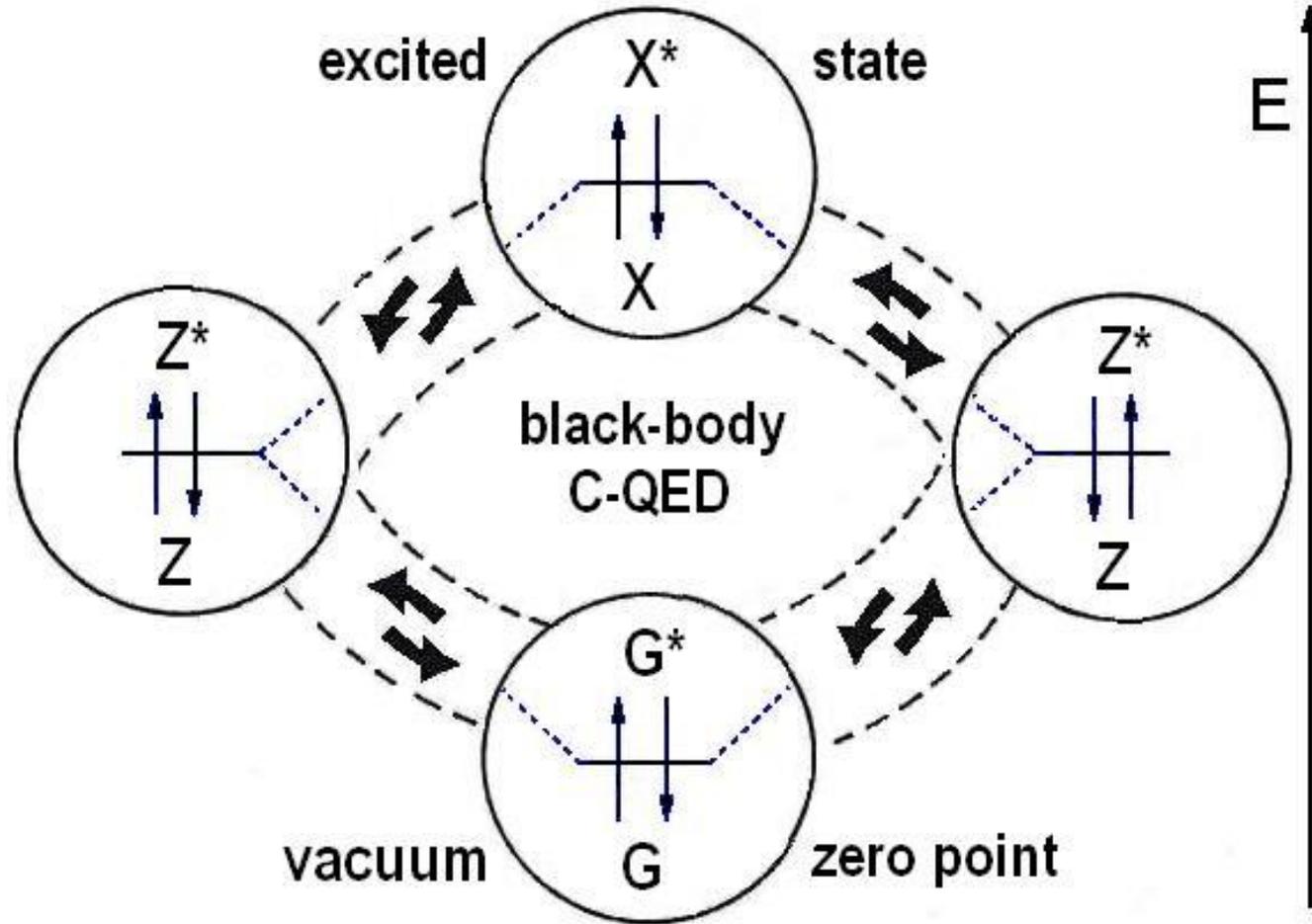
FUNDAMENTAL LEAST COSMOLOGICAL UNIT



LCU Comprise Complex Spacetime Cellular Automata

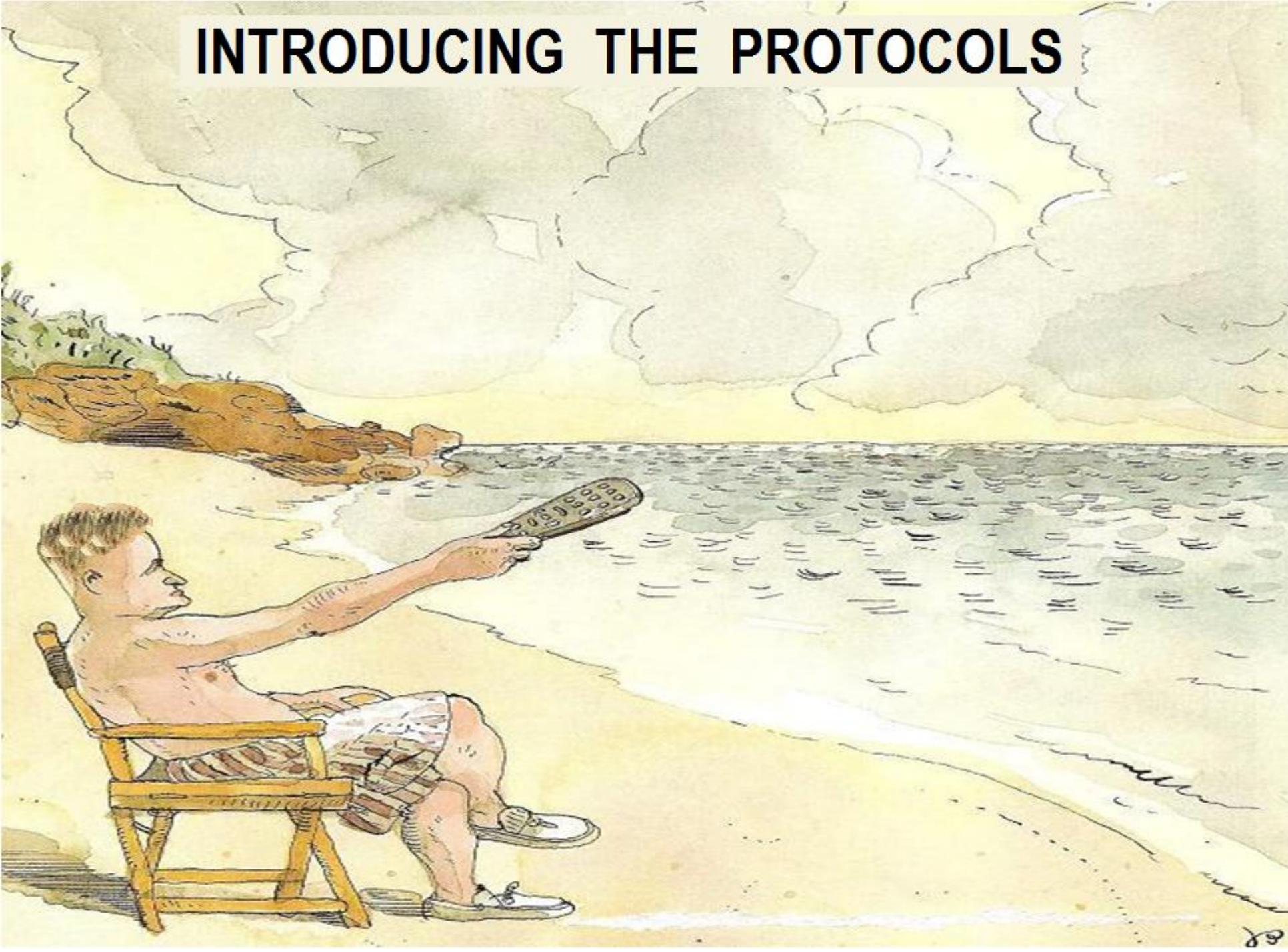
Blackbody Cavity QED: Redshift absorption, CMBR Emission

Spacetime-Exciplex



This exciplex also gates the unified field and allows matter creation.

INTRODUCING THE PROTOCOLS



9 EXPERIMENTAL PROTOCOLS

- 1) **Basic Experiment - Fundamental test that the concatenation of principles is theoretically sound. A laser oscillated rf pulsed Sagnac Effect resonance hierarchy set to interfere with the periodic conformal scale-invariant structure of spacetime in a covariant Dirac vacuum to detect the new action principle associated with a cyclical entry of the Unified Field, U_F into 4-space.**
- 2) **Bulk Quantum Computing - Utilizing protocol (1) Bulk Universal QC can be achieved by superseding the quantum uncertainty principle. Programming and data I/O are performed without decoherence by utilizing the inherent conformal scale-invariant mirror symmetry properties that act like 'synchronization backbone' whereby the local quantum state is causally free (measurable without decoherence) at a specific HD node in the continuous-state conformal symmetry cycle.**
- 3) **Protein Conformation - (most similar to discussion in original 1996 paper). Utilizing aspects of protocols (1 & 2) dual Hadamard quantum logic gates are set as a Cavity-QED spacetime cellular automata experiment to facilitate conformational propagation in the prion protein from normal to the pathological form.**
- 4) **Manipulating a special case of the Lorentz Transformation - Aspects of the spacetime exciplex model in terms of restrictions imposed by Cramer's Transactional Interpretation on Calabi-Yau mirror symmetry can be used for the putative detection of virtual tachyon-tardyion interactions in Zitterbewegung.**

Protocols Continued -1

- 5) Extended Quantum Theory - Test of causal properties of de Broglie-Bohm-Vigier quantum theory by utility of the U_F holophote effect (protocol 1) as a “super” quantum potential to summate by constructive interference the density of de Broglie matter waves.**
- 6) Coherent Control of Quantum Phase - Additional test of de Broglie-Bohm for existence of a nonlocal ‘pilot-quantum potential’ to manipulating the phase ‘space quantization’ in the double slit experiment by controlling which slit quanta passes through.**
- 7) Manipulating Spacetime Structure - (similar to protocol 6)
Test of conformal scale-invariant properties of the putative Dirac conformal polarized vacuum, a possible ‘continuous-state’ property related to an arrow of time
(Similar to basic experiment, but more advanced)**

Protocols Continued - 2

- 8) **Testing for and Manipulating Tight Bound States (TBS) - (similar to protocol 4) Vigier has proposed TBS below the 1st Bohr orbit in the Hydrogen atom. Utilizing tenets of the original hadronic form of string theory such as a variable string tension, T_s where the Planck constant, is replaced with a version of the original Stoney, where is an asymptote never reached and instead oscillates from virtual Planck to the Larmour radius of the hydrogen atom, i.e. the so-called Planck scale is a restriction imposed by the limitations of the Copenhagen Interpretation and is not a fundamental physical barrier. Large scale XD exist behind it. Key to operation of the experiment is what we have termed a 'couple-punch'. Utilizing relativistic quantum field theory (RQFT) at the moment of spin-spin coupling an rf pulse is kicked at various phases of a Bessel function harmonically set to coincide with putative phases in the cycle of TBS.**

Protocols - 3

9) Test of the Unique String Vacuum - Until now the structure of matter has been explored by building ever bigger supercolliders like Fermi Lab & the LHC. If the model described here for accessing HD space in terms of a Dirac covariant polarized vacuum proves to be correct utilizing the inherent conformal scale-invariant mirror symmetry properties of de Broglie matter waves will allow examining the cross sections in the structure of matter in symmetry interaction during the cyclic continuous-state future-past annihilation-creation modes of matter in HD spacetime.

If these experiments prove viable we expect a new class of research platform for studying the HD spacetime vacuum and the structure of matter. The structure of matter can be studied without large accelerators with bench top apparatus instead.

Conceptualized Resonance Hierarchy

LASER OSCILLATED VACUUM ENERGY RESONATOR (L.O.V.E.R.)

Multi-Tiered Experimental Platform

TIER-I	Applied Tunable Laser RF Modulated Pulsed Quadrupole Resonant Counter-Propagating Sagnac Effect Interferometry of Electrons
TIER-II	For the Purpose of Spin-Spin Coupling of Tier-I Electrons to the Magnetic Moment of the Nucleons
TIER-III	By HD RQFT Tier- I & II Undergo Resonant Coupling with the Beat Frequency of the Fabric of Spacetime
TIER-IV	Producing a Multi-Tier Cumulative Interaction of Tier - I - II - III to Destructively Interfere with the Annihilation & Creation operators of Spacetime

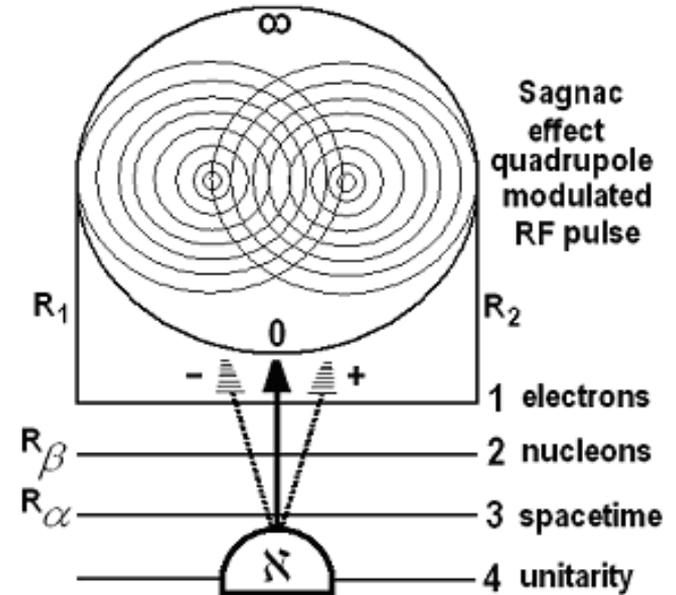
Reaching Beyond the “Veil of Uncertainty”

EXPERIMENTAL DESIGN

LASER OSCILLATED VACUUM ENERGY RESONATOR Multi-Tiered Experimental Platform

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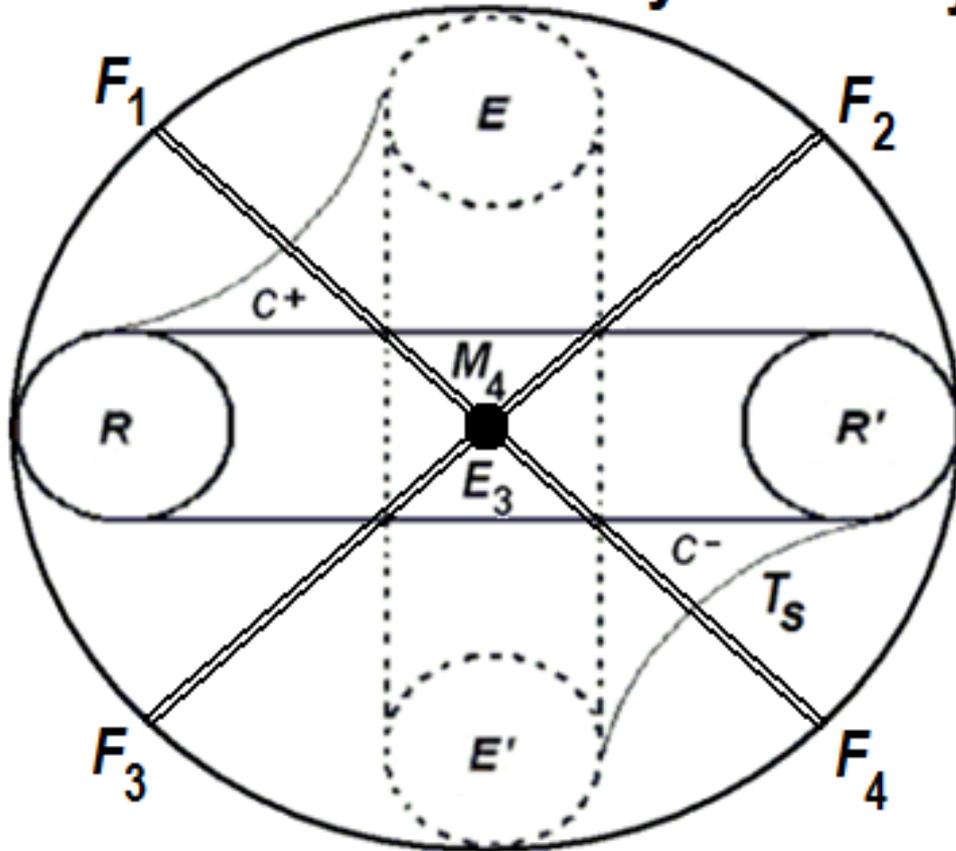
CONCEPTUALIZED NOETIC INTERFEROMETRY



Design elements of the Noetic Interferometer postulated to constructively-destructively interfere with the topology of the spacetime manifold to manipulate the *UF*. A) The first three tiers set the stage for the critical 4th tier which through an incursive oscillator ‘punches a hole’ in the fabric of spacetime creating a holophote reflection of the *UF* into the apparatus. B) Conceptualized Riemann sphere Cavity-QED multi-level Sagnac effect interferometer designed to ‘penetrate’ spacetime emitting the ‘eternity wave,’ of the *UF*.

Hierarchy of the Three Regimes of Reality

Noetic Field Hierarchy Geometry



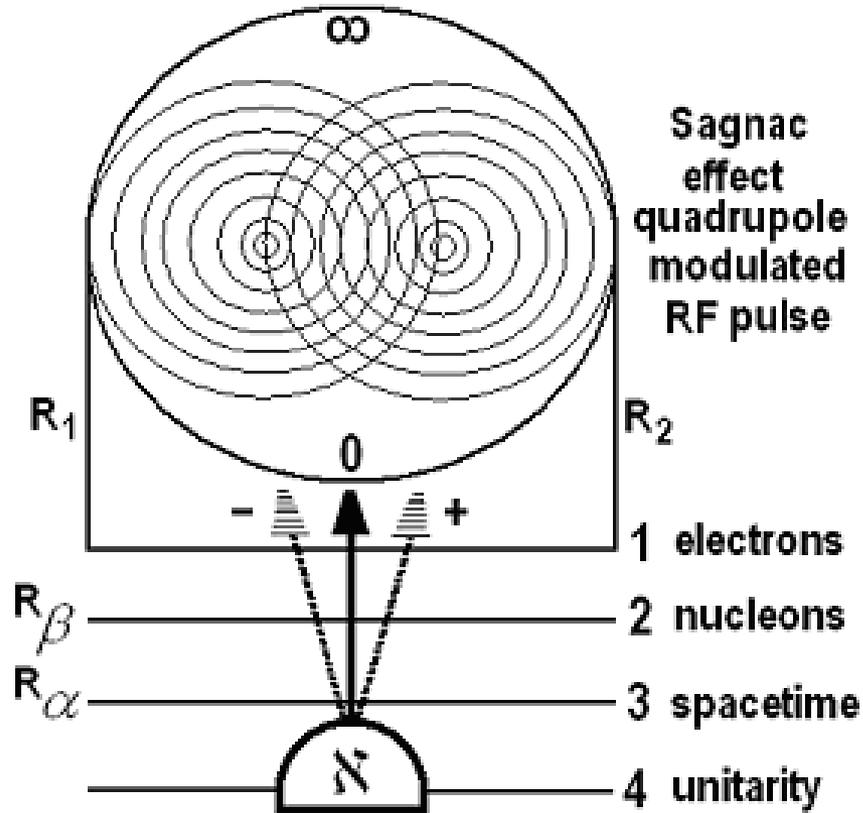
a) Central black dot; a point in Euclidean space.

b) Double lines, F_1, F_2, F_3, F_4 (eq. 4) as future-past components of a Cramer transaction.

c) Four LCU circles representing geometric topology of the UF and UF equation $F_{(N)} = E/R$.

Fundamental Resonance Hierarchy

CONCEPTUALIZED
NOETIC INTERFEROMETRY



To break through the uncertainty barrier rf pulsed electrons resonantly couple to nucleons which in incursively oscillate spacetime with destructive interference.

Generalized Oscillator Parameters

Hierarchical Harmonic Oscillator Parameters	
classical	$X = A \cos(\omega t)$
quantum	$\frac{\hbar^2}{2m} \frac{d^2\psi}{dx^2} + \left(E - \frac{kx^2}{2} \right) \psi = 0$
annihilation creation	$x(t) = x_0 \left[a \exp(-i\omega t) + a^\dagger \exp(i\omega t) \right]$
future-past retarded- advanced	$F_1 = F_0 e^{-ikx} e^{-2\pi i f t}$, $F_2 = F_0 e^{ikx} e^{-2\pi i f t}$, $F_3 = F_0 e^{-ikx} e^{2\pi i f t}$, $F_4 = F_0 e^{ikx} e^{2\pi i f t}$
incursive	$\frac{dx(t+\Delta t)}{dt} - v(t) = 0$, $\frac{dv(t+\Delta t)}{dt} + \omega^2 = 0$

In extended de Broglie – Bohm quantum theory a proton for example is not created at the Big Bang but continuously created annihilated and recreated according to the de Broglie matter-wave model.

Go For It !

In any field find the
strangest thing and
and then explore it.

John Archibald Wheeler

