

Quantum FFF Theory Proposals for Some Unsolved Physics Problems.

**Leo Vuyk,
Architect,
the Netherlands.**

Abstract.

There is still large uncertainty on the foundation of Black hole theory principles even recently created by new ideas of Stephen Hawking and others, As a consequence, it seems a good moment to come up with new Black Hole alternative model already described in my Vixra recorded Quantum FFF Theory (Function Follows Form). (see reference list) because it seems to be crucial for the interpretation and solution of a large number of unsolved physics problems, from quantum to astronomical scales. This new black hole model has a major impact on how we should interpret the universe as a real raspberry shaped Charge Parity symmetric multiverse with full entanglement down to each anti-copy mirror quantum at long distant to solve the way God plays dice with dual entangled dice inside distant copy universe. At the same time I found possibilities to compare these ideas as possible answers on well known physics problems such as described at the Wikipedia site. (as presented on 24 april 2014.)

Introduction.

Quantum FFF (Function Follows Form) theory states, that the vacuum is seeded with fast opposite oscillating massless 3-Dimensional torus shaped Higgs- Axion- or Preon particles, responsible for the Higgs field and Photon information transportation. Two Preons are supposed to be able to change form into two entangled Fermion propeller strings (e-,e+ pair production) by an overflow of energetic opposite collision at black hole horizons. This energy overflow is supposed to be present at the black hole event horizon. Thus the FORM of all particles is based on real joints and gears, responsible for the FUNCTION even for composite Quarks and Photons, however all particles are instant entangled and guided in a dual mirror multiuniversal way. Secondly: that dual oscillating Higgs particles are the same as Axions or Preons and are responsible for the Casimir Dark Energy of 126 GeV recently observed in the LHC at CERN. Third: that the oscillating Higgs vacuum system is the messenger medium of all Photon information and Black Holes are equipped with a nucleus of compacted Higgs particles, compressed by the oscillating Higgs vacuum. The vacuum energy flow around such a Black hole indicates that different sized globular horizons are needed, an event or Photon horizon and two Fermion repulsion horizons, which can explain lots of astronomical unresolved phenomena.

Wiki list of unsolved problems

Some of the major unsolved problems in physics are theoretical, meaning that existing theories seem incapable of explaining a certain observed phenomenon or experimental result. The others are experimental, meaning that there is a difficulty in creating an experiment to test a proposed theory or investigate a phenomenon in greater detail.

Contents

[hide]

- 1 Unsolved problems by subfield
 - o 1.1 Cosmology, and general relativity
 - o 1.2 Quantum gravity
 - o 1.3 High energy physics/particle physics
 - o 1.4 Astronomy and astrophysics
 - o 1.5 Nuclear physics
 - o 1.6 Atomic, molecular and optical physics
 - o 1.7 Condensed matter physics
 - o 1.8 Biophysics
 - o 1.9 Other problems
- 2 Problems solved in recent decades
- 3 References
- 4 External links

My Quantum FFF theory proposals (**in red colour**) for Unsolved Physics problems by subfield (Published by Wikipedia date: 24 april 2014).

The following is a list of unsolved problems grouped into broad area of physics.^[1]

Cosmology, and general relativity.

001. Cosmic inflation

(Q-FFF Proposal:) Inflation is the fractal splitting of the Big Bang Dark Matter Black Hole into smaller Galaxy Anchor Black Holes and Higgs field evaporation (as Dark Energy), see;

Is the theory of cosmic inflation correct, and if so, what are the details of this epoch? What is the hypothetical inflaton field giving rise to inflation? If inflation happened at one point, is it self-sustaining through inflation of quantum-mechanical fluctuations, and thus ongoing in some extremely distant place?^[2]

002. Horizon problem (see 001)

Why is the distant universe so homogeneous, when the Big Bang theory seems to predict larger measurable anisotropies of the night sky than those observed?

Cosmological [inflation](#) is generally accepted as the solution, but are other possible explanations such as a [variable speed of light](#) more appropriate?^[3]

003 [Electroweak Horizon Problem](#)

Why aren't there obvious large-scale discontinuities in the electroweak vacuum, if distant parts of the observable universe were causally separate when the [electroweak epoch](#) ended? Standard cosmological inflation models have inflation cease well before [electroweak symmetry breaking](#) occurs, so it is not at all clear how inflation could prevent such discontinuities.^[4]

004 [Future of the universe](#) (A cyclic model) see:

Is the universe heading towards a [Big Freeze](#), a [Big Rip](#), a [Big Crunch](#) or a [Big Bounce](#)? Or is it part of an infinitely recurring [cyclic model](#)?

005 [Gravitational wave](#) (Only gravitational vector variation is proposed in Q-FFF Theory) see;

Can gravitational waves be directly detected?^{[5][6]}

006 [Baryon asymmetry](#) (Because there are entangled anti-matter copy universes inside super symmetric Multiverse) see:

Why is there far more [matter](#) than [antimatter](#) in the [observable universe](#)?

008 [Cosmological constant problem](#) (Because the oscillating Higgs vacuum is absorbed by all the black holes (small and large BHs) as compensation)

Why does the [zero-point energy](#) of the [vacuum](#) not cause a large [cosmological constant](#)? What cancels it out?

009 [Dark matter](#) (Dark Matter is the Quantum Knot based Nucleus of each Black hole)

What is the identity of dark matter?^[3] Is it a [particle](#)? Is it the lightest [superpartner](#) (LSP)? Do the phenomena attributed to dark matter point not to some form of matter but actually to an extension of gravity? The results obtained by the [Large Underground Xenon](#) (LUX) experiment that took place in 2013 at Sanford Underground Research Facility place a lower bound on the LSP mass; at this point light supersymmetric particles that are the main candidate for dark matter in the lower mass sector are excluded with 90% confidence.^[7]

010 [Dark energy](#) (There is NO accelerated expansion of the universal pear shaped bubble, The Hubble redshift is influenced by the absorption of the vacuum (tired light effect) by proliferated black holes around Galaxies, which is reason to propose a contraction of the multiverse direct after the fractal inflation)

What is the cause of the observed [accelerated expansion](#) ([de Sitter phase](#)) of the Universe? Why is the energy density of the dark energy component of the same magnitude as the density of matter at present when the two evolve quite differently over time; could it be simply that we are observing at exactly the [right time](#)? Is

dark energy a pure cosmological constant, or are models of [quintessences](#) such as [phantom energy](#) applicable?

011. [Ecliptic alignment of CMB anisotropy](#) (probably due to a systematic error)

Some large features of the microwave sky, at distances of over 13 billion light years, appear to be aligned with both the motion and orientation of the Solar System. Is this due to systematic errors in processing, contamination of results by local effects, or an unexplained violation of the [Copernican principle](#)?

012. [Shape of the Universe](#) (The topology is proposed to be a raspberry shaped super symmetric Multiverse with 8 up to 12 Charge Parity symmetric mirror berries (universes)).

What is the 3-[manifold](#) of [comoving space](#), i.e., of a comoving spatial section of the Universe, informally called the "shape" of the Universe? Neither the curvature nor the topology is presently known, though the curvature is known to be "close" to zero on observable scales. The [cosmic inflation](#) hypothesis suggests that the shape of the Universe may be unmeasurable, but since 2003, [Jean-Pierre Luminet](#) et al. and other groups have suggested that the shape of the Universe may be the [Poincaré dodecahedral space](#). Is the shape unmeasurable; the Poincaré space; or another 3-manifold?

Quantum gravity

013. [Vacuum catastrophe](#) (The Q-FFF model multiverse is cyclic, so see 010)

Why does the predicted mass of the [quantum vacuum](#) have little effect on the expansion of the universe?

014. [Quantum gravity](#) (Quantum gravity is the combination of vacuum (Casimir) pressure against graviton pressure)

Can [quantum mechanics](#) and [general relativity](#) be realized as a fully consistent theory (perhaps as a [quantum field theory](#))?^[9] Is spacetime fundamentally continuous or discrete? Would a consistent theory involve a force mediated by a hypothetical [graviton](#), or be a product of a discrete structure of spacetime itself (as in [loop quantum gravity](#))? Are there deviations from the predictions of general relativity at very small or very large scales or in other extreme circumstances that flow from a quantum gravity theory?

[Black holes, black hole information paradox, and black hole radiation](#)

Do black holes produce thermal radiation, as expected on theoretical grounds? Does this radiation contain information about their inner structure, as suggested by [Gauge-gravity duality](#), or not, as implied by [Hawking's](#) original calculation? If not, and black holes can evaporate away, what happens to the information stored in them (quantum mechanics does not provide for the destruction of information)? Or does the radiation stop at some point leaving black hole remnants? Is there another way to probe their internal structure somehow, if such a structure [even exists](#)?

015. Extra dimensions (At the Quantum scale all particles are convertible but rigid strings with three dimensions and able to become interlocked with other particles to form Quarks. Fermions have double axis spin with Calabi Yau Manifold motion)

Does nature have more than four spacetime dimensions? If so, what is their size?
Are dimensions a fundamental property of the universe or an emergent result of other physical laws? Can we experimentally observe evidence of higher spatial dimensions?

016. The cosmic censorship hypothesis and the chronology protection conjecture Singularities are in Q-FFF theory, Interlocked Quantum Knots with at least more than 5 interlocked stringy particles (as Tau Quarks seem to combine) . However small Q-Knots are very short in lifetime, due to the oscillating vacuum Higgs field (Casimir) pressure. The Ball Lightning Quantum Knots are supposed to have at least several hundreds of interlocked particles to be able to survive for at least one second before evaporation. In Q-FFF theory, Quarks can be compared with naked singularities, Ball Lightning is not naked and should have a H2 plasma producing horizon by Quark/ pair production.

Can singularities not hidden behind an event horizon, known as "naked singularities", arise from realistic initial conditions, or is it possible to prove some version of the "cosmic censorship hypothesis" of Roger Penrose which proposes that this is impossible?^[10] Similarly, will the closed timelike curves which arise in some solutions to the equations of general relativity (and which imply the possibility of backwards time travel) be ruled out by a theory of quantum gravity which unites general relativity with quantum mechanics, as suggested by the "chronology protection conjecture" of Stephen Hawking?

017. Locality in Q-FFF theory, each Quantum is instant entangled with its CP symmetric anti-copy half in a second multiverse part at very long distance.

Are there non-local phenomena in quantum physics? If they exist, are non-local phenomena limited to the entanglement revealed in the violations of the Bell Inequalities, or can information and conserved quantities also move in a non-local way? Under what circumstances are non-local phenomena observed? What does the existence or absence of non-local phenomena imply about the fundamental structure of spacetime? How does this relate to quantum entanglement? How does this elucidate the proper interpretation of the fundamental nature of quantum physics?

High energy physics/particle physics

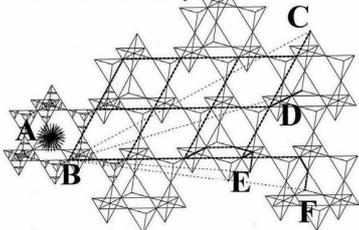
018. Higgs mechanism There is one type of Higgs vacuum field particle with oscillating energy of 126 GeV, However each individual Higgs is entangled with its counterpart inside the CP symmetric anti-copy multiverse. The Higgs particle is not pointlike but has the form of a compound torus made out of 4 quarter elements connected by hinges and able to rotate individual in steps of 90

degrees, to form other shaped single particles like Electron and Positron or Photons/Gluons, able to form compound interlocking Quarks, Muon or Tau leptons.

Are the branching ratios of the Higgs Boson consistent with the standard model? Is there only one type of Higgs Boson?

What is wrong with Physics

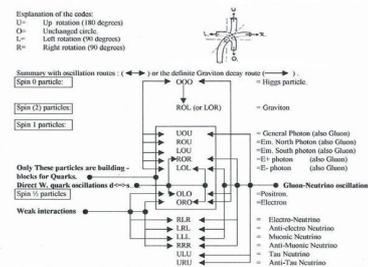
Wave-Particle duality



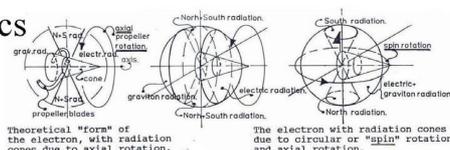
Photon trajectories through the tetrahedral Chiral vacuum lattice.

A photon is created as a deformed Higgs particle at position (A), thus as a single (Photon/Gluon) particle which after some distance changes form back into a Higgs particle (B). The photon energy is transferred into the oscillating Higgs system and travelling through the vacuum lattice in the form of a pulsating BUNCH of entangled energetic Higgs oscillations with the local speed of light. The distance between two cycles of the bunch resembles the wavelength of the photon pulsating bunch. (The bunch idea matches with the single photon double slit experiment) After collision with a second Fermion, at locations C,D,E,F, the BUNCH of energy collapses and change the FORM of a local Higgs particle into the shape of the original Photon.

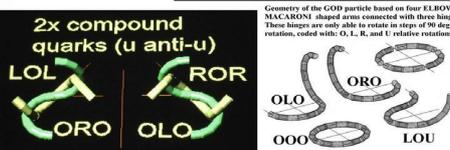
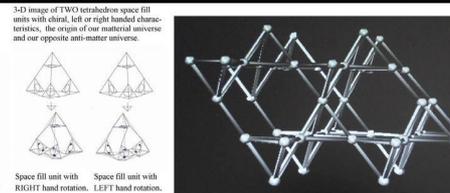
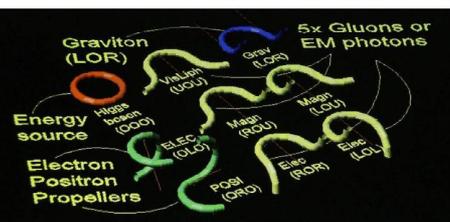
Five different shaped Gluons after some distance are called Photons. Thus five different shaped Photons start their journey as Gluon. Author: Leo Vuyk.



Author: Leo Vuyk 30-01-2011 NL



The "Eigen energy" distribution around the spinning Fermion propeller, is supposed to come in cone form. The Fermion spin and radiation is the product of a scattering process with oscillating Higgs vacuum particles. As a result, the Fermion has a double spin around two polar axes. This is supposed to be the origin of a dipole Magnetic field with North and South monopole photon radiation and the circular distribution of graviton and electric radiation. In addition it must be stated that all Fermions are entangled with their object/subject particle far away.



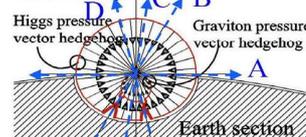
Leo Vuyk@Gmail.com

At the Quantum level



Double LeSage Quantum Gravity.

Higgs/Graviton pressure vector hedgehogs acting on a mass carrying Quantum particle. The irregular distribution of mass inside the earth is supposed to influence the 3D pressure vector hedgehog according to the new Double LeSage gravity paradigm, see image below. Author Leo Vuyk.



Locations inside the Earth, with extreme high mass concentration, (near Volcanos) measured by inertia pendulum experiment.

Oscillation directions A,B,C,D, of the NEW Inertia Oscillator device, will give larger DAMPING differences as expected by Newtonian gravity rules

http://bigbang-entanglement.blogspot.com/

Figure: 1, Interlocking Photons with the electron and positron make Quarks and Muon/ Tau leptons.

019. Hierarchy problem

Why is gravity such a weak force? It becomes strong for particles only at the Planck scale, around 10^{19} GeV, much above the electroweak scale (100 GeV, the energy scale dominating physics at low energies). Why are these scales so different from each other? What prevents quantities at the electroweak scale, such as the Higgs boson mass, from getting quantum corrections on the order of the Planck scale? Is the solution supersymmetry, extra dimensions, or just anthropic fine-tuning?

One could say fine-tuning by extra dimensions of the interlocking particles. Gravity is weak because it is NOT able to interlock with Fermions like the other Photons /Gluons are able to do. (figure 1)

020. Magnetic monopoles

Did particles that carry "magnetic charge" exist in some past, higher energy epoch? If so, do any remain today? (Paul Dirac showed the existence of some types of magnetic monopoles would explain charge quantization.)

Magnetic monopole photons are just like electric monopole photons 4 of the 5 Photon/ Gluon particles able to interlock with fermions.

021. Proton decay and spin crisis

Is the proton fundamentally stable? Or does it decay with a finite lifetime as predicted by some extensions to the standard model?^[12] How do the quarks and gluons carry the spin of protons? **The three compound Quarks of the proton are able to disintegrate.**

022. Supersymmetry

Is spacetime supersymmetry realized at TeV scale? If so, what is the mechanism of supersymmetry breaking? Does supersymmetry stabilize the electroweak scale, preventing high quantum corrections? Does the lightest supersymmetric particle (LSP) comprise dark matter? **The Quantum FFF Model particle system is symmetric by the hinge based Higgs rotation mechanism. (see fig 1) Dark Matter is based on more complex interlocking "Quantum Knots" (see fig 1, and**

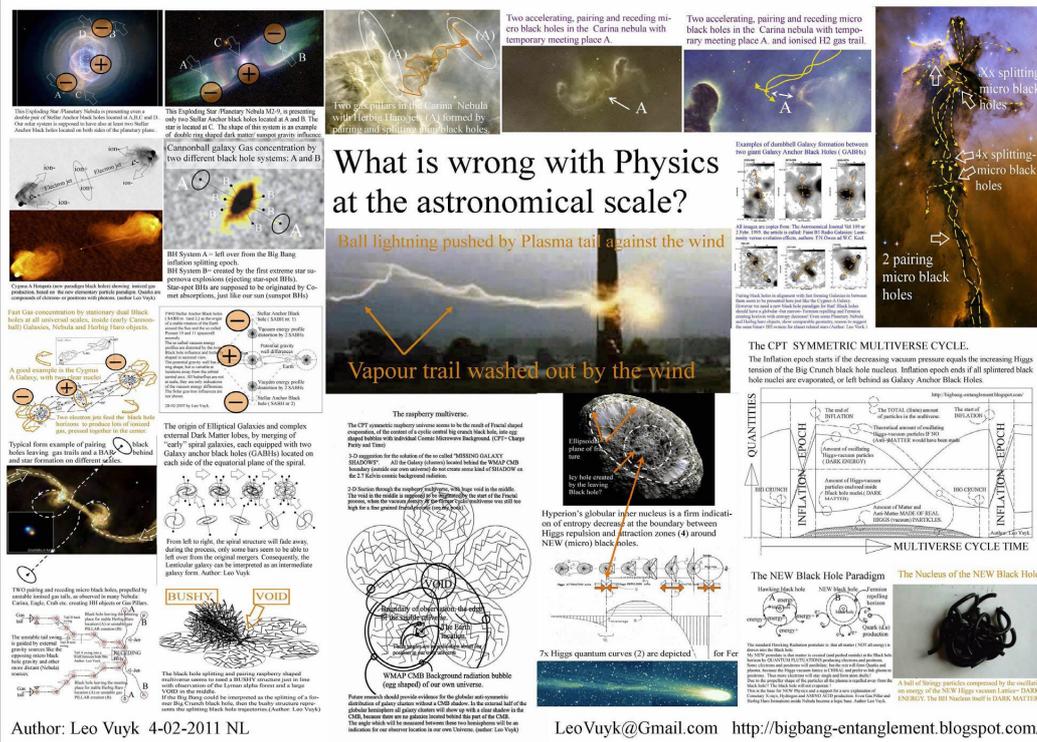


Figure: 2, Dark Matter black holes are interlocking Quantum knots even at the microscopic scale.

023. Generations of matter

Why are there three generations of quarks and leptons? Is there a theory that can explain the masses of particular quarks and leptons in particular generations from first principles (a theory of Yukawa couplings)? (See figure 1) **The more complex the interlocking quarks and leptons are the more mass they represent. Mass is the relativistic ability of fast rotating and (Lorentz polarized) propeller shaped Fermions to cut vacuum Higgs (ring shaped) particles into as much gravitons (LOR coded fig 1).**

024. Electroweak symmetry breaking

What is the mechanism responsible for breaking the electroweak gauge symmetry, giving mass to the W and Z bosons? Is it the simple Higgs mechanism of the Standard Model,^[14] or does nature make use of strong dynamics in breaking electroweak symmetry, as proposed by Technicolor? **W and Z particles are supposed to be interlocked (Figure 3)**

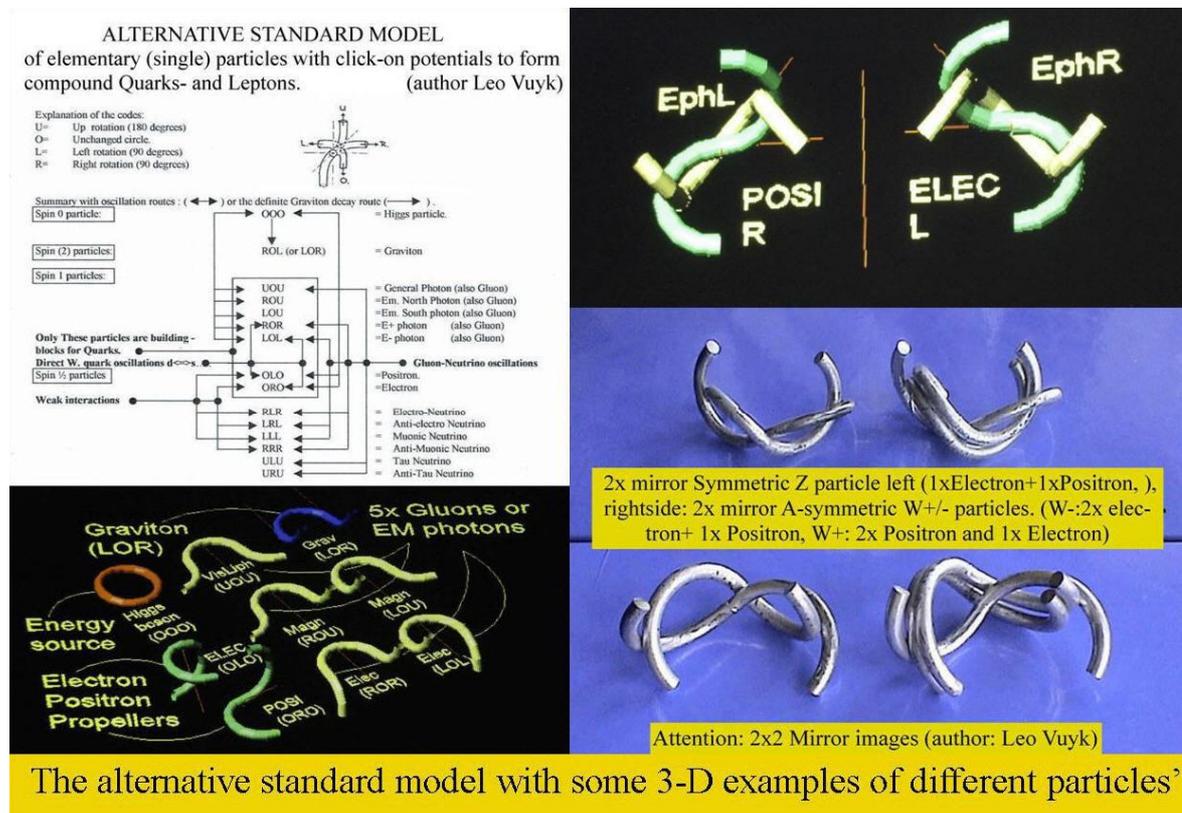


Figure: 3, Interlocking of particles like W and Z.

025. Neutrino mass

What is the mass of neutrinos, whether they follow Dirac or Majorana statistics? Is mass hierarchy normal or inverted? Is the CP violating phase 0. **Neutrinos are not supposed to constantly cut Higgs particles into gravitons as Fermions do. Mass is the relativistic ability of fast rotating and (Lorentz polarized)**

propeller shaped Fermions to cut vacuum Higgs (ring shaped) particles into as much gravitons (LOR coded fig 3).

026. Asymptotic confinement

Why has there never been measured a free quark or gluon, but only objects that are built out of them, like mesons and baryons? How does this phenomenon emerge from QCD?

Gluons (only 5x are needed) are supposed to be the same as Photons (5x: 2x electric, 2x magnetic and light or X-Gamma ray) at the Planck scale. Quarks can decay into Electron/ Positron with Photons.

027. Strong CP problem and axions

Why is the strong nuclear interaction invariant to parity and charge conjugation?

Is Peccei–Quinn theory the solution to this problem? **xThe Peccei-Quin theory seems to be parallel with Quantum FFF theory, however in Q-FFF theory there is no difference between the Axion Higgs or Preon particle, they can all be “eaten up” transform and merge with quarks leptons to form other quarks or leptons.**

Geometry of the three Leptons with their anti-particles, according to the Quantum Function Follows Form Model. Silver coloured are the basic electron/positron propeller shaped particles. Black coloured are the different types of connected Gluon/Photons (Author Leo Vuyk)

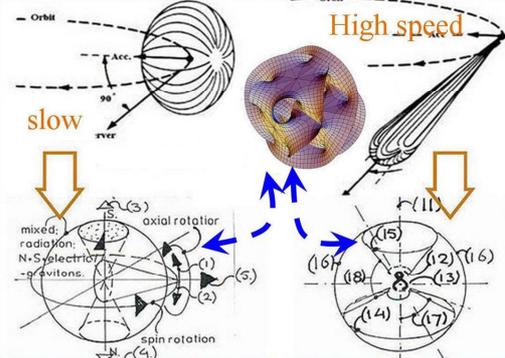


6x Leptons Electron Muon Tau

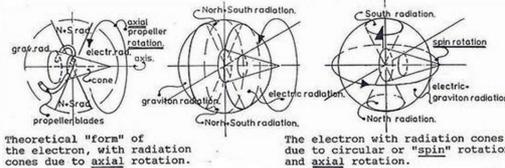


Muons have the same shape as one of the DOWN Quarks, Taus have the same shape as one of the CHARM Quarks.

Synchrotron radiation by Polarized Fermion spin combined with high speed motion through the resistive oscillating Higgs vacuum (according to Quantum FFF theory)



The propeller shape of Fermions is the origin of a dual spin state by collision influences of the oscillating massless Higgs vacuum at low speeds. (Spin rotation and axial rotation) At high relativistic speed the Lorentz polarization of the Fermion "propeller nose" (1 or 2) is preferentially pointing into direction (11) with photon cone focussing into the opposing vacuum direction (15) and the Spin rotation has gone. (Calabi Yau)



Combination poster for Quantum FFF Theory. (Function Follows Form). Real Axion/Higgs field thorus shaped particles could be able to change form by 90 degree-rotation of 3x hinges, to form all particles needed to fit the bill, also by interlocking of photon/guons with electrons or positrons.

ALTERNATIVE STANDARD MODEL PARTICLE SYSTEM
90 DEGREE HINGES
OOO = HIGGS
ORO = ELECTRON and POSITRON PROPELLER
LOL = ELECTRIC MONOPOLE PHOTONS

6x UP quarks 6x CHARM quarks
6x DOWN quarks 6x BOTTOM quarks

Graviton (LOR) 5x Gluons or EM photons
Energy source Higgs boson (OOO)
Electron Positron Propellers ELEC (LOL)
Mash (ROU) Mash (LOU)
Elec (ROE) Elec (LOE)

Figure 4,

028. Anomalous magnetic dipole moment

Why is the experimentally measured value of the [muon's](#) anomalous magnetic dipole moment ("muon g-2") significantly different from the theoretically predicted value of that physical constant. **X probably because the theoretical base is wrong.**

Astronomy and astrophysics.

030. [Accretion disc jets](#)

Why do the [accretion discs](#) surrounding certain astronomical objects, such as the nuclei of [active galaxies](#), emit [relativistic jets](#) along their polar axes?^[19] **(because dual dark matter Galaxy Anchor black holes (GABHs) outside the galaxy are supposed to be responsible)** Why are there [quasi-periodic oscillations](#) in many accretion discs?^[20] Why does the period of these oscillations scale as the inverse of the mass of the central object?^[21] Why are there sometimes overtones, and why do these appear at different frequency ratios in different objects?^[22]

031. [Coronal heating problem](#)

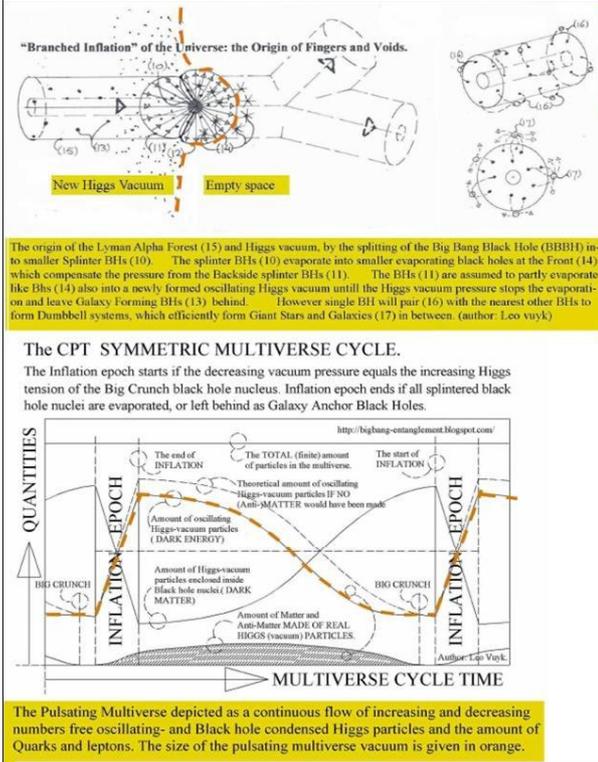
Why is the Sun's Corona (atmosphere layer) so much hotter than the Sun's surface? Why is the [magnetic reconnection](#) effect many orders of magnitude faster than predicted by standard models? **Because sunspots are dark matter black holes with a cooling effect on the solar interior.**

033. [Gamma ray bursts](#)

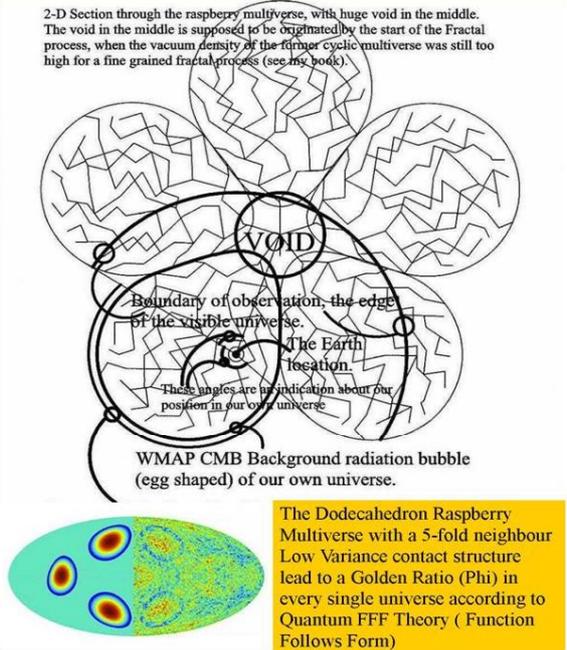
How do these short-duration high-intensity bursts originate?^[14] **These bursts are supposed to be the splitting radiation of a larger Black hole by a smaller one mostly inside nebula.**

034. [Supermassive black holes](#)

What is the origin of the [M-sigma relation](#) between supermassive black hole mass and galaxy velocity dispersion?^[23] How did the most distant quasars grow their supermassive black holes up to 10^9 solar masses so early in the history of the Universe? **According to Q-FFF theory, there are only massless white holes in the middle of galaxies being the result of vacuum distortion between super massive dual Galaxy Anchor Black holes (GABHs) outside galaxies and all smaller Galaxy Halo black holes. (figure 2, e.g. Cygnus A)**



According to Quantum FFF Theory, the CPT symmetric Raspberry Multiverse is the result of a fractal shaped splitting and evaporating dark matter black hole process of the original Big Crunch black hole. A 2-D projection of a cone shaped Multiverse section is shown.



Combination poster for Quantum FFF Theory. (Function Follows Form). Dark Matter Black Hole splitting Big Bang (above) and Electric Fermion repelling black holes (below)

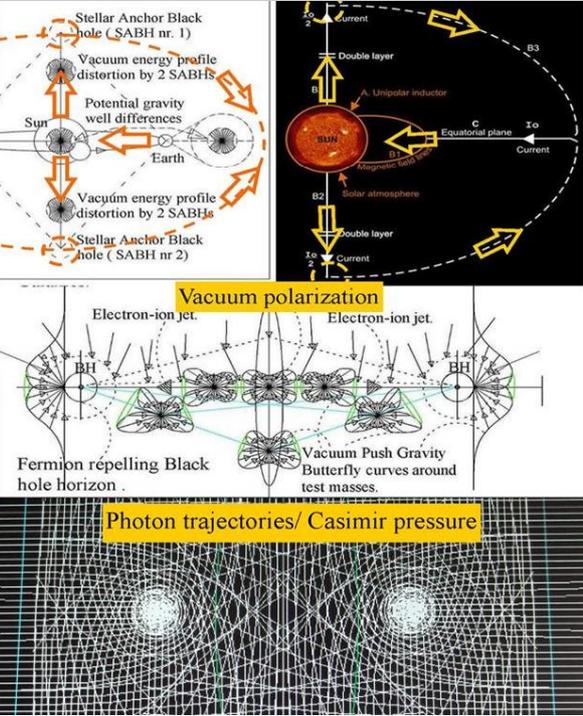
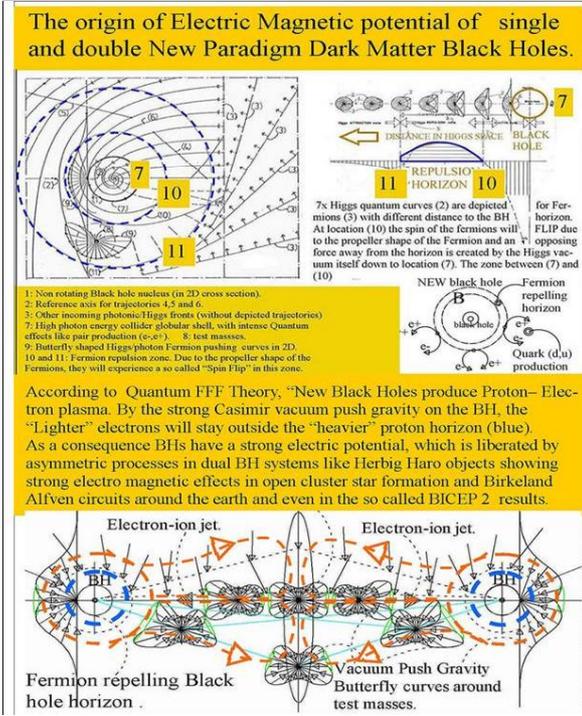


Figure 5,

035. Observational anomalies

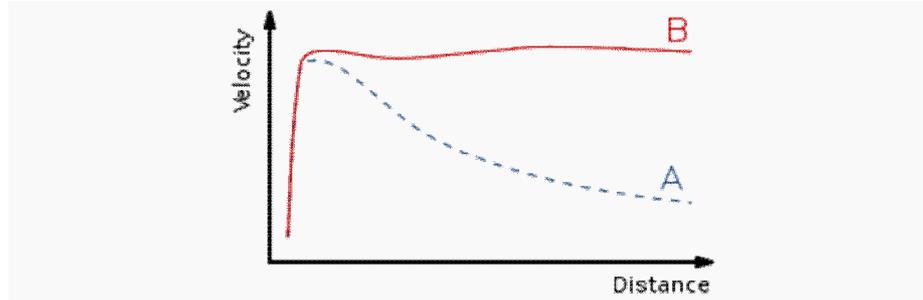


Figure 6,

Rotation curve of a typical spiral galaxy: predicted (A) and observed (B). Can the discrepancy between the curves be attributed to dark matter? **This is the result of vacuum distortion by GABHs: See (034) and all other dark matter black holes inside the galaxy Halo.**



Figure 6, Dark Matter point sources around a Galaxy cluster according to Quantum FFF Theory Primordial Big Bang splinters two by two grouping and the origin of Galaxy rotation anomalies.

036. [Kuiper Cliff](#)

Why does the number of objects in the Solar System's [Kuiper belt](#) fall off rapidly and unexpectedly beyond a radius of 50 astronomic units? **X The Kuipperbelt is supposed be formed by the existence of at least TWO polar Solar Anchor black holes (SABHs) xxxxx**

037. [Flyby anomaly](#)

Why is the observed energy of satellites [flying by Earth](#) sometimes different by a minute amount from the value predicted by theory?

038. [Galaxy rotation problem](#)

Is [dark matter](#) responsible for differences in observed and theoretical speed of stars revolving around the center of galaxies, or is it something else? **Yes see figure 6.**

044. [Age-metallicity relation in the Galactic disk](#)

Is there a universal age-metallicity relation in the Galactic disks? A sample of 229 nearby thick disk stars has been used to investigate the existence of an age-metallicity relation (AMR) in the Galactic thickdisk. The results indicate that there is indeed an age-metallicity relation present in the thick disk. **X According to Q-FFF theory, the metallicity relation can be disturbed after merging of two or more galaxies. Dwarf galaxies are supposed to be the result of merging galaxies. Dwarfs are supposed to be created In between the merger galaxy Anchor black holes at one side of the merged galaxy. Dwarfs can pick up older stars ejected from the merger galaxies, or created in between two GABHs. Globular clusters are supposed to be centered around one GABH. xxxxx**

Nuclear physics.

3D Atomic Nuclear Polar Ring structure, based on Magic Number geometry logic, according to Quantum FFF Theory

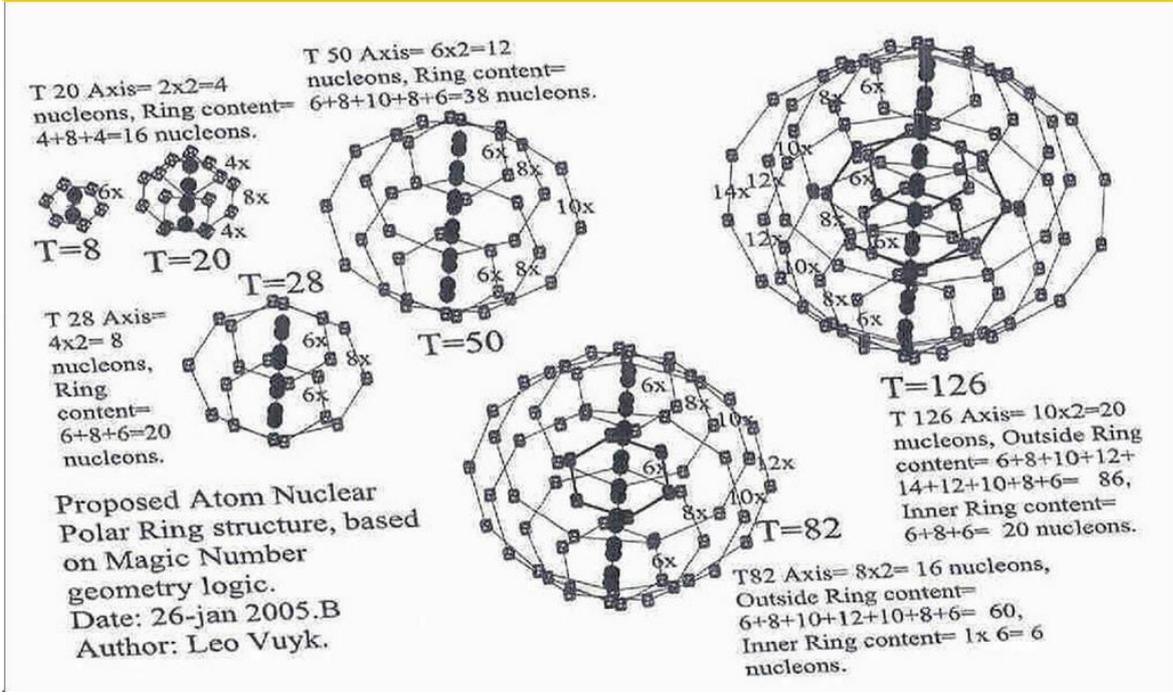


Figure: 7, 3D atomic polar ring structure. based on Magic Number geometry logic, according to Quantum FFF Theory.

045. Quantum chromodynamics

What are the phases of strongly interacting matter, and what roles do they play in the cosmos? What is the internal landscape of the nucleons? What does QCD predict for the properties of strongly interacting matter? What governs the transition of quarks and gluons into pions and nucleons? What is the role of gluons and gluon self-interactions in nucleons and nuclei? What determines the key features of QCD, and what is their relation to the nature of gravity and spacetime? Do glueballs exist? Do gluons acquire mass dynamically despite having a zero rest mass, within hadrons? Does QCD truly lack CP-violations? **X According to Q-FFF theory glueball exist as temporary misformed flexible particles see also:**

4, viXra:1103.0002 3- Dimensional String Based Alternative Particles Model

Condensed matter physics.

050. High-temperature superconductors

What is the mechanism that causes certain materials to exhibit superconductivity at temperatures much higher than around 25 kelvin? Is it possible to make a material that is a superconductor at room temperature. **xxxxxx**

051. Amorphous solids

What is the nature of the glass transition between a fluid or regular solid and a glassy phase? What are the physical processes giving rise to the general properties of glasses and the glass transition. **xxxxxx**

052. Cryogenic electron emission

Why does the electron emission in the absence of light increase as the temperature of a photomultiplier is decreased. **xxxxxx**

053. Sonoluminescence

What causes the emission of short bursts of light from imploding bubbles in a liquid when excited by sound. **xxxxxx**

054. Turbulence

Is it possible to make a theoretical model to describe the statistics of a turbulent flow (in particular, its internal structures)?^[14] Also, under what conditions

do [smooth solutions to the Navier–Stokes equations](#) exist? This problem is also listed as one of the [Millennium Prize Problems](#) in mathematics. [Alfvénic turbulence](#) in the solar wind and the turbulence in solar flares, coronal mass ejections, and magnetospheric substorms are major unsolved problems in space plasma physics. **xxxxxx**

055. [Topological order](#)

Is topological order stable at non-zero [temperature](#)? Equivalently, is it possible to have three-dimensional [self-correcting quantum memory](#) . **xxxxxx**

056. [Fractional Hall effect](#)

What mechanism explains the existence of the $\nu = 5/2$ state in the fractional [quantum Hall effect](#)? Does it describe quasiparticles with [non-Abelian fractional statistics](#). **xxxxxx**

057. [Bose–Einstein condensation](#)

How do we rigorously prove the existence of Bose–Einstein condensates for general interacting systems. **xxxxxx**

058. [Liquid crystals](#)

Can the [nematic](#) to [smectic \(A\)](#) phase transition in liquid crystal states be characterized as a [universal](#) phase transition. **xxxxxx**

059. [Semiconductor nanocrystals](#)

What is the cause of the nonparabolicity of the energy-size dependence for the lowest [optical absorption transition](#) of [quantum dots](#). **xxxxxx**

060. [Electronic band structure](#)

Why can band gaps not accurately be calculated? **xxxxxx**

Biophysics

061. [Stochasticity](#) and robustness to [noise](#) in [gene expression](#)

How do genes govern our body, withstanding different external pressures and internal stochasticity? [Certain models](#) exist for genetic processes, but we are far from understanding the whole picture, in particular in [development](#) where gene expression must be tightly regulated. **xxxxxx**

062. Quantitative study of the [immune system](#)

What are the quantitative properties of immune responses? What are the basic building blocks of immune system networks? What roles are played by stochasticity? **xxxxxx**

063. Homochirality

What is the origin of the preponderance of specific enantiomers in biochemical systems? **xxxxxx**

Other problems.

064. Entropy (arrow of time)

Why did the universe have such low entropy in the past, resulting in the distinction between past and future and the second law of thermodynamics?^[14] Why are CP violations observed in certain weak force decays, but not elsewhere? Are CP violations somehow a product of the Second Law of Thermodynamics, or are they a separate arrow of time? Are there exceptions to the principle of causality? Is there a single possible past? Is the present moment physically distinct from the past and future or is it merely an emergent property of consciousness? Why does time have a direction? **xxxxxx**

065. Quantum mechanics in the correspondence limit (sometimes called Quantum chaos)

Is there a preferred interpretation of quantum mechanics? How does the quantum description of reality, which includes elements such as the superposition of states and wavefunction collapse or quantum decoherence, give rise to the reality we perceive? Another way of stating this is the Measurement problem – what constitutes a "measurement" which causes the wave function to collapse into a definite state? **xxxxxx**

066. Theory of everything ("Grand Unification Theory")

Is there a theory which explains the values of all fundamental physical constants?^[14] Is the theory string theory? Is there a theory which explains why the gauge groups of the standard model are as they are, why observed space-time has 3 spatial dimensions and 1 dimension of time, and why all laws of physics are as they are? Do "fundamental physical constants" vary over time? Are any of the particles in the standard model of particle physics actually composite particles too tightly bound to observe as such at current experimental energies? Are there fundamental particles that have not yet been observed and if so which ones are they and what are their properties? Are there unobserved fundamental forces implied by a theory that explains other unsolved problems in physics? **xxxxxx**

067. Yang–Mills theory

Given an arbitrary [compact gauge group](#), does a non-trivial quantum [Yang–Mills theory](#) with a finite [mass gap](#) exist? This problem is also listed as one of the [Millennium Prize Problems](#) in mathematics. **xxxxxx**

068. [Physical information](#)

Are there physical phenomena, such as [wave function collapse](#) or [black holes](#), which irrevocably destroy information about their prior states? How is [quantum information](#) stored as a state of a quantum system? **xxxxxx**

069. [Quantum Computation](#)

Is [David Deutsch's](#) notion of a [universal quantum computer](#) sufficient to [efficiently simulate](#) an arbitrary physical system. **xxxxxx**

070. [Dimensionless physical constant](#)

At the present time, the values of the dimensionless physical constants cannot be calculated; they are determined only by physical measurement.^[43] What is the minimum number of dimensionless physical constants from which all other dimensionless physical constants can be derived? Are dimensionful physical constants necessary at all? **xxxxxx**

Problems solved in recent decades.

071. [Ball lightning](#) (2014)

In January 2014, scientists from [Northwest Normal University](#) in [Lanzhou](#), China, published the results of recordings made in July 2012 of the optical spectrum of what was thought to be natural ball lightning made during the study of ordinary cloud–ground lightning on China's [Qinghai Plateau](#).^{[44][45]} At a distance of 900 m (3,000 ft), a total of 1.64 seconds of digital video of the ball lightning and its spectrum was made, from the formation of the ball lightning after the ordinary lightning struck the ground, up to the optical decay of the phenomenon. It is now believed that ball lightning is vaporized silicon in the soil that then rapidly oxidizes in the atmosphere.^[45] **Still there is reason to have doubts for the oxidation origin. Two laboratory experiments have indicated that strong electric discharge through silicon chips produce multiple fireballs, leaving small silicon globules (1 mm) behind, showing a complex interior, pointing into the direction of slow evaporation of energy bullets (dark matter axions?). [51] see; Silicon Based Ball Lightning Globule Structures and Signs for Accumulation and Retarded Decrease of Tunneling Energy Bullets.** <http://vixra.org/pdf/1302.0172v3.pdf>

072. Hipparcos anomaly (2012)

The actual distance to the Pleiades - the High Precision Parallax Collecting Satellite (Hipparcos) measured the parallax of the Pleiades and determined a distance of 385 light years. This was significantly different from other measurements made by means of actual to apparent brightness measurement or absolute magnitude. The anomaly was due to a systematic bias in the Hipparcos data when it comes to star clusters; the Hipparcos results for clusters are consistently closer than they should be.^[46]*[not in citation given]*

Pioneer anomaly (2012)



This section's **factual accuracy** is disputed. (January 2014)

There was a deviation in the predicted accelerations of the Pioneer spacecraft as they left the Solar System.^{[3][14]} It is believed that this is a result of previously unaccounted-for thermal recoil force. **xxxxxx**

073. Long-duration gamma ray bursts (2003)

Long-duration bursts are associated with the deaths of massive stars in a specific kind of supernova-like event commonly referred to as a collapsar. However, there are also long-duration GRBs that show evidence against an associated supernova, such as the Swift event GRB 060614. **xxxxxx**

074. Solar neutrino problem (2002)

Solved by a new understanding of neutrino physics, requiring a modification of the Standard Model of particle physics—specifically, neutrino oscillation. **xxxxxx**

075. Age Crisis (1990s)

The estimated age of the universe was around 3 to 8 billion years younger than estimates of the ages of the oldest stars in our galaxy. Better estimates for the distances to the stars, and the recognition of the accelerating expansion of the universe, reconciled the age estimates. **xxxxxx**

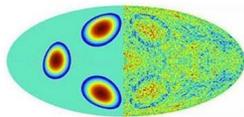
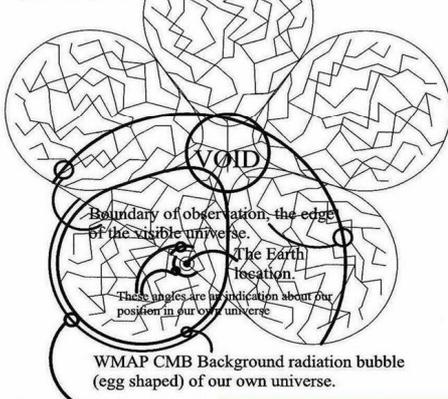
076. Quasars (1980s)

The nature of quasars was not understood for decades.^[49] They are now accepted as a type of active galaxy where the enormous energy output results from matter falling into a massive black hole in the center of the galaxy. **xxxxxx**

Quantum FFF Theory compared to Rigveda physics. The multi-headed and armed Vedic God Perusha, compared with the cyclic raspberry multiverse, containing 8-12 C-P symmetric universes.

According to Quantum FFF Theory, the CPT symmetric Raspberry Multiverse is the result of a fractal shaped splitting and evaporating dark matter black hole process of the original Big Crunch black hole. A 2-D projection of a cone shaped Multiverse section is shown.

2-D Section through the raspberry multiverse, with huge void in the middle. The void in the middle is supposed to be originated by the start of the Fractal process, when the vacuum density of the former cyclic multiverse was still too high for a fine grained fractal process (see my book).



The Dodecahedron Raspberry Multiverse with a 5-fold neighbour Low Variance contact structure lead to a Golden Ratio (Phi) in every single universe according to Quantum FFF Theory (Function Follows Form)

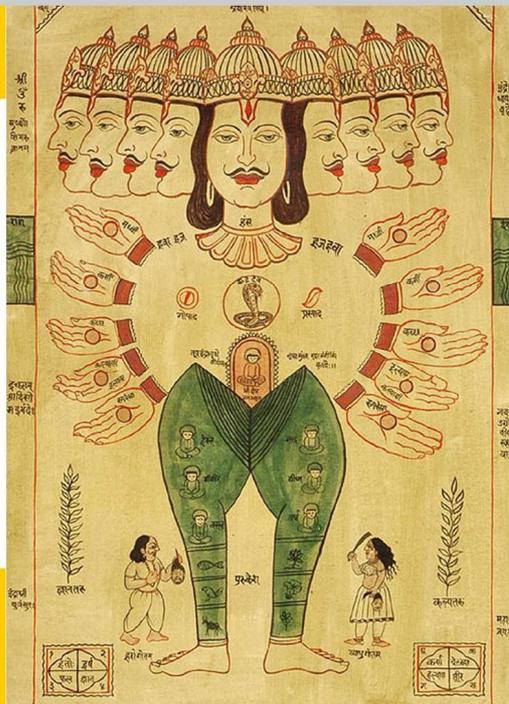
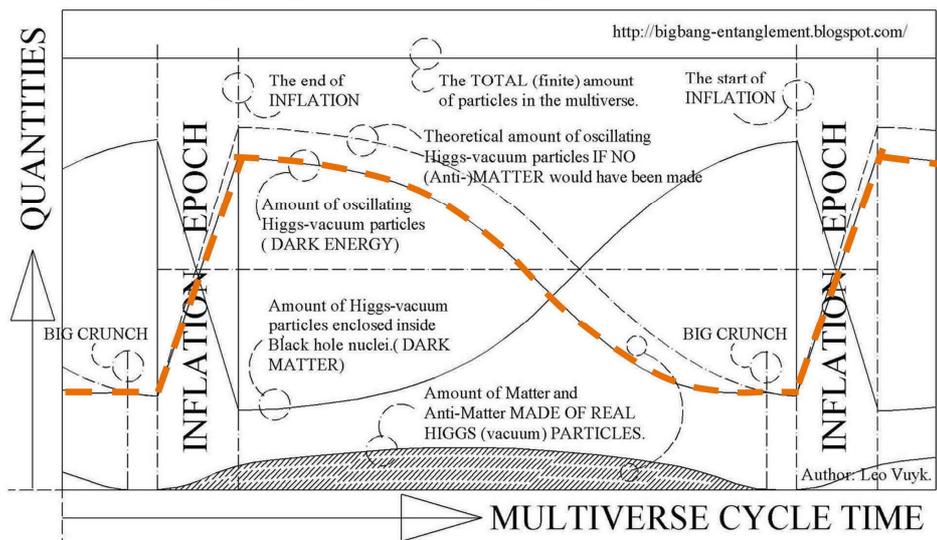


Figure 8,

The CPT SYMMETRIC MULTIVERSE CYCLE.

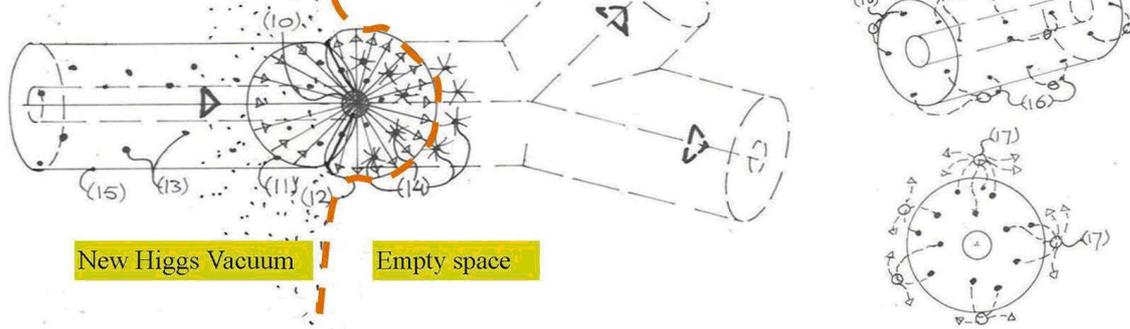
The Inflation epoch starts if the decreasing vacuum pressure equals the increasing Higgs tension of the Big Crunch black hole nucleus. Inflation epoch ends if all splintered black hole nuclei are evaporated, or left behind as Galaxy Anchor Black Holes.



The Pulsating Multiverse depicted as a continuous flow of increasing and decreasing numbers free oscillating- and Black hole condensed Higgs particles and the amount of Quarks and leptons. The size of the pulsating multiverse vacuum is given in orange.

Figure 9,

“Branched Inflation” of the Universe: the Origin of Fingers and Voids.



The origin of the Lyman Alpha Forest (15) and Higgs vacuum, by the splitting of the Big Bang Black Hole (BBBH) into smaller Splinter BHs (10). The splinter BHs (10) evaporate into smaller evaporating black holes at the Front (14) which compensate the pressure from the Backside splinter BHs (11). The BHs (11) are assumed to partly evaporate like BHs (14) also into a newly formed oscillating Higgs vacuum until the Higgs vacuum pressure stops the evaporation and leave Galaxy Forming BHs (13) behind. However single BH will pair (16) with the nearest other BHs to form Dumbbell systems, which efficiently form Giant Stars and Galaxies (17) in between. (author: Leo vuyk)

Figure 10,

Ball lightning pushed by Plasma tail against the wind

Vapour trail washed out by the wind

Ball Lightning (B.L.) Vapour trail washed out by the opposing wind, (left) B.L. Nucleus (right) (Quantum FFF Theory)

Dark matter particles are micro black holes.

Figure 11,

Dual Spin of the Propeller Shaped Electron, Combined with the UP or DOWN atomic rotation

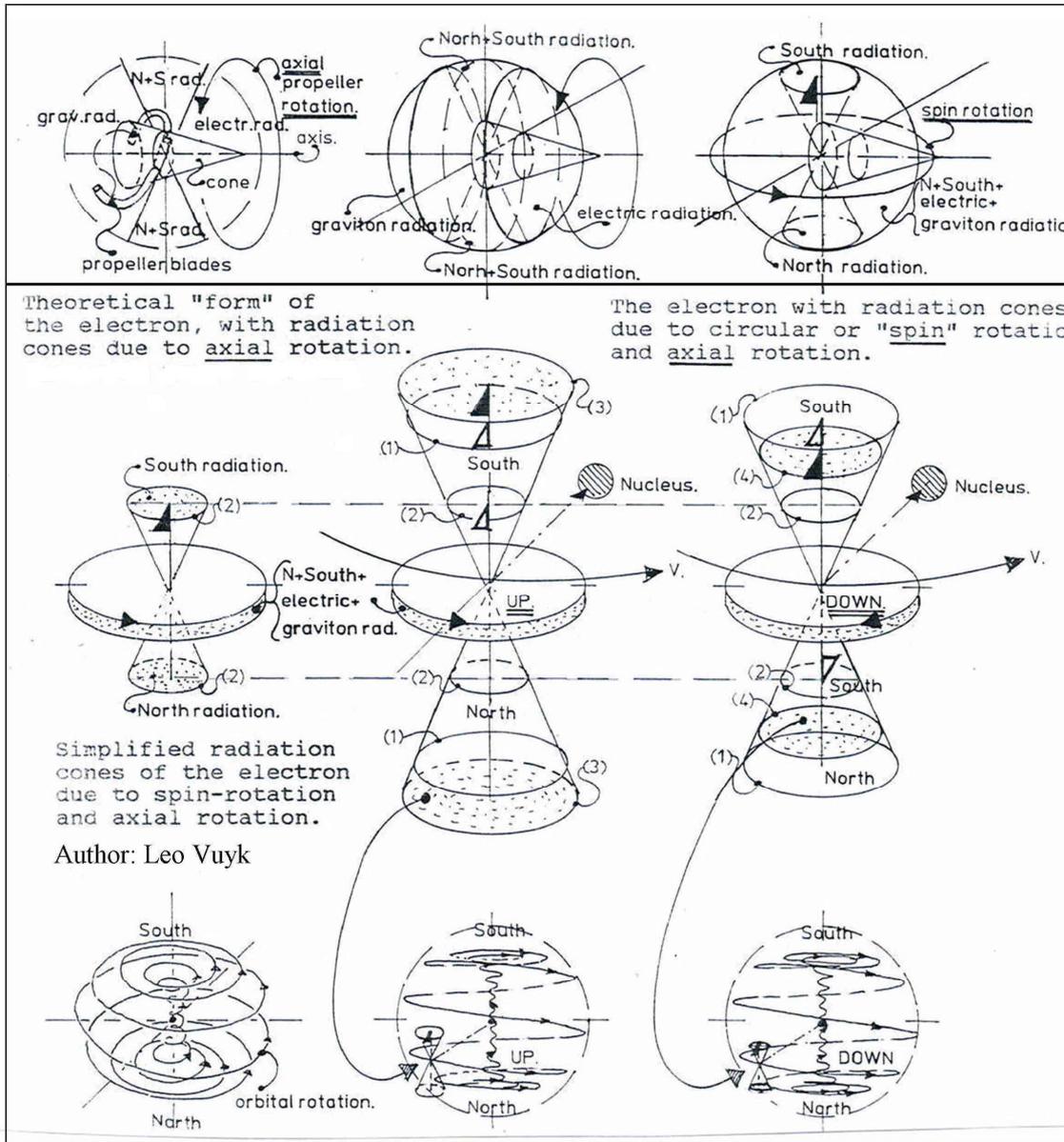


Figure 12,

The OLD and NEW Black Hole differences.

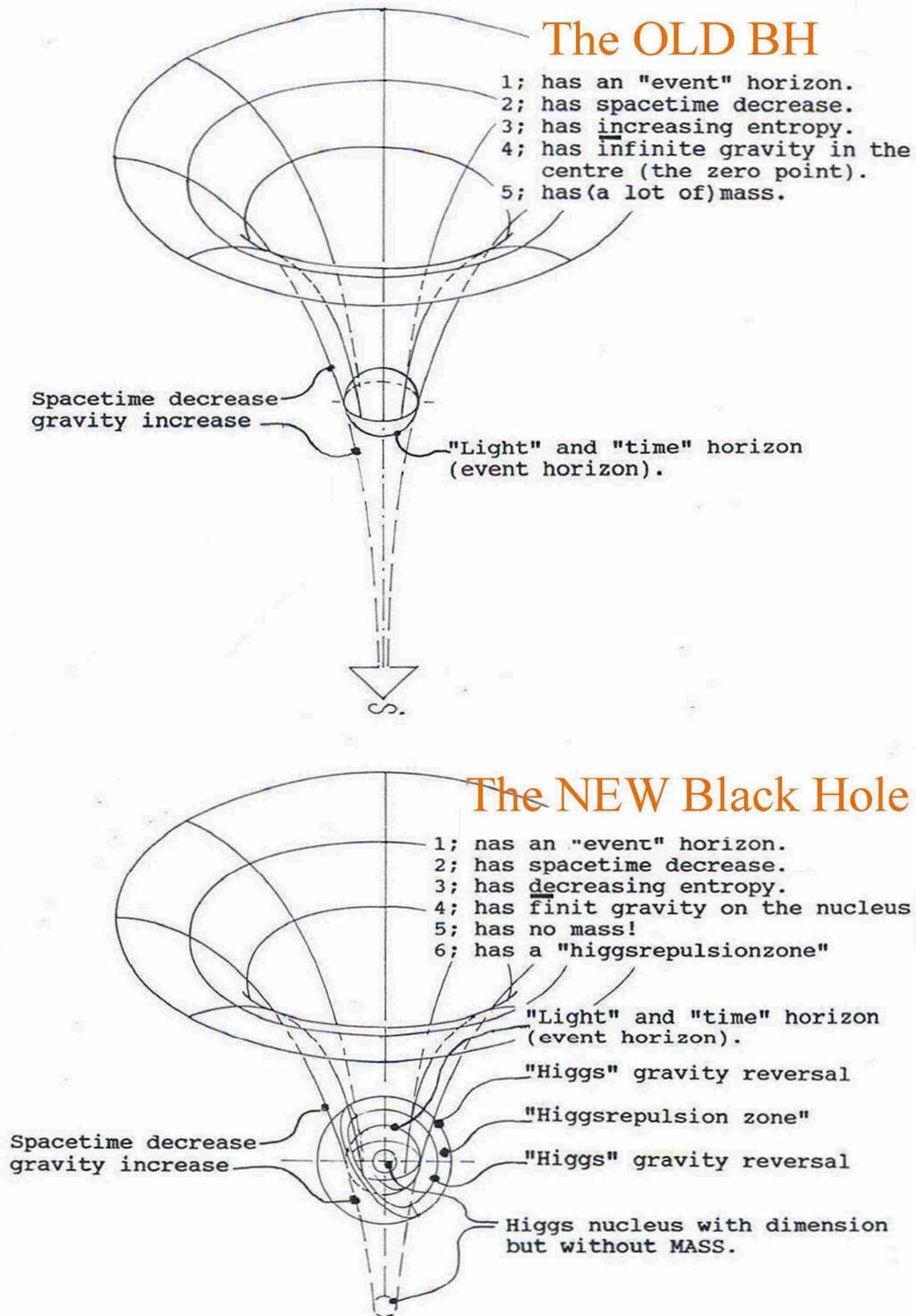
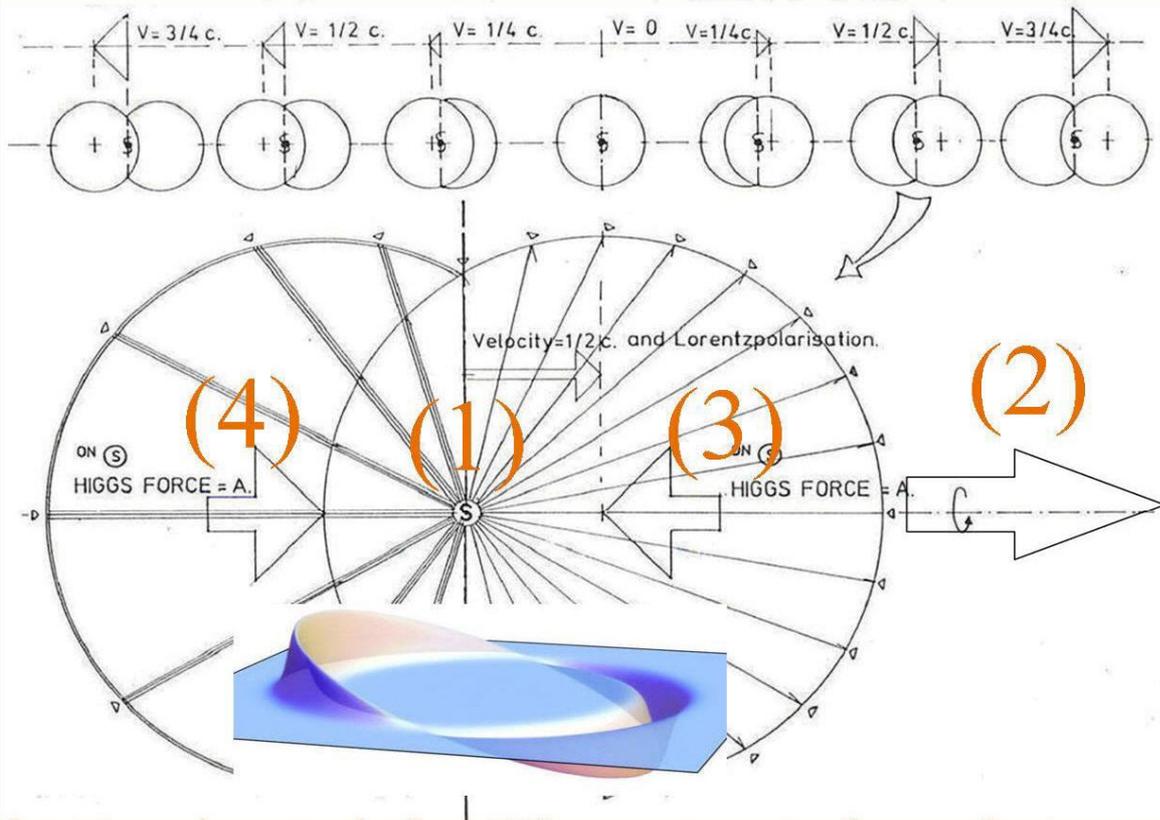


Figure 13,

Polarized Fermion Mass in motion through the resistive, but also pushing oscillating Higgs vacuum (according to Quantum FFF theory)



Cross section through the 3D vector field pressure distribution on a Fermion point mass (1). Propeller shaped spinning Fermions are supposed to be Polarized into the direction of flight through the vacuum lattice (2). As a result, the resistive vacuum Higgs force (3) is compensated by the Higgs Pushing force (4) from the “backside” of the Fermion. However every Fermion need to have polarization memory consciousness. (by a multi universal entanglement system see: Quantum-FFF theory)

Figure 14,

LIGHTSPEED Extinction exp.

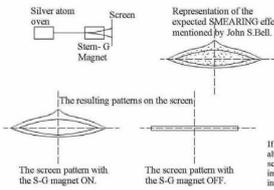
The Babcock and Bergman test done in 1964, resulted in a positive lightspeed drag factor of only 0.7%, which could be translated in a drag extinction effect over less than 1 cm distance after signal passage through the fast moving glass window. See: Journal of the Optical Society of America Vol. 54, nr 2 page 147-151 Febr. 1964. Determination of the Constancy of the speed of Light by Babcock and Bergman.

If the Quantum Mechanical Vacuum structure is influenced over maximal 1 cm. by matter, as the Experiment done by Babcock and Bergman seems to indicate, then a fast moving mirror cylinder inside a stationary cylinder should influence the interference pattern produced inside the telescope much more, than the Babcock and Bergman's experiment did. We should get better results, if the distance between the inner and outer mirror cylinder is minimized and the number of lightpath reflections is maximized.

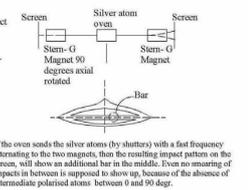
Support for Atomic ENTANGLEMENT in single and DOUBLE Stern Gerlach experiments

New Stern Gerlach experiment, based on the hypothesis, that the non-smearing paradox described by J.S.Bell, in his book "Speakable and unspeakable in QM" Ch. 16, (page 140-141) is originated by a new unknown form of entanglement at a distance between the first silver atom inside the S-G magnet and the rest, waiting in the silver oven to be released. It is assumed, that the vaporized silveratoms inside and outside the silver oven, are always entangled two by two, to guarantee a total zero-spin state, and the absence of a "SMEARING" effect. author: Leo Vuyk, 23-10-2005

The traditional Stern Gerlach experiment.



The new proposed experiment, with two S-G magnets always ON

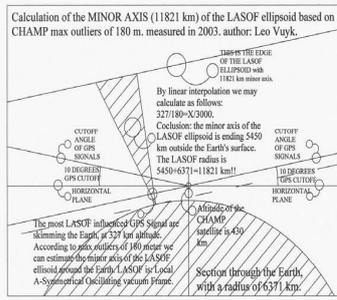
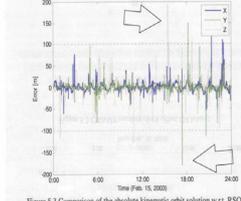


Author: Leo Vuyk 30-01-2011 NL

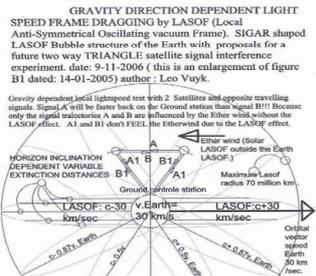
Some FFF Theory related Experiments Function Follows Form in QM and Cosmo

Repeating investigation of the CHAMP/GPS satellite anomalous outliers of 180 meter, in relation to the gravity-drag LASOF Ellipsoidal EXTINCTION influence on the lightspeed.

A clear example of GPS failure for sat-sat signals at higher altitudes (CHAMP: 430 km, GPS: 20.000km) Kinematic orbit solution comparison showing GPS data outliers up to 180 meters, (2x) during a CHAMP flight long 24 hours with 15 earth revolutions in 2003.



Opposite running LASER signal interference exp. in triangular shape between two Balloons or Satellites and the Earth.

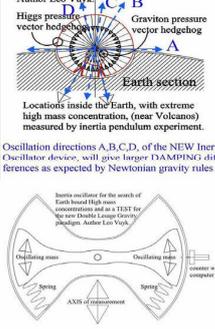


LeoVuyk@Gmail.com <http://bigbang-entanglement.blogspot.com/>

Figure 15,

DOUBLE LeSage Gravity

Higgs/Graviton pressure vector hedgehogs acting on a mass carrying Quantum particle. The irregular distribution of mass inside the earth is supposed to influence the 3D pressure vector hedgehog according to the new Double LeSage gravity paradigm, see image below. Author: Leo Vuyk.



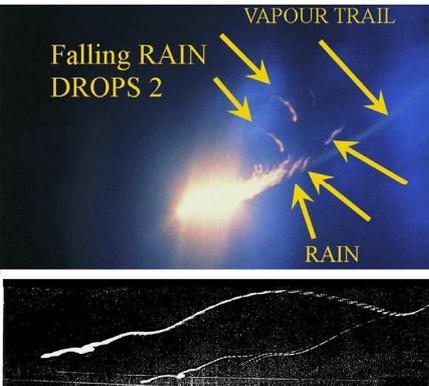
MULTIVERSE exp. New B.Libet experiments focussed on RPI-RPIII statistics.

If humans are cooperating decision makers inside the postulated 8 or 12 entangled but separated universes, then for every decision we need one preplanning test-person who preplans his choice. The other 7 or 11 test copy-persons are only able to follow OR REJECT this decision.

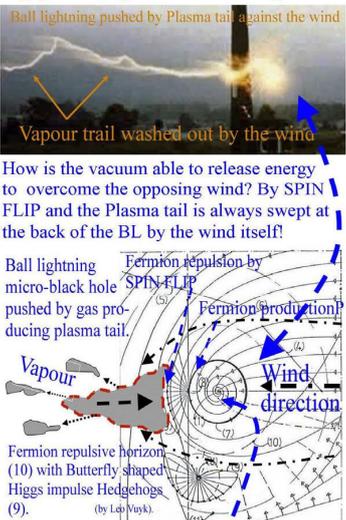
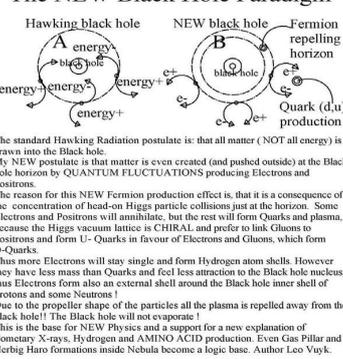
As a result we may be able to measure (in the future) the number of copy-universes involved, by counting the average percentages of preplanning persons in consensus. The number of universes is estimated as follows: For 12 universes the RPI percentage will be 100/12=8.3%. For 8 universes RPI will be 12.5%. For RPI-III it will be 91.7 respectively 87.5%.

Electric Randomness Potential (RP) Test results made by B.Libet, based for test persons (As) and for the test persons' ideas about preplanning before making the decision to press the bet. RPI is without preplanning, RPII is with preplanning!

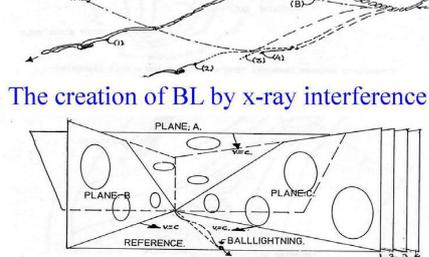
THE SECRET OF BALL LIGHTNING. Its production by e.m.- x-ray interference into a KNOTTY Nucleus, able to accelerate, decrease Entropy and produce Vapour.



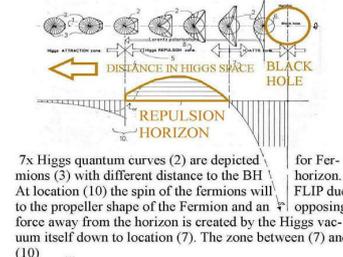
The NEW Black Hole Paradigm



The creation of BL by x-ray interference



The Fermion repelling horizon



Author: Leo Vuyk 10-02-2011 NL.

<http://bigbang-entanglement.blogspot.com/>

Figure 16,

References:

[47] **The New God Particle and Free Will.**

Author: Leo Vuyk, **LuLu publishers, 2008.**

ISBN number 978-1-4092-1031-3

<http://www.lulu.com/spotlight/LeoVuyk>

[46] **Quantum FFF Theory is also published in the form of POSTERS at the Flickr site:**

<http://www.flickr.com/photos/93308747@N05/>

[45] **Numbered listing of Vixra essays by Leo Vuyk (see below).**

http://vixra.org/author/leo_vuyk

[44] viXra:1401.0115

Calabi Yau Shaped Double Fermion Spin States.

[43] viXra:1401.0071

Democratic Free Will in the Instant Entangled Multiverse.

[42] viXra:1312.0143

The Navel Cord Multiverse with Raspberry Shape.

[41] viXra:1312.0076

Are Sunspots Made of Gravitating Dark Matter Black Holes?

[40] viXra:1310.0101

The New Nuclear Magic Number (34) Explained by the Polar Coaxial Ring System of Category: Nuclear and Atomic Physics

[39] viXra:1310.0059

The Semi Relativistic Higgs Field Aether with Mass Related Lightspeed Adaptation.

[38] viXra:1309.0081

New Physics by Table Top Experiments.

[37] viXra:1308.0083

The Raspberry Shaped Super Symmetric Multiverse

[36] viXra:1307.0068

Quantum Function Follows Form Theory, the Small Scale, Posters part 1.

[35] viXra:1307.0067

Quantum Function Follows Form Theory, the Large Scale, Posters part 2.

[34] viXra:1306.0218

Dark Matter UFO Dust Particles or Quantum Knots in the LHC at CERN ?

33, viXra:1306.0065

The Splitting Dark Matter- Black Hole- Big Bang and the Cyclic Multiverse.

32, viXra:1305.0140

Quantum FFF Theory Experiments, a Summary.

31, viXra:1305.0041

The Shnoll Effect Explained by Quantum FFF Theory.

30, viXra:1304.0022

The Self Organizing Universe in the Carina Nebula.

29, viXra:1303.0211

Hubble Redshift Combined with Universal Contraction is Possible.

28, viXra:1303.0053

Micro Birkeland Currents Between Two RF Generated Plasma Balls in the Laboratory.

27, viXra:1302.0172
Silicon Based Ball Lightning Globule Structures and Signs for Accumulation and Retarded
Decrease of Tunnelling Energy Bullets.

26, viXra:1301.0088
Two or Three Large Quasar Groups (LQGs) Located at the Start of Two or Three Lyman
Alpha Systems and a Part of the Raspberry Multiverse?

25, viXra:1301.0050
Dwarf Galaxies and Their Relation with Dark Matter Based Galaxy Anchor Black Holes
(Gabhs).

24, viXra:1210.0177
Instant Broglie Bohm Pilot Waves, the Origin of All Entanglement Effects in the Lab and
Wavefunction Collapses in Our Universe as Related to Our Opposing Anti-Copy
Universe(s)
According to Quantum FFF Theory.

23, viXra:1209.0092
New Dark Matter Black Holes and a New Dark Energy Higgs Field, Lead to a Bouncing
CP
Symmetrical Multiverse, and New Experiments.

22, viXra:1209.0061
Birkeland Currents, Sunspots, Comets and Ball Lightning Originated by New Paradigm
Dark
Matter Black Holes.

21, viXra:1209.0030
Majorana and Sterile Neutrino Solutions in the Quantum-FFF Model.

20, viXra:1208.0031
Clumpy Dark Matter Around Dwarf Galaxies a Support for an Alternative Black Hole
Theory
According to the Quantum Function Follows Form Model.

19, viXra:1202.0091
Earth Magnetic Monopole Array Field Interaction with Cyclotron –Synchrotron Electrons
and
Muon Conversion Used for Levitation Systems.

18, viXra:1201.0092
Earth Magnetic Monopole Array Field Interaction with Cyclotron Electrons used for
Levitation Systems.

17, viXra:1112.0065
LHC Signals Between 121-130 Gev Interpreted with Quantum-FFF Theory

16, viXra:1111.0096
Reconciliation of QM and GR and the Need for a Pulsating Entangled CPT Symmetric
Raspberry Shaped Multiverse.

15, viXra:1111.0061
Black Hole Horizon Curvature Dependent Balance Between Plasma Creation and e-e+
Annihilation in Quantum FFF Theory.

14, viXra:1108.0036
Artificial Ball Lightning Production and Exploitation Device for Zero Point Electric
Energy
Usage.

13, viXra:1108.0006
Mass in Motion in Quantum FFF Theory

12, viXra:1104.0083

Quantum FFF Theory in Posters.

11, viXra:1104.0044

Ball Lightning, Micro Comets, Sprite-Fireballs and X-Ray/gamma Flashes According to Quantum FFF Theory.

10, viXra:1104.0002

Stellar Anchor Black Holes as the Remnants of Former Herbig Haro Objects

9, viXra:1103.0097

ZPE Zero Point Energy Examples Around Black Holes.

8, viXra:1103.0068

Funktion Follows Form, at the Quantum Scale and Beyond.

7, viXra:1103.0024

Quantum Gravity and Electro Magnetic Forces in FFF Theory

6, viXra:1103.0015

Wavefunction Collapse and Human Choice-Making Inside an Entangled Mirror

Symmetrical

Multiverse.

5, viXra:1103.0011

An Alternative Black Hole, Provided with Entropy Decrease and Plasma Creation

4, viXra:1103.0002

3- Dimensional String Based Alternative Particles Model

3, viXra:1102.0056

Experiments to Determine the Mass Related Lightspeed Extinction Volume

2, viXra:1102.0054

Atomic Nuclear Geometry Based on Magic Number Logic.

1, viXra:1102.0052

Construction Principles for Chiral “atoms of Spacetime Geometry

The Hindu Vedic Rgveda Astronomical Code, compared to Quantum FFF Theory.

Subtitle:

Splitting and Pairing black holes, colliding and merging particles of the Quantum FFF Theory, compared to the Hindu Vedic Rgveda (or Rigveda, between 1500-800 BC)

It is well known that the Rgveda contains information which could be correlated to the origin of the universe in hymns which contain hidden meanings.

Dr. Raja Ram Mohan Roy, PhD, did research on this subject, which is published in his book: "Vedic Physics" 1999, "scientific origin of Hinduism". Published by Golden Egg Publishing. USA.. Foreword by Prof.Subhash Kak, author of "The Astronomical Code of the Rgveda".

The hidden meaning seems to be most significant in the way that the Rgveda speaks a lot of the sacrifice of different named Gods to become an other (multiple) God.

The God Perusa could be interpreted as the origin of everything in the universe and this god does its work by the sacrifice of itself into different pieces and different forms.

It is an interesting effort to compare the indications of Rgveda hymns with the new Fractal based Big Bang model.

Rgveda 10.90.2: (I use the translation into english by dr. Raja Ram Mohan Roy, in his book: "Vedic Physics" 1999. I do not use R.R.M.Roy's particle ideas.) says: All there is Perusa whatever what happened and whatever will happen. He is the Lord of immortality, who increases by food.

If we interpret Perusa with the Big Crunch Black Hole (BCBH) which is increasing in this model, by the absorption of all the universal matter and vacuum particles, then we see a clear parallel.

Rgveda 10.90.3: Such a glory, there is an even greater Perusa. All that is born, is one fourth, his three fourth is immortal in heaven. Which could be interpreted as the evaporation division of Higgs-Virgin Nuclear Particles (HVNP's) into $\frac{1}{4}$ of matter and vacuum particles and $\frac{3}{4}$ of not evaporating Black Hole nuclear particles in the Galaxy- and Stellar Anchor Black Holes (GABH's and SABH's).

Rgveda 10.90.4: $\frac{3}{4}$ of Perusa is above, his $\frac{1}{4}$ is born again and again. Then he covered them all, those who eat, and those who don't. Which could according to this model be interpreted as: $\frac{3}{4}$ is above all interaction, "locked up" in the nuclei of GABH's and SABH's, and $\frac{1}{4}$ is always interacting with each other (vacuum particles and real Quarks or Leptons and Bosons) .

These particles are born and dying again and again, like all matter in the universe does in Supernovas, and all bosons in wave/particles duality processes. This is in agreement with the so called "1 cm postulate" of this model : that each photon, gluon or neutrino only travels maximal 1 cm before it is changing shape into an Oscillating Higgs-Virgin Vacuum (OHVV) particle.

Then he covered them all, those who eat, and those who don't. is interpreted as: At the end The Big Crunch Black Hole (BCBH) covered all elements in its nucleus.

Rgveda: 10.90.5: Then Virata(Viraj) was born. Virata is greater Perusa. Virata can be compared with the even number of 2e stage Big Bang Black Holes (BBBH's) bigger in volume than the original BCBH. He began dividing after being born. Interpreted as the division of the Big Crunch Black Hole (BCBH) into 2e stage Big Bang Black Holes (BBBH's), Then Bhumi and Pura (Parandara or Indra) became. These Gods can be translated as different universes created from the BBBH's.

Rgveda: 10.90.15: Seven were its enclosures (Paridhi): This could mean: 7 different shaped elementary particles are used to make matter as combinations of compound quarks and compound leptons (electron and positron, and 5 different formed photon/gluon particles), three times seven were made firelogs (Samidha): This could mean: 3 different forms (colors in QCD of the standard model) of compound quarks are used to make 36 different quarks. In the Yajna: In the nothingness outside the expanding vacuum which Gods were expanding, they sacrificed the Perusa animal: They sacrificed the BCBH.

Other Gods of the Rgveda and the correlation with phenomena of my particle/ black hole model: (provisional)

Agni: the Higgs-Virgin Particle. Aditi: the 2e stage Big Bang. Indra: the Universe. Soma: a general expression for all the different particles including Higgs-Virgin particles. Varuna: Oscillating Higgs-Virgin Vacuum (OHVV). Yami and Yama: the electron and positron.

The Ashvins (twins): Proton and Neutron. Manu: quark. Mitra: Big Bang Entanglement, or EPR correlation between anti-copy particles located in separated dual universes.

Vayu: Higgs-Virgin vacuum polarization (e.g. around Stellar Anchor Black Holes) Usha: Galaxy- or Stellar (binary) Anchor Black Holes system (GABH/SABH). . Ratri (sister of Usha): single migrating Black Hole.

Asura: White Hole lying in between the dual GABH or SABH. Rudra: general expression for a Black Hole. Marut: atom. Vitra or Savitr (the Serpent): The Fractals in the Big Bang or Fractal Creating Pairing Black Hole (FCPBH).

Tvostar: Fractal Creating Black Hole Splinter (FCBHS). Pusan (the eye of Vitra): (FCPBH). Surya: Higgs-Virgin vacuum polarization. Aryaman: Big Bang Entanglement (EPR correlation) between anti-copy oscillating vacuum particles located in separated dual universes.

Other Gods of the Rgveda and the correlation with phenomena of my model: (provisional)

Agni: the Higgs-Virgin Particle. Aditi: the 2e stage Big Bang. Indra: the Universe. Soma: a general expression for all the different particles including Higgs-Virgin particles. Varuna: Oscillating Higgs-Virgin Vacuum (OHVV). Yami and Yama: the electron and positron. The Ashvins (twins): Proton and Neutron. Manu: quark. Mitra: Big Bang Entanglement, or EPR correlation between anti-copy particles located in separated dual universes.

Vayu: Higgs-Virgin vacuum polarization (e.g. around Stellar Anchor Black Holes) Usha: Galaxy- or Stellar (dual) Anchor Black Holes system (GABH/SABH). . Ratri (sister of Usha): single migrating Black Hole.

Asura: White Hole lying in between the dual GABH or SABH. Rudra: general expression for a Black Hole. Marut: atom. Vitra or Savitr (the Serpent): The Fractals in the Big Bang or Fractal Creating Black Hole (FCBH). Tvostar: Fractal Creating Black Hole Splinter (FCBHS). Pusan (the eye of Vitra): (FCBH). Surya: Higgs-Virgin vacuum polarization. Aryaman: Big Bang Entanglement (EPR correlation) between anti-copy oscillating vacuum particles located in separated dual universes.

For Quantum FFF Theory see:

<http://bigbang-entanglement.blogspot.com/>

<http://migratingblackholes.blogspot.com/>

http://vixra.org/author/Leo_Vuyk

QUANTUM FFF theory, new paradigm Black Holes and the Cyclic Universe. The Quantum FFF Theory is based on new paradigm splitting and pairing black holes, which come in different sizes and stages of the cyclic universe.

From the Big Bang Black Hole down to Ball lightning black hole, see below.
This is the base for most complex mass distribution structures in the multiverse.

CLASSIFICATION OF NEW BLACK HOLES.

Ultra large Black holes (BHs) are supposed to be active in the BH splitting Big Bang process, as the origin of the well known acceleration of the gas concentration in Galaxy forming.

Observations of the Early universe are reason to assume that at least TWO pairing BHs are responsible for such an acceleration process in the middle of both BHs.

Such a symmetric double BH configuration is even observed in much smaller objects like star forming Nebula and in the Hartley 2 Comet!

As a consequence I suppose that ALL Black Holes are able to pair and split, not only in the Big Bang or star forming Nebula, but at all other scales down to ball lightning.

Overview of Black Holes in Nature with decreasing order of sizes.

Big Crunch Black Hole. (BCBH)

Big Bang Black Hole (BBBH)

Lyman Alpha Fractal creating black Hole Splinters (FCBHSs)

Fractal Creating Pairing Black Holes (FCPBHs)

Galaxy Anchor Black Holes (GABHs)

Stellar Anchor Black Holes (SABHs)

Sunspot Black Holes (SUBHs)

Cometary Black Holes (COBHs) also supposed to be active inside "Sungrazers".

Ball Lightning Black Holes (BLBHs)

Fire Ball Black Holes (FIBHs)

Observed at 70-90km Mesosphere. See Langmuir video.

The special features of Cometary Black Holes. (COBHs)

COBHs even come in pairs, see Hartley 2. 2010 (by Cassini spacecraft).

If COBHs hit the sun they are supposed to become Sunspot BHs. (SUBHs).

If COBHs hit planets or even moons they are supposed to be the origin of Red Spots (Jupiter) or a heating effect, like Saturn's moon Enceladus (cracks and jets also observed by Cassini spacecraft 2010).

Even Volcanic activities and the internal heat source of the Earth could be originated by this process.

Four kinds of NEW black hole creation.

1: I propose Electro magnetic (x-ray) interference to be the origin of the group of small sized black holes. (SUBH-COBH-FIBH-BLBH). This process is observable in the Langmuir video: fireball production inside Sprites by electric discharge activity. Sunspot black holes are supposed to be the remnants of Comets and so called Sun grazers originated by Solar Electro magnetic discharges.

2: Stellar Anchor Black Holes (SABHs) are supposed to be formed in supernova explosions.

3: Galaxy Anchor Black Holes (GABHs) are supposed to be formed in the initial splitting process of the Big bang black hole (BBBH).

4: the Big Crunch Black Hole is supposed to be the result of the contraction of the

universe, due to the elimination of the Dark Energy (Higgs) content of the Universes by Higgs consumption by the increasing number of black holes (Dark matter).

Fireballs produced by Sprites or by Electro Magnetic Solar activity are good candidates for the Fireball mysteries on Earth, like the Tunguska mystery in Siberia in 1908.

So called Small Comets seem to have no relation with Fireball events.

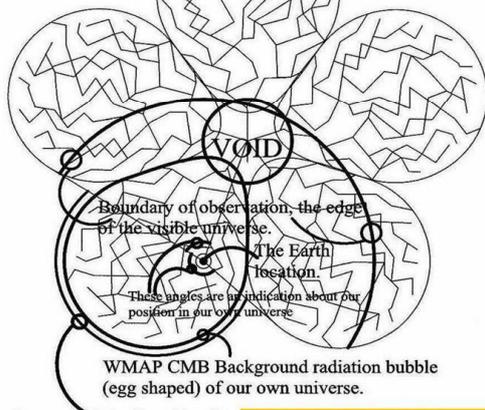
Two Fireball examples on Earth, supporting my new black hole hypothesis.

All black holes of different sizes, produce a Quark- Gluon- Electron- Positron- Plasma at their Fermion repelling globular horizon

Quantum FFF Theory compared to Rigveda physics. The multi-headed and armed Vedic God Perusha, compared with the cyclic raspberry multiverse, containing 8-12 C-P symmetric universes.

According to Quantum FFF Theory, the CPT symmetric Raspberry Multiverse is the result of a fractal shaped splitting and evaporating dark matter black hole process of the original Big Crunch black hole. A 2-D projection of a cone shaped Multiverse section is shown.

2-D Section through the raspberry multiverse, with huge void in the middle. The void in the middle is supposed to be originated by the start of the Fractal process, when the vacuum density of the former cyclic multiverse was still too high for a fine grained fractal process (see my book).



The Dodecahedron Raspberry Multiverse with a 5-fold neighbour Low Variance contact structure lead to a Golden Ratio (Phi) in every single universe according to Quantum FFF Theory (Function Follows Form)

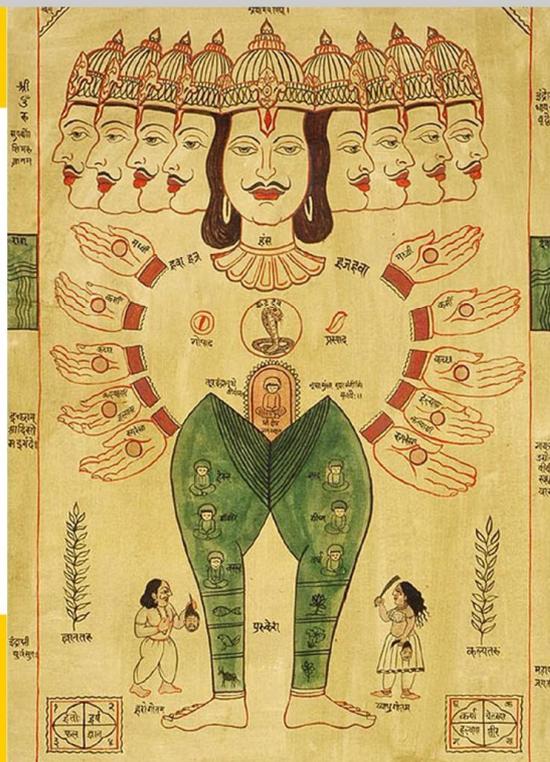


Figure 17, How the entangled multiverse is a base for our consciousness: see : [43] viXra:1401.0071 Democratic Free Will in the Instant Entangled Multiverse. **p up**^