

# **Rigid String Cosmology with a Massless Axion-Higgs Oscillating Photon Vacuum Lattice and massive Quantum Knots.**

Leo Vuyk,  
Architect,  
Rotterdam, the Netherlands.

## **Abstract,**

In particle physics it is an interesting challenge to postulate that the FORM and structure of elementary particles is the origin of different FUNCTIONS of these particles.

The model which is the result is called “Quantum Function Follows Form” model.

As a consequence, the standard model should be extended with changes for an alternative black hole , quantum gravity, the mass related local lightspeed, a topological superconductive vacuum etc.

In this essay, I present possible 3D rigid string particle solutions based on only one massless and closed 3-D ring shaped Axion-Higgs particle, which is equipped with three point like hinges and one splitting point, all four points divided equally over the ring surface.

The 3-D ring itself is postulated to represent the “Virgin Mother” of all other particles and is coined Axion-Higgs particle, the ring is equipped with 3-hinges coded (OOO), which gives the particle the opportunity to transform after real mechanical collision with other particles into different open string shapes.

These shapes permit the particles to have different functions like different masses and interlocking abilities with other particles to form quantum knots such as quarks, W-Z particles and black holes.

The massless Axion-Higgs particle itself is supposed to be the base for an discrete energetic oscillating space lattice with the Planck scale and the origin of Casimir pressure effect as one half of all forces in nature such as a repulsive quantum gravity or magnetism.

The other half of all forces is supposed to be created by the opposing repulsive force on fermions of open rigid monopole photonic space oscillating vacuum lattice particles.

Occam’s razor seems to be not needed here to create an ontological sound mechanism.

As a consequence, a singularity (black hole) is depicted as a complex knot of different shaped rigid Axion Higgs particles and the Big Bang singularity black hole is supposed to contain all the particles which lived before in a former universe.

## **Introduction,**

It is assumed that the vacuum is seeded with massive numbers of **massless** Axion-Higgs (A-Higgs) particles, all energetic oscillating inside a chiral vacuum lattice system and as such the origin and bearer of all energy in the universe.

If by a local energy excess, two A-Higgs particles collide with enough energy, it is assumed that an electron and positron emerges by internal hinge transformation.

Due to the propeller shape of the Fermions, these Fermions are assumed to spin by a constant collision and scattering process with the Higgs vacuum, changing A-Higgs particles continuously into different forms of Photon or Gluons.

This collision scattering process is proposed to be the base for the “eigenenergy” of Fermions. Thus Fermions are constantly consuming and transforming vacuum particle energy into photons and gluons.

As a consequence, in Quantum FFF Theory photons should be the same as gluons and gluons become photons after collision with local fermions ( atomic fermions) or after 1cm distance being absorbed by the local vacuum.

As a result, I suggest that many “elementary” (Quarks, Z and W) particles should not be elementary, but compound constructions or KNOTS of transformed A-Higgs particles.

Even the Muon and Tau Lepton should be compound particles having the same shape as one of the different coloured “naked” Down- respectively Charm Quarks.

Thus, Muon- and Tau particles are supposed to be naked Quarks!

Recent LHC ( Large Hadron Collider) results are telling us that so called di-Higgs resonances lead to a variety of Higgs masses.

In Quantum FFF Theory however the real building block of the universe should be only the Axion-Higgs vacuum particle without any mass.

Thus di Higgs resonances are supposed to be the result of compound rigid string knots, such as Z Z WW knots based on electron positron strings ore combinations of three or four photon knots as the result of photonic interference. (Figure 1 and 2)

## **Non local realism and massless vacuum Axion-Higgs in the multiverse.**

Quantum FFF Theory is based on Non-Local Realism and rigid stringy Axion-Higgs particles able to mutate into all other particles.

The CP(T)-symmetrical raspberry shaped multiverse (with 8-12 berries) is non local instant connected down to each quantum. Each quantum can be visualised as a deformed Higgs ring able to convert into other shapes and able to form compound structures like quarks, muons or even Tau leptons. So realism (cogwheels) connected by symmetric non-local instant entanglement.

The basic elements:

- 1: Black holes (BHs) are the same as Dark Matter, they all consume photons, even gravitons and the Axion-Higgs field, ( for short: Higgs field) but REPEL Fermions due to their propeller shape polarisation away from the BH. They produce electric charged plasma.
- 2: Dark Energy is the oscillating ( Casimir) energy of the massless Axion-Higgs Field equipped with a tetrahedron lattice structure with variable Planck length around black holes..



Gluons. However Gluons should transfer form information to the oscillating luminiferous Axion-Higgs field ether, within about 1 cm distance from a fermion.(see: Babock and Bergman anomaly,1964)

18, Different elementary particles have different qualities by their different complex stringy shape. Leptons and Quarks have a propeller shape with left or right handed pitch creating charge difference. Gluons, Photons and Neutrino particles have no pitch.

20 All particles can be converted to one or more Higgs particles, Lepto Quarks are also compound particles with an exception for the electron and positron..

21 All particles are assumed to be present as Higgs particles already in the cyclic Big Bang Black Hole (BBBH) after the former multiverse has collapsed into a Big Crunch Black Hole.

22, We seem to live inside one material universal bubble of an instant entangled (Charge Parity Time) CPT symmetric raspberry bubble multiverse. Each quantum jump or wave function collapse or human choice is guided by this instant entanglement at long distant.

If our material universes has a chiral oscillating Higgs field, then our material Right Handed DNA helix molecule could be explained.

However it also suggests that in our opposing ANTI-MATERIAL multiverse neighbour universe the DNA helix should have a LEFT HANDED spiral.

According to Max Tegmark: in an entangled multiverse we may ask: is there COPY PERSON over there, who is reading the same lines as I do?

If this COPY person is indeed living over there, then even our consciousness should be shared in a sort of DEMOCRATIC form,

Then we are not alone with our thoughts and doubts, see:  
Democratic Free Will in the instant Entangled Multiverse.

Conclusion, Quantum FFF Theory is based on Non-Local Realism. The CP(T)-symmetrical raspberry shaped multiverse (with 8-12 berries) is non local instant connected down to each quantum. Each quantum can be visualised as a deformed Axion-Higgs ring able to convert into other shapes and able to form compound structures like quarks, muons or even Tau leptons. So realism (cogwheels) connected by symmetric non-local instant entanglement.  
[vixra.org/pdf/1401.0071v2.pdf](http://vixra.org/pdf/1401.0071v2.pdf)

It was **Abdus Salam** who proposed that quarks and leptons should have a sub-quantum level structure, and that they are compound hardrock particles with a specific non-zero sized form. **Jean Paul Vigier** postulated that quarks and leptons are "pushed around" by an energetic sea of vacuum particles.

**David Bohm** suggested in contrast with The "Copenhagen interpretation", that reality is not created by the eye of the human observer, and second: elementary particles should be "guided by a pilot wave".

**John Bell** argued that the motion of mass related to the surrounding vacuum reference frame, should originate real

"Lorentz-transformations", and also real relativistic measurable contraction.

**Richard Feynman** postulated the idea of an all pervading energetic quantum vacuum. He rejected it, because it should originate resistance for every mass in motion, relative to the reference frame of the quantum vacuum.

However, I postulate the strange and counter intuitive possibility, that this resistance for mass in motion, can be compensated, if we combine the ideas of Vigier, Bell, Bohm and Salam, and a new dual universal Bohmian "pilot wave", which is interpreted as the EPR correlation (or Big Bang entanglement) between individual elementary anti-mirror particles, living in dual universes.



Rigid String Quantum Knot suggestions for different configuration: 125-375-500-750-1600 GeV and More called dark matter black holes. (According to Quantum FFF Theory architecture)



Some suggested ring configurations

Figure 1 Multiple combination of quantum knots. Knot 1: left: three magnetic monopole photons (125 GeV, silver) Knot 2: right: 4x x-ray photons (375 GeV, black) It is assumed, that this interlocking system is the start of the step by step-building up of ball lightning/ Sprite /Cometary nuclear black holes up to sunspots. Traces of this building up seems already be observed by the LHC collider.



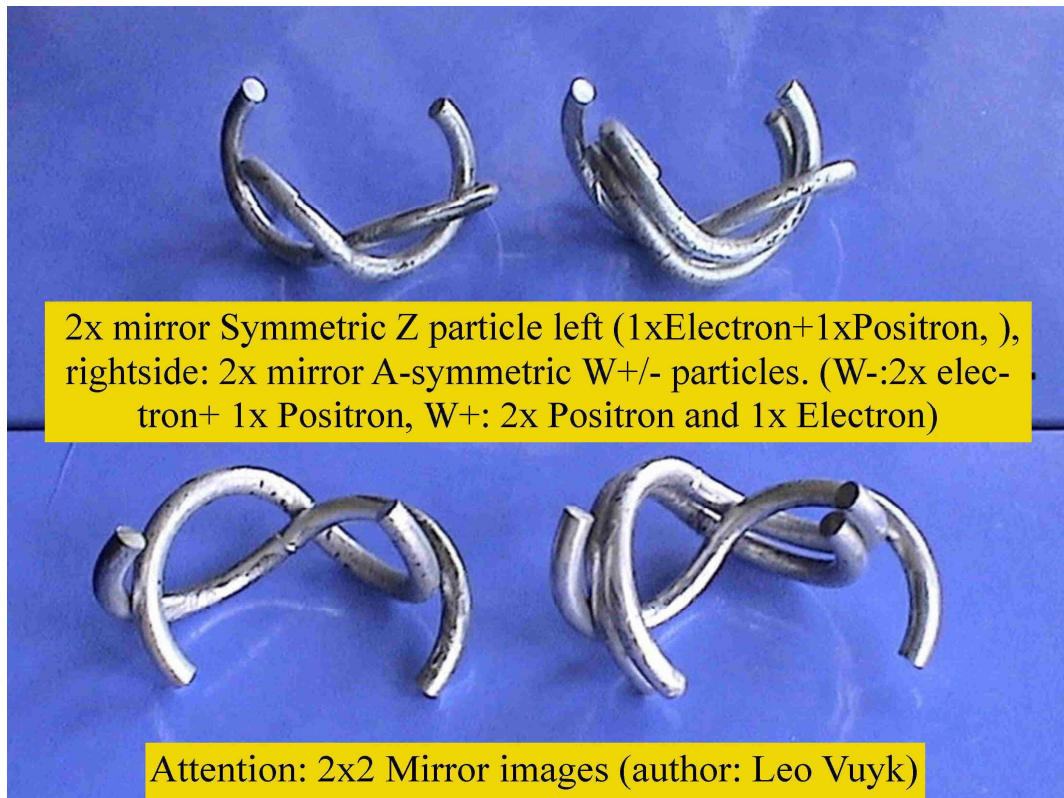


Figure 2 Geometric proposal for the Z and W particles. Z particles are symmetrical without propeller spin effects. W particles are not symmetrical with propeller spin effect left or right spin.

**A combination of multiple Z particles could lead to Z-Z decay with 650 GeV ? as measured by the LHC.**

Dual Z particles: a combination of 2x electrons and 2x positrons, according to the Quantum FFF Model.

LHC-CMS in ZZ channel. The massless transformable ring shaped Axion /Higgs vacuum particle is supposed to act as the mother of all single and compound rigid string particles fermions/neutrinos, photons etc. Massive ZZ particles are compound electron /positron interlockers, with 650 GeV in the LHC-CMS (example below)



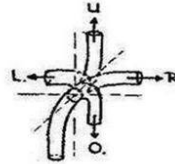
Figure 3, the massive ZZ channel particles.

# MAJORANA particle's placed in the new extended standard model based on Q-FFF Theory. OOU is e-e+ related, UUU, LUL, RUR are Neutrino related. Called sterile Neutrinos.

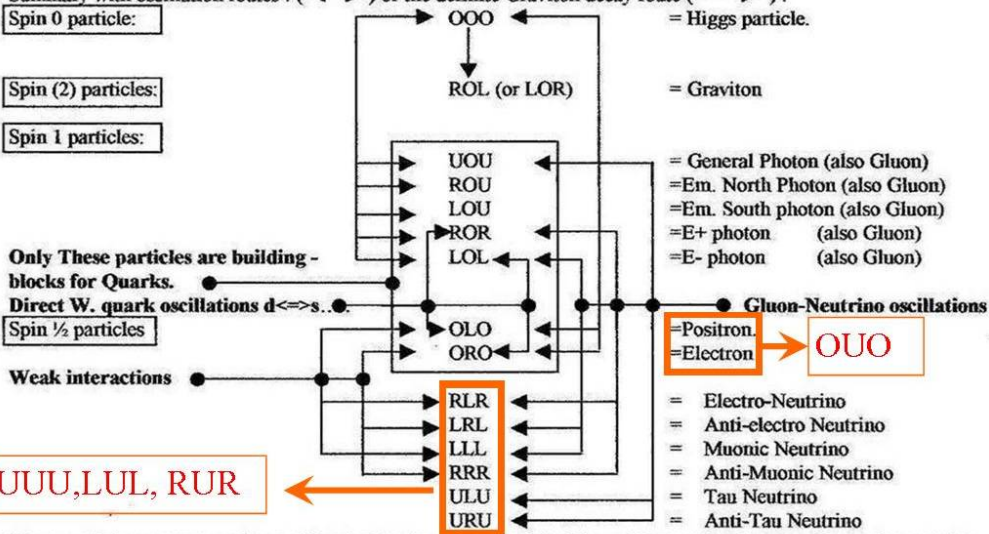
The coding of Single Elementary Particles is based on the so called "rotational click positions" of the three hinges, which are assumed to be regularly placed over the ring shaped Higgs "Quatron Torus Particle" (page 2). This ring has one splitting point and three hinges which have consequently four 90 degree click positions each. The best Torus ring diameter ratio to click-on is about 1/7. The ring coding of the hinge positions is as follows.

Explanation of the codes:

- U= Up rotation (180 degrees)
- O= Unchanged circle.
- L= Left rotation (90 degrees)
- R= Right rotation (90 degrees)



Summary with oscillation routes : ( ↔ ) or the definite Graviton decay route ( → ).



Higgs particles are supposed to oscillate in Tandem along so called linear Vacuum Lattices, two by two in opposite directions, as the symmetrical opposite pistons of a boxer engine, as the origin of all energy, spin and mass effects. This enables the Tandem Higgs particles to change the form of their own Torus into an Electron and Positron pair at

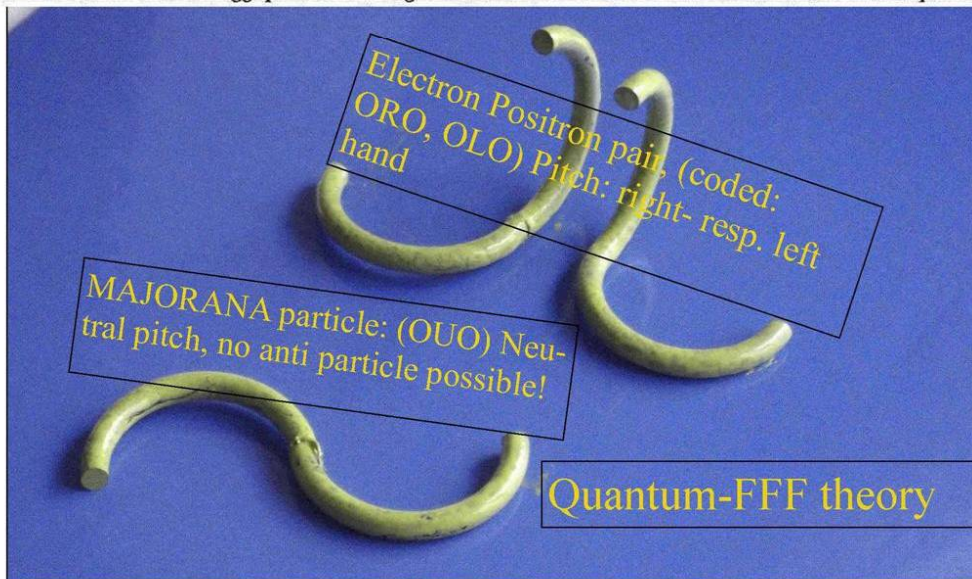


Figure 4, The geometric principle of Quantum FFFModel.



# Geometry of a new Physics 3-Dimensional Particle system according to Quantum FFF Theory.

OOO= Higgs particle equipped with internal three HINGES and 79 possibilities for 90 degree rotation. (see below) due to symmetry reasons (underscored particles) only 42 different shaped particles remain. Only 15 different shaped particles are needed to construct all standard model particles according to the Quantum FFF Theory model. (See right panel)

LOO-LOL-LOU-LOR—ROL-UOL-LOL-OOL  
 LLO-LLL-LLU-LLR—RLL-ULL-LLL-OLL  
 LUO-LUL-LUU-LUR—RUL-UUL-LUL-OUL  
 LRO-LRL-LRU-LRR---RRL-URL-LRL-ORL

E photon: LOL ROR  
 M photon: LOU ROU  
 X-ray /vis photon: UOU  
 Graviton; ROL ( or LOR)

ROO-ROR-ROU-ROL---LOR-UOR-ROR-OOR  
 RLO-RLR-RLU-RLL---LLR-ULR-RLR-OLR  
 RUO-RUR-RUU-RUL---LUR-UUR-RUR-OUR  
 RRO-RRR-RRU-RRL---LRR-URR-RRR-ORR

Electron: ORO.  
 Positron: OLO.  
 Majorana: OOU

UOO-UOU-OUU  
 ULO-ULU-OLU  
 UUU-UUU-OUU  
 URO-URU-ORU

## HINGE ROTATIONS

O= Ring shape  
 L= Left 90 degr.  
 R= Right 90 degr.  
 U=Up 180 degr.

Neutrinos:  
 LLL-RRR = $\nu$  E (+/-)  
 LLU-RRU = $\nu$  Mu (+/-)  
 ULU URU = $\nu$  Tau (+/-)

OLO-ORO-OOU. Calabi Yau rotation result.

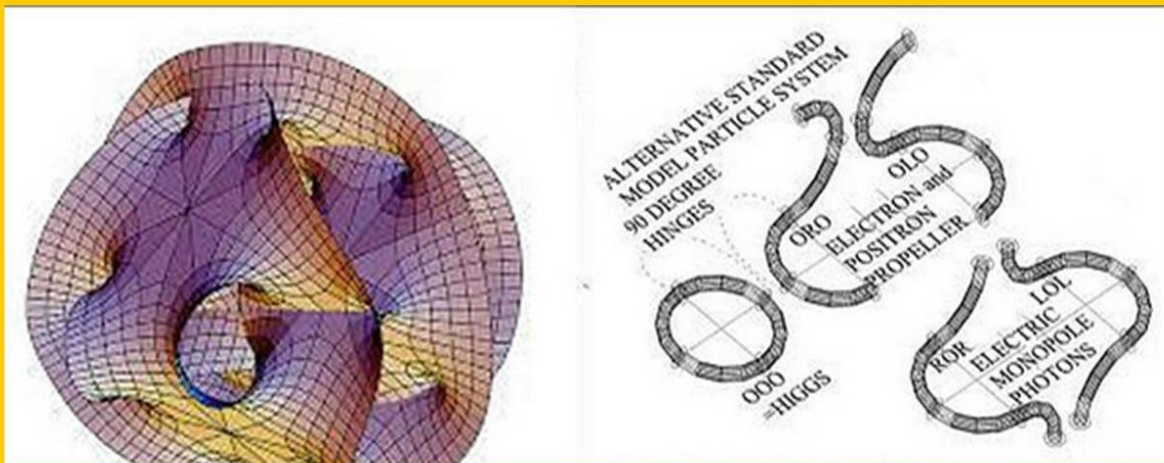


Figure 5, The principle based on 3x hinge rotations of 90 degrees.



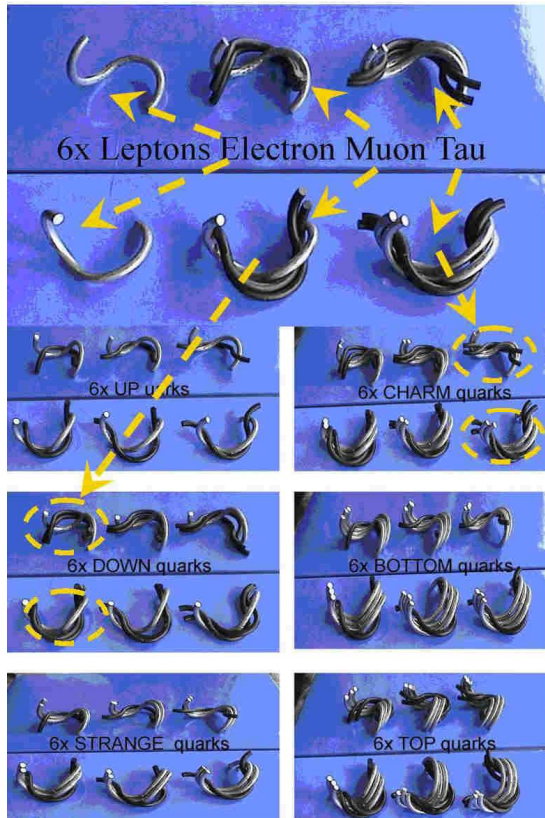
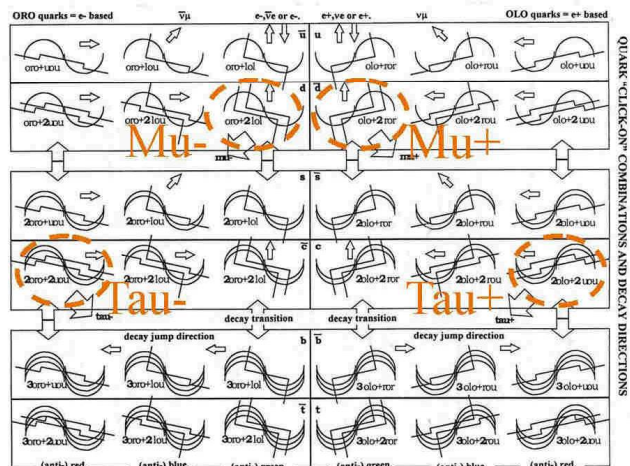


Figure 6, general view of the basic particle zoo.

Geometrical proposal for the sub-quantum structure of 6 Leptons and Quarks interpreted as compound Photon/Electron Positron propeller combinations. Muon- and Tau particles seem to show up as family members of the Down respectively Charm Quarks. According to Quantum FFF Theory. (Function Follows Form in particle physics)



### ALTERNATIVE STANDARD MODEL

of elementary (single) particles with click-on potentials to form compound Quarks- and Leptons. (author Leo Vuyk)

Explanation of the codes:  
 U= Up rotation (180 degree)  
 O= Unchanged circle  
 L= Left rotation (90 degree)  
 R= Right rotation (90 degree)

Summary: with oscillation axes: (←→) or the default: Graviton decay axis (→)

Spin 0 particles: OOO = Higgs particle

Spin 2 particles: ROL (or LOL) = Graviton

Spin 1 particles: UOU, ROU, LOU, ROR, LOR, LOL

Only These particles are building blocks for Quarks

Direct W, quark oscillations: OLO, ORD

Weak interactions: ELR, LRL, LLL, RRR, ULU, UUR

General Photon (also Gluon)  
 Ext. North photon (also Gluon)  
 Ext. South photon (also Gluon)  
 E+ photon (also Gluon)  
 E- photon (also Gluon)  
 Gluon/Neutrino oscillations  
 Positron, Electron  
 Electro-Neutrino  
 Anti-Gluon Neutrino  
 Mesonic Neutrino  
 Anti-Mesonic Neutrino  
 Tau Neutrino  
 Anti-Tau Neutrino

### ALTERNATIVE STANDARD MODEL PARTICLE SYSTEM

90 DEGREE HINGES

ORO ELECTRON and POSITRON PROPELLER

LOL ELECTRIC MONOPOLE PHOTONS

OOO = HIGGS

6x UP quarks

6x CHARM quarks

6x DOWN quarks

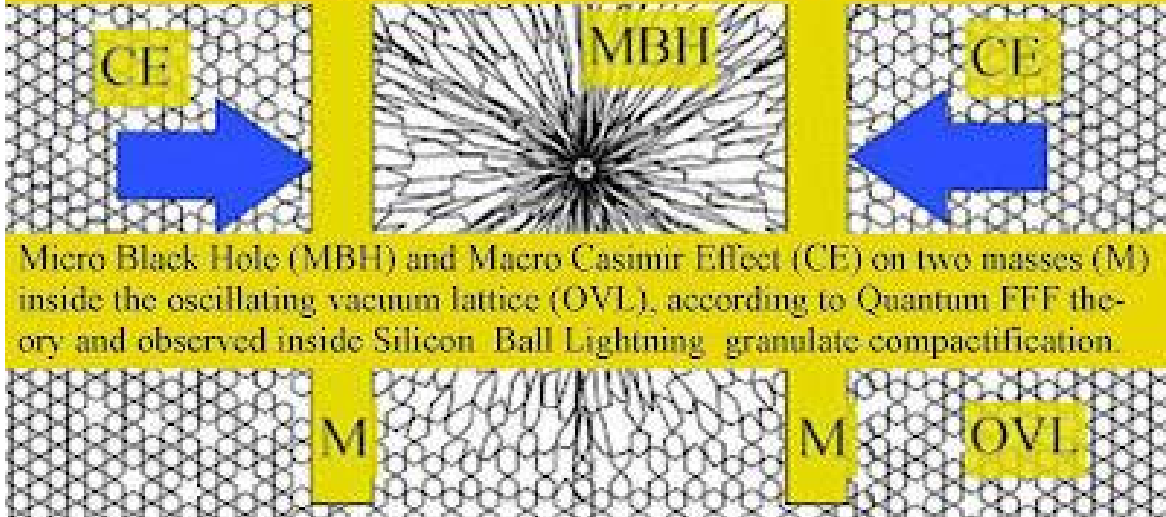
6x BOTTOM quarks

90 degree rotation of the Higgs ring and merging into compound knots...

Figure 7, most common particles.



## How a Ball Lightning Micro Black Hole is made?



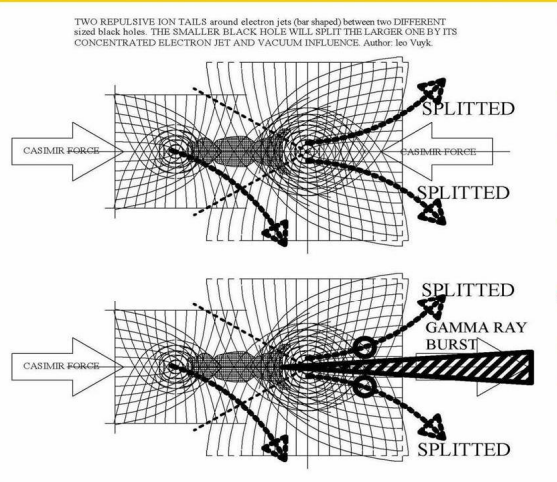
Micro Black Hole (MBH) and Macro Casimir Effect (CE) on two masses (M) inside the oscillating vacuum lattice (OVL), according to Quantum FFF theory and observed inside Silicon Ball Lightning granulate compactification.

Figure 8, basic elements for black hole formation, with vacuum deformed structure around a black hole.

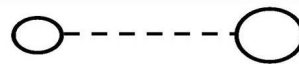
Proposal for the origin of frequent Gamma Ray Bursts (GRBs) Small black holes split larger BHs into two equal parts, both able to create dual Herbig Haro systems. The ratio of the original Black Holes is at least between 0.6 and 0.01?

The origin of Gamma Ray Bursts, by splitting black holes of different size, leaving three BHs behind. Two of them could form a Herbig Haro Object with a dumbbell structure. (Quantum FFF theory@Leo Vuyk).

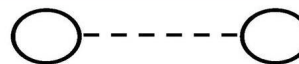
Dual Dark Matter Black Hole merger and splitter Higgs content "size" ratios, now between 0.8 and 0.6x sun mass. See Quantum FFF Theory based new black hole paradigm.



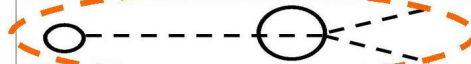
Small black holes should split larger BHs into two equal parts to create dual Herbig Haro hotspots also called bowshocks or accretion outburst sources.



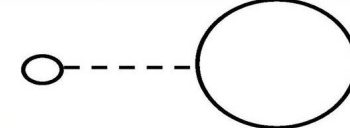
LIGO ratios: 0.8x 0.6x (29:36/8:14)



Herbig Haro creation ratio: 1x



BH Splitter ratio <0.6?x >0.01 ?



Galaxy central merger ratio: <0.01?

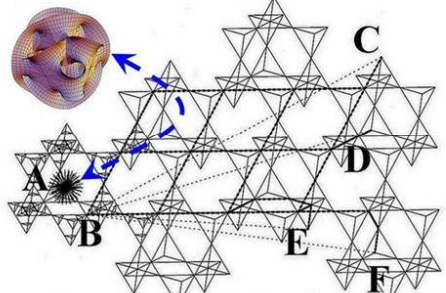
Figure 9, suggestions for black hole nuclear splitting by BH collision.



# The massless chiral Axion/Higgs oscillating dark energy vacuum field with a Topological superconductor function.



The massless transformable Axion /Higgs particle is supposed to act as the mother of all single and compound rigid string particles fermions/neutrinos, photons etc.

Topology of the Oscillating Chiral Higgs field vacuum structure, with Dark Matter Quantum Knots inside Black Hole Nuclei, as the second energetic element to make the Multiverse a cyclic self organising system.

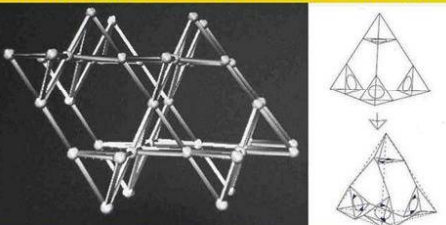


**Photon trajectories through the tetrahedral oscillating Higgs vacuum lattice. (Acc. to Quantum FFF Theory)**  
 A: a real shaped Photon is created by Higgs collision with a dual axis spinning (Calabi Yau) Fermion propeller.  
 B: that Photon transfers CODED form information (monopole photon info) and direction information into one Higgs particle which transfers this information by mutual Higgs collisionary oscillations through the vacuum in one specific direction. C,D,E or F  
 F: Only magnetic photonic information (2x : North and South) are subject to curvature by an undisturbed symmetric oscillating vacuum  
 II: Local Anti-Symmetric Oscillating vacuum Frames are influenced by massive objects like the earth and responsible for semi relativistic effects.  
 III The vacuum lattice has helix- or chiral quality being the origin of our material universe.

**Dark Matter Quantum Knots inside BH Nuclei.**

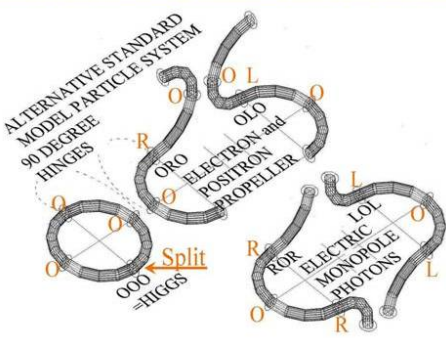



**New Dark Matter Black Hole, "Eat" the chiral oscillating Higgs vacuum. (Quantum-FFF Theory)**



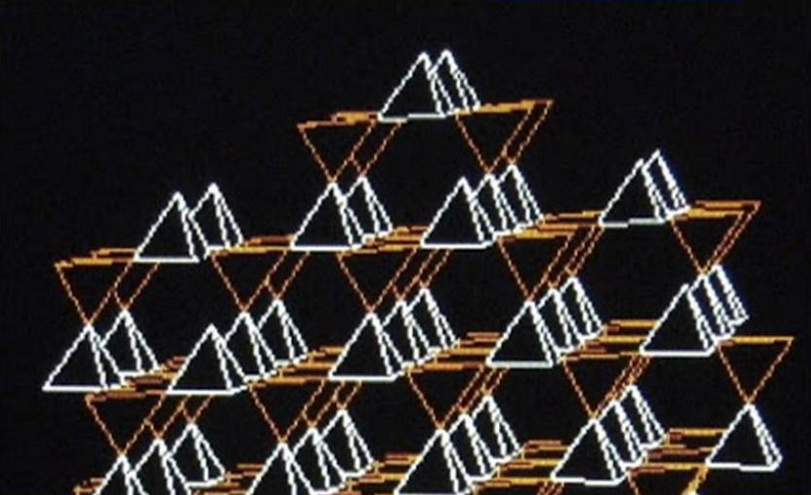
Simplified tetrahedral vacuum lattice structure (left), constructed by complex chiral tetrahedral building blocks (right). Each universe has to choose between a left- or righthanded rotation of its tetrahedral building blocks. Each chiral lattice.

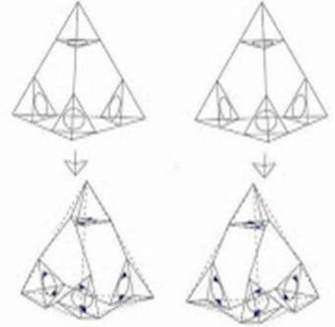
**ALTERNATIVE STANDARD MODEL PARTICLE SYSTEM**



90 DEGREE HINGES  
 ORO ELECTRON and POSITRON PROPPELLER  
 LOL ELECTRIC MONOPOLE PHOTONS  
 Split = HIGGS

**3-D image of TWO tetrahedron space fill units with chiral, left or right handed characteristics, the origin of our material universe and our opposite anti-matter universe.**





Space fill unit with RIGHT hand rotation.      Space fill unit with LEFT hand rotation.

**Truncated tetrahedron space according to the Quantum-FFF model. Each tetrahedron lattice has a spiral shape based on three linear units**

Figure 10, Dark energy vacuum field with topological superconductor function for local and inter-universal entanglements as a base for a function collapse and democratic free will according to Quantum FFF Theory.



Our position in the 8 or 12 !!! fold raspberry multiverse. Elliptic shaped CMB peak radiations are tell tales. (left). At the rightside a 12 fold symmetric cube octahedron multiverse diagram is depicted with red: matter and green: anti matter entangled universes.

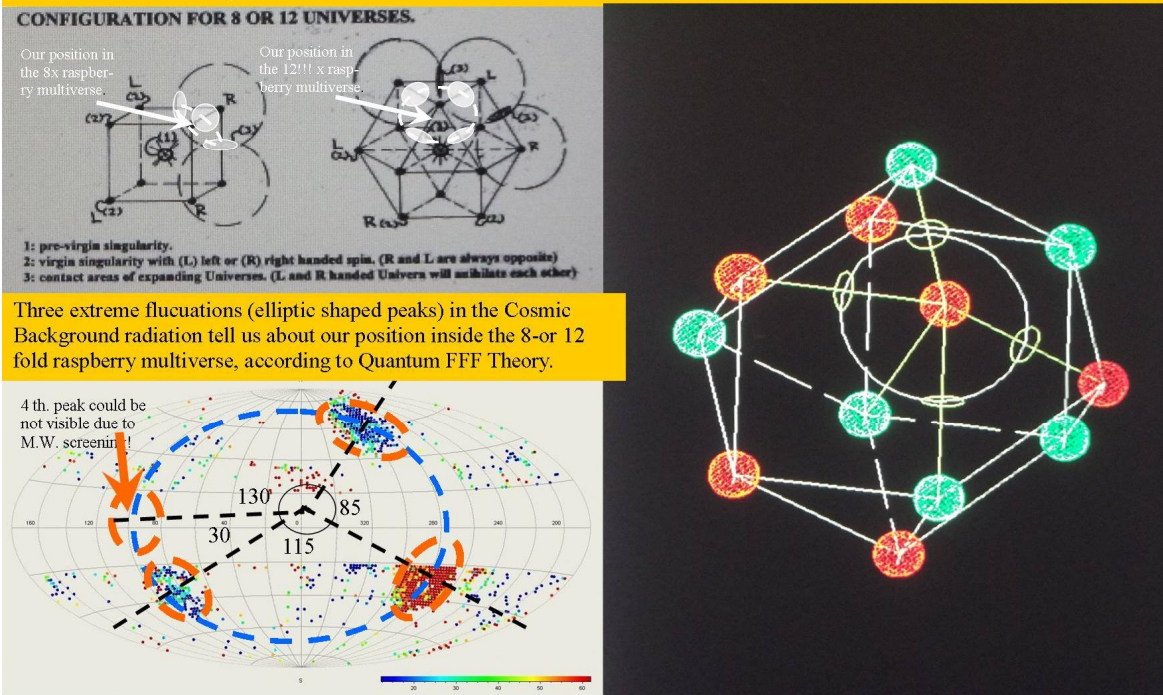


Figure 11, the entangled 8- or 12 fold raspberry multiverse.

## The great misconception in Astronomy:

Herbig Haro Bowshocks and Cometary Globules, are not interpreted as Dark Matter Black Holes. See below: Bok- and Cometary Globules with young Herbig Haro Bowshocks in the making in the Carina nebula.

Splitting and pairing electric dark matter black holes. Magic self propelling in space and even on earth according to Quantum FFF theory.

The pairing and splitting of Electric Dark Matter Black Holes into dual Herbig Haro bowshocks, as the fast creation and proliferation of Stars and galaxies after the splitting bigbang.

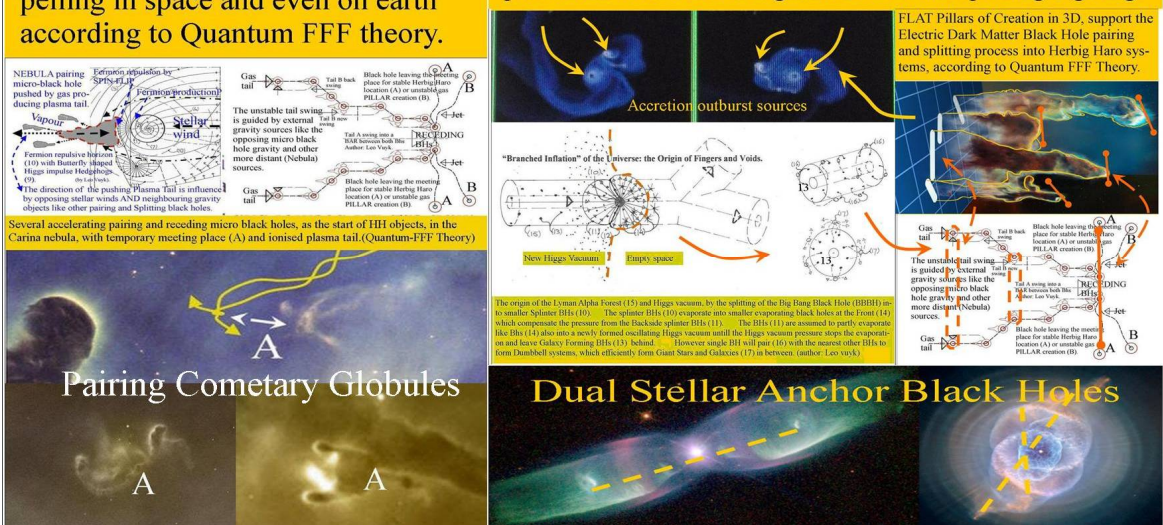


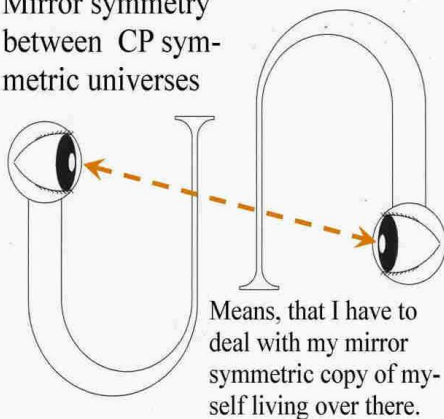
Figure 12, great misconceptions in astronomy and the solution with alternative electric dark matter black holes able to combine into Herbig haro objects with star formation in between.



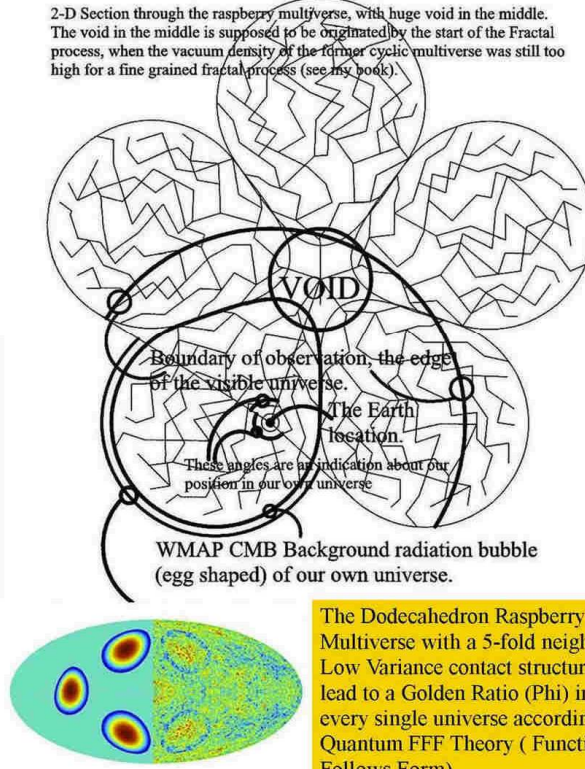
# The Wavefunction collapse in the (CP symmetric) raspberry multiverse by the entangled observation between (anti) copy particles

According to Quantum FFF Theory, the collapse of the wavefunction is assumed to be triggered by particle collisions with instant entanglement between (anti-) COPY universes. So there is Charge and Parity symmetry between the entangled particles living in opposing universes. Each particle is its own observer!! Each human has to deal with one or more opposing anti-COPY humans.

Mirror symmetry between CP symmetric universes



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 13, Wavefunction collapse in the multiverse.

# The great Penrose High-Low Entropy misconception.

Big Bang and Big Crunch originated by the splitting pairing and recycling via merging of central galaxy S-nova black holes . According to Quantum FFF Theory..

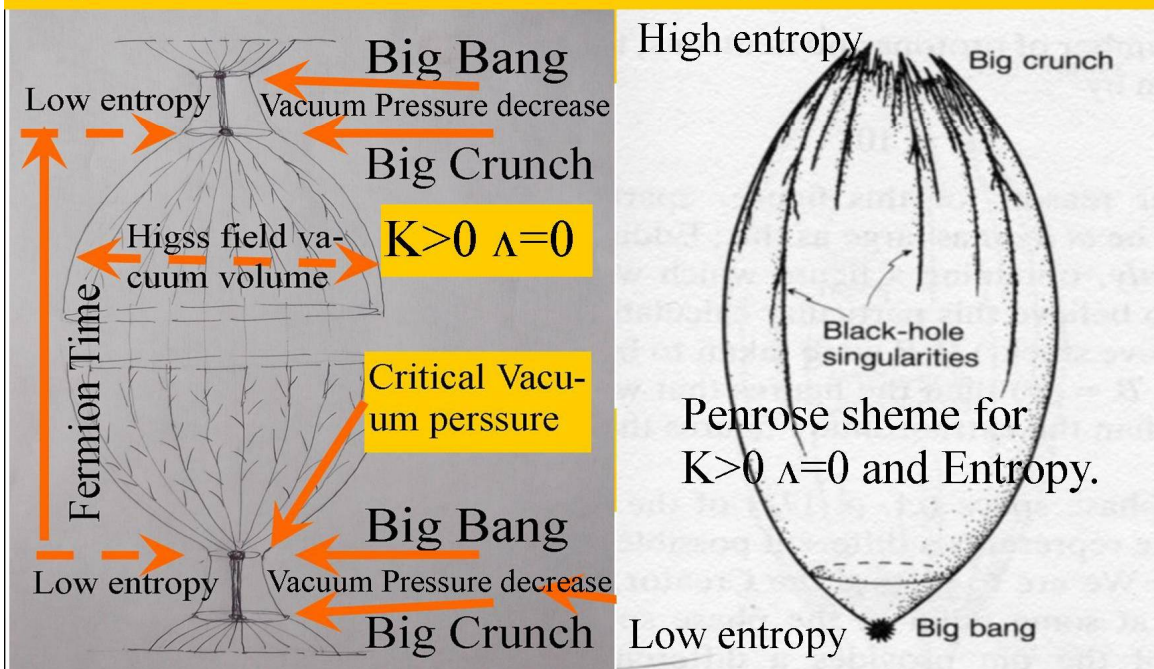
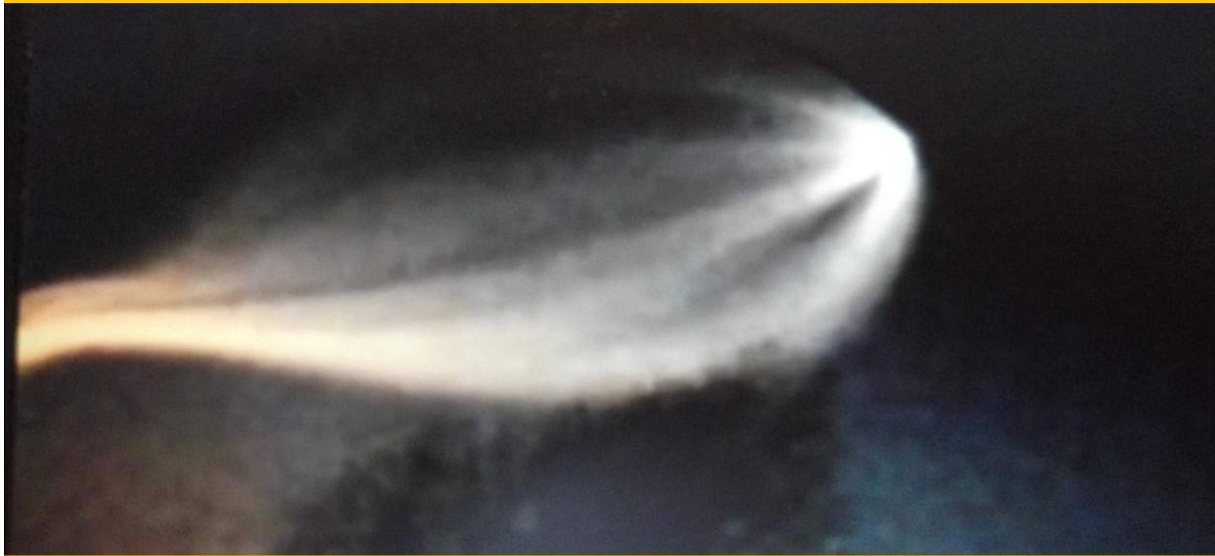


Figure 14, The consequence: a bouncing CP(T) symmetric multiverse.

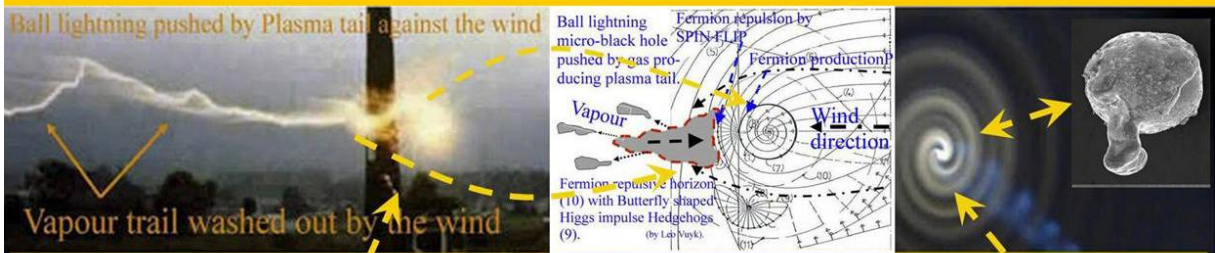


Micro Comet march 2015. 4-8 plasma tails seem to indicate to be related to 4- 8x clustered sprite fireballs. Regio Perm in g.Kizel.

According to Quanum FFF Theory.



Below several other examples of micro comets and Ball Lightning.



Ball Lightning and Micro Comets Based on New ZPE Black Hole Paradigm



Micro Comets (micro black holes) also pushed by plasma tail against the wind

Figure 15, examples of micro black hole based Ball Lightning and micro comets on earth.

This Ball Lightning photo is an important piece of the new physics of Quantum FFF theory. It shows a self produced vapor trail washed out by the opposing wind of the massless BL nucleus, which seem to be pushed against the wind. Just as observed in multiple single- and paring Black Hole examples in nebula like the Carina.

Ball lightning pushed by Plasma tail against the wind



Vapour trail washed out by the wind

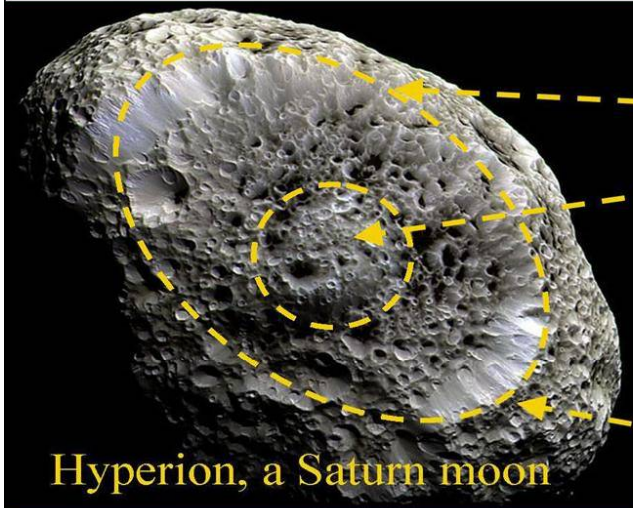
Other examples of BLs with plasma tails



Figure 16, other examples of Ball Lightnings with plasma tails.

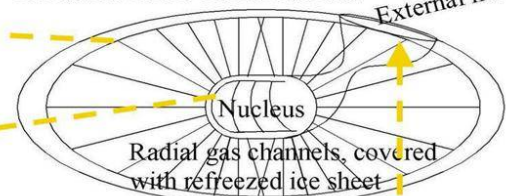


# Electric Dark Matter Black Hole Comets and Icy remnants (e.g. Hyperion)

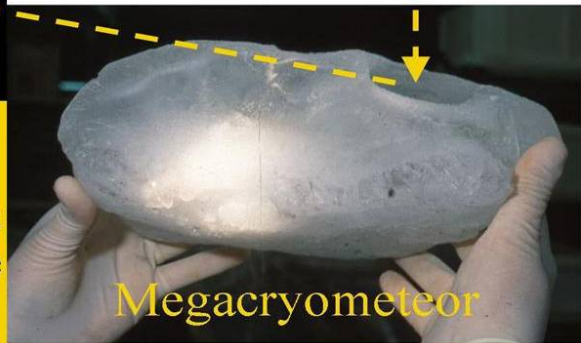


Hyperion, a Saturn moon

Cross section through a Megacryometeor or Terrestrial micro Comet nucleus.

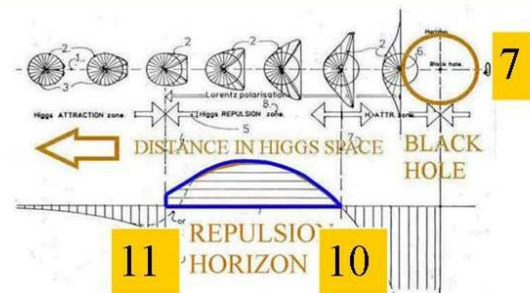
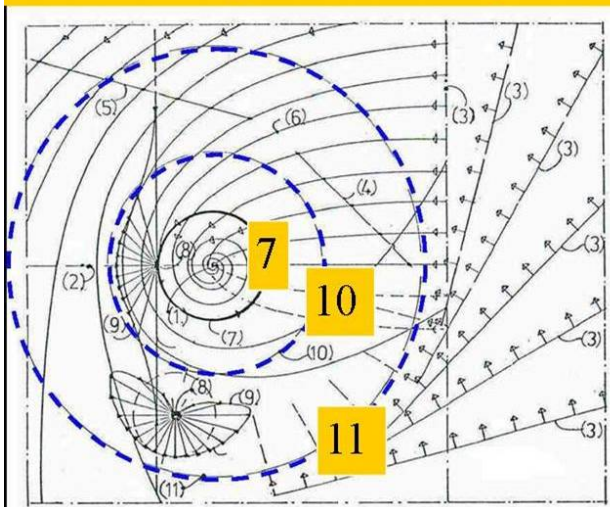


Expected ice structure of the ellipsoidal ice chunk (Megacryometeor) found by J.M.Frais (Madrid). According to Quantum FFF theory this chunk should be the Nucleus of a Terrestrial Micro Comet, produced by a new paradigm black hole, which left the nucleus through the external hole, in consonance with the ice structure of the Hyperion moon. (author Leo Vuyk)



The relation between the Hyperion ice structure and the structure of a Megacryometeor as the result of Micro Black hole ice production inside both nuclei.

According to Quantum FFF Theory, even Nano interference Black Holes have a radial structured electric potential horizon layer (internal positive-protons and external negative electrons charged). They produce H<sub>2</sub> and water leading to the icy nuclei of Comets, Ball Lightning and Megacryometeors. The origin: a Fermion repulsion horizon of the black hole, see below.



7x Higgs quantum curves (2) are depicted for Fermions (3) with different distance to the BH horizon. At location (10) the spin of the fermions will FLIP due to the propeller shape of the Fermion and an opposing force away from the horizon is created by the Higgs vacuum itself down to location (7). The zone between (7) and (10)

Figure 17, The principle of fermion production (also water) and repulsion around a new paradigm black hole.



# Early NGC 3801, a cosmic Miracle?

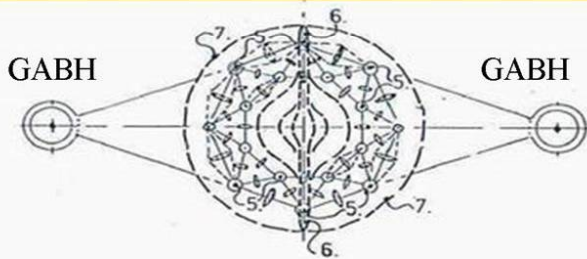
Not so, in Quantum FFF Theory, if we accept to recognize two GABH's ( Galaxy Anchor Black Holes) both in line with the central star forming region.



Secondary and tertiary Dual BH Herbig Haro systems, as the origin of different shaped dwarf galaxies and Star clusters.

Below: Simplification of different sized dual black hole (5) based Herbig Haro Systems with dwarf and star formation in between, in the halo of the MW.

Dual Galaxy- and Stellar Anchor Black Holes (G-SABHs) as former Herbig Haro bowshocks, observed in deep space or Planetary Nebula.



Dual black hole systems of all scales, Galaxy and Stars are supposed to be the origin of the self organising universe according to a new electric dark matter black hole model called Quantum FFF Theory. See: Image credit: Prathamesh Tamhane/Yogesh Wadadkar

According to Quantum FFF Theory, Black holes create Proton-Electron plasma at the Fermion repelling horizon. As a consequence dual black hole systems like Herbig Haro objects are equipped with dual EM jets, supported by cone shaped Casimir pressurized Higgs field vacuum polarization. Birkeland and Alfvén current circuits are supposed to be the result. Higgs-Casimir pressure vectors are depicted above and below.

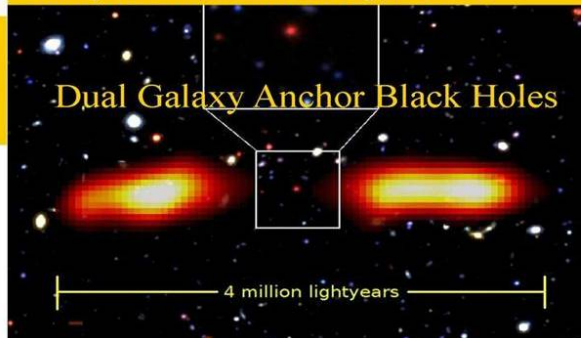
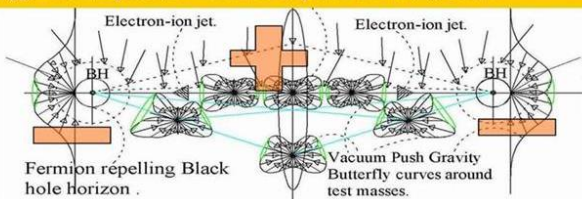


Figure 18, how stars and galaxies are formed by Herbig Haro systems between two equal sized new paradigm black holes.



# Binary Star Production in LMC N55 in a System of Evolved Herbig Haro Black Holes alike Quasar 3C405.

Quasars are early HH systems with plasma creation at the hotspots and a growing forerunner Big Crunch black hole at the center. According to Quantum FFF Theory, all Quasars are produced by the trillions of paired black holes spawn by the big bang and creating early Herbig Haro objects, with star and galaxies forming in between. According to Quantum FFF Theory.

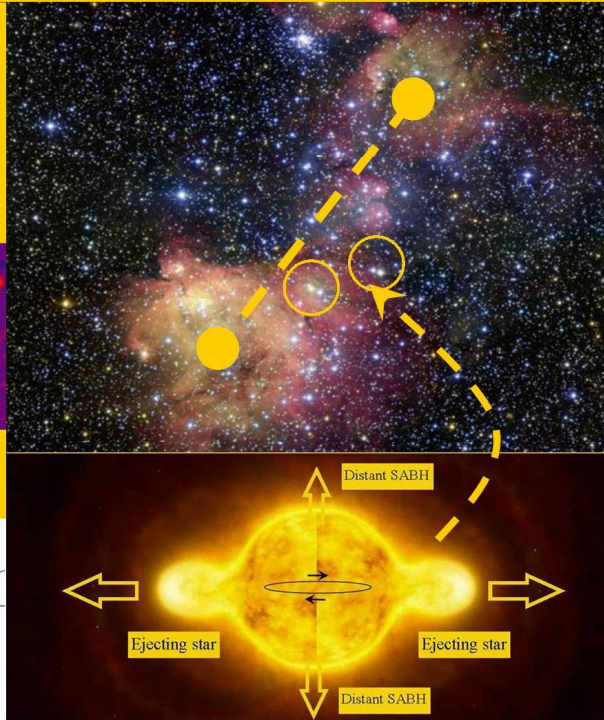
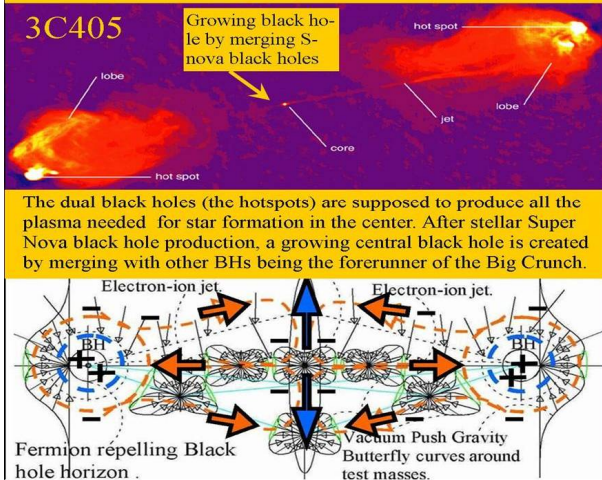
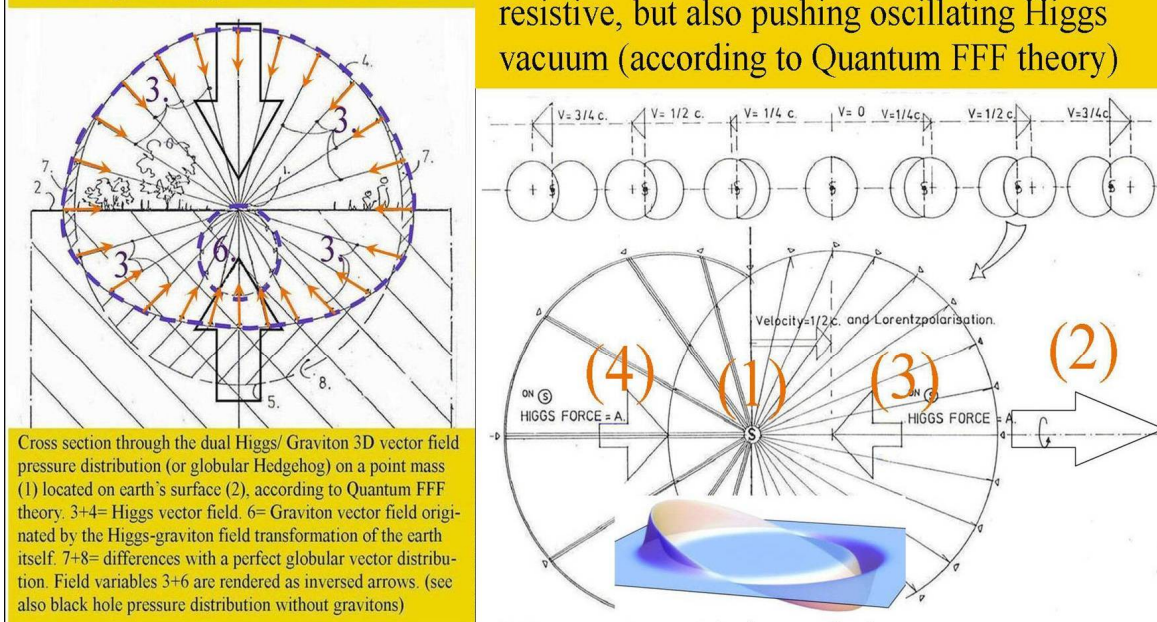


Figure 19, Binary star production .

Equivalence between gravity and acceleration does not hold in Quantum FFF Theory. Mass in motion needs a reference frame of ZPE oscillating Higgs field and Lorentz polarization of conscious propeller Fermions (s) to keep a non accelerated flight.

Quantum Gravity as pressure distribution of the oscillating dual Higgs/Graviton vector field.

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

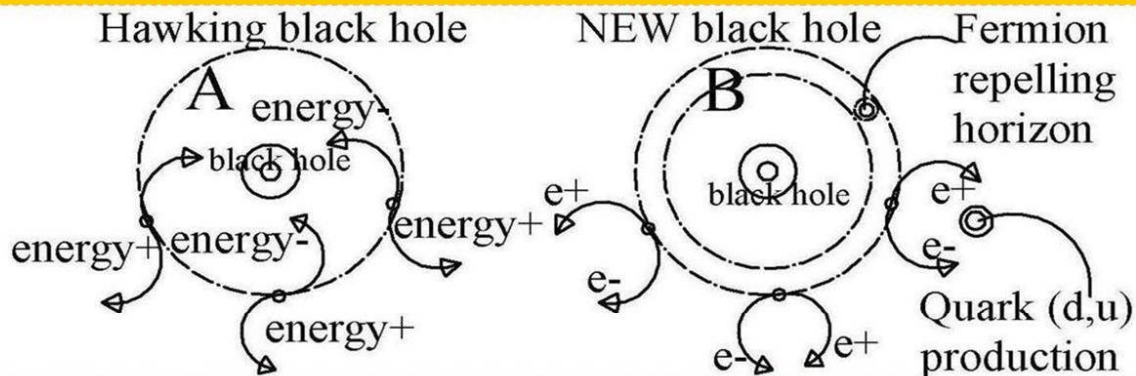


Cross section through the dual Higgs/ Graviton 3D vector field pressure distribution (or globular Hedgehog) on a point mass (1) located on earth's surface (2), according to Quantum FFF theory. 3+4= Higgs vector field. 6= Graviton vector field originated by the Higgs-graviton field transformation of the earth itself. 7+8= differences with a perfect globular vector distribution. Field variables 3+6 are rendered as inversed arrows. (see also black hole pressure distribution without gravitons)

Figure 20, equivalence between gravity and acceleration does not hold in Q-FFF theory.



# Fermion/ Dust production and repulsion at small (Herbig Haro) black hole horizons during and after fractal inflation.



According to Quantum FFF Theory, there is no fermion information loss, only photonic information loss in a black hole. Quantum fluctuations around the BH horizon produce pairs of leptons.  $e^-$ ,  $e^+$  and even compound quarks (d,u, etc, see Fermion 3D string propeller theory: Fermion repelling by spin flip). For tripple BH horizons see image nrs 7, 10 and 11. Event horizon=7, Inner photon ring = 10, Outer photon ring = 11. Conclusion The Big Bang did not produce instantly all the Fermions in the universes. Even now lots of Fermions are produced by all BHs even the largest primordial Big bang splinters located outside large galaxies. see also: <<http://vixra.org/abs/1410.0039>

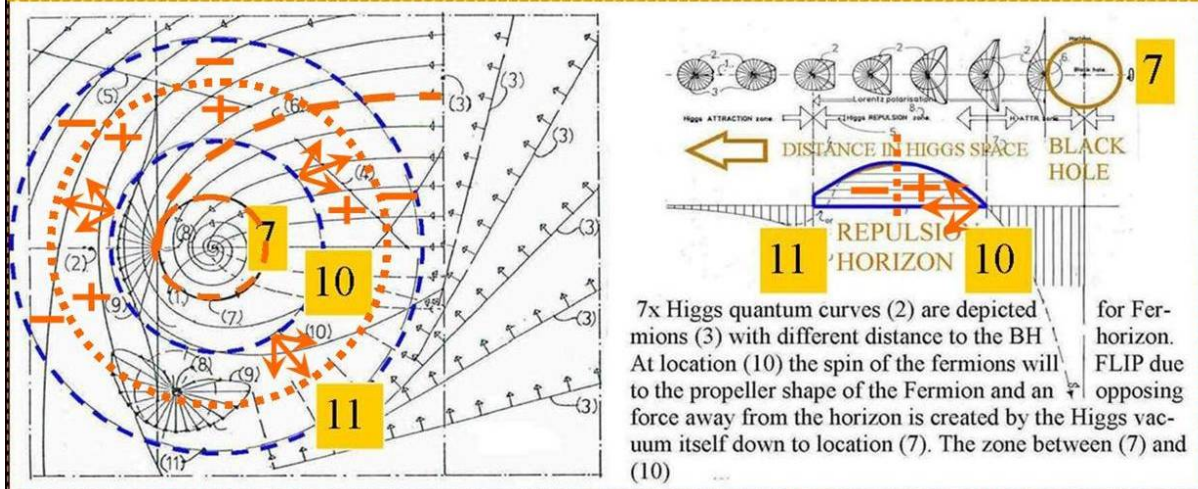
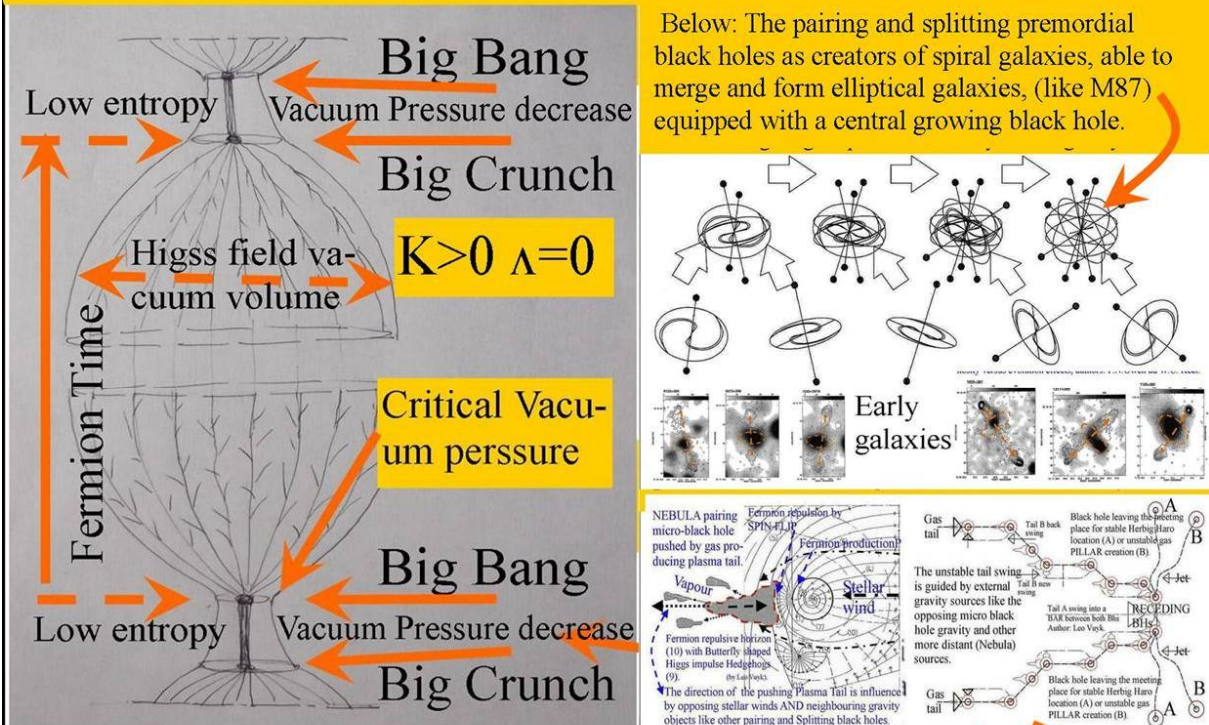


Figure 21, the new electric dark matter Black Hole paradigm.



# The New Cyclic Universe with Bang and Crunch.

The Big Bang and Big Crunch originated by Black Hole splitting, pairing and recycling into massive growing central galaxy black holes, according to Quantum FFF Theory.



Below: The pairing and splitting primordial black holes as creators of spiral galaxies, able to merge and form elliptical galaxies, (like M87) equipped with a central growing black hole.

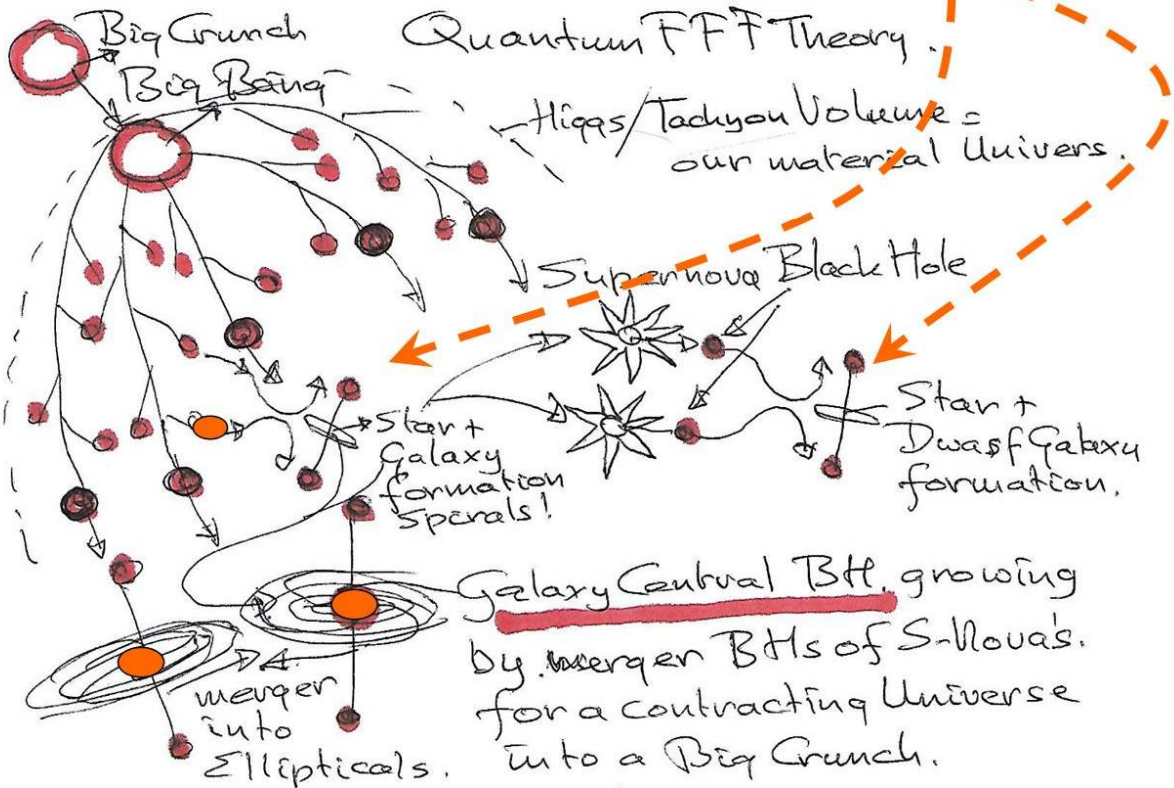
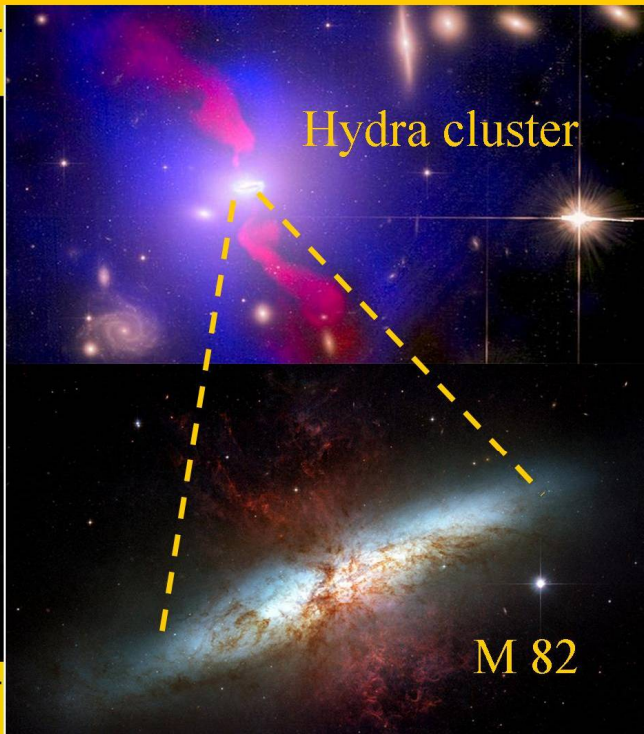
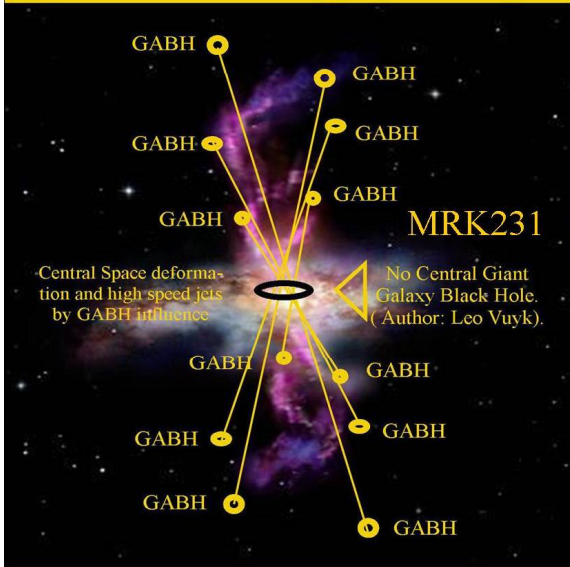


Figure 22, The new Cyclic Multiverse with CP(T) symmetric universes.



High speed gas ejection (Hydra cluster, M82 and Mrk 231) as evidence for external Galaxy Anchor Black Holes ( GABHs, according to Quantum FFF Theory).

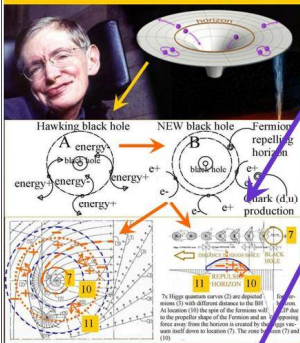
Galaxy Anchor Black Hole (GABH)-  
Effect on High speed gas ejection.



Massive molecular outflows and negative feedback in ULIRGs observed by Herschel-PACS

Figure 23, Primordial Galaxy Anchor black holes.

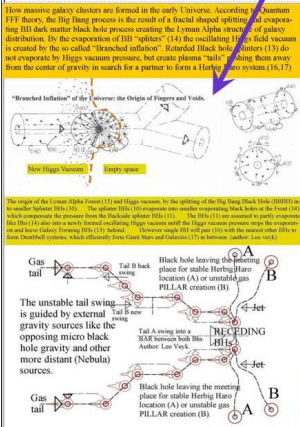
The NEW Plasma Creating Electric Black Hole versus the Hawking Black Hole, according to Quantum FFF Theory, the origin of Comet - Sunspot - BL mystery.



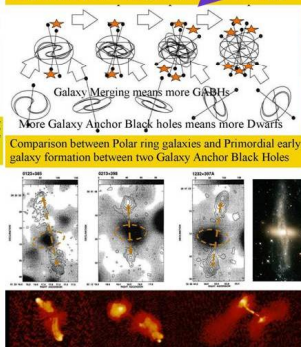
# The new paradigm of star/ galaxy formation and dying

Based on the new paradigm of Fermion repelling and creating black holes.

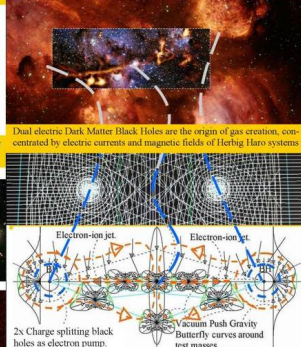
Electric dark matter black holes seem to have the intelligence to pair by self propulsion with other BHs of comparable size to form Herbig Haro systems with star formation in between. ( according to Quantum FFF Theory)



Dwarf Galaxy formation between Galaxy Anchor Black Holes (GABHs) as the Origin of stellar migration forming Polar Ring Galaxies. More GABHs means more Dwarfs means more sources for Stellar migration and bulge formation, according to Quantum FFF Theory.

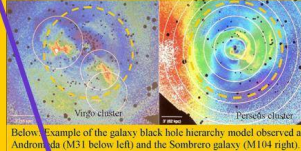


Big Bang and AIDven current circuits are responsible for magnetic fields inside Herbig Haro star forming systems according to Quantum FFF Theory. Here the 'Polar Nebulae, made by Spitzer Space Telescope. The magnetic fields influence star formation on a variety of scales, from hundreds of light-years down to a fraction of a light-year. The large gas globules are supposed to harbor young Electric Dark Matter Black Holes.

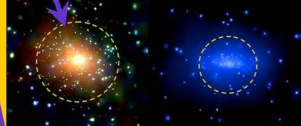


Giant galaxies die from the inside out: Star formation shuts down in the centers of elliptical galaxies first.

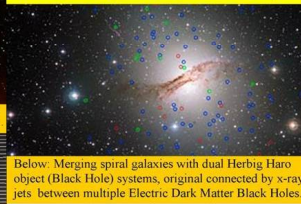
According to Quantum FFF Theory, Galaxy- and Cluster- black hole hierarchy is the origin of dying galaxies where star formation in the center stops. X-ray point sources (Dark matter black holes) in Virgo and Perseus cluster centers present evidence for black hole hierarchy. The smallest BHs are located in the centers and are not any more able to create Supernova black holes large enough to form Herbig Haro systems with star formation in between. The result: Dying 'red and dead' galaxies as the start of Universal contraction and collapse (Big Crunch) in a cyclic multiverse.



Below: Example of the galaxy black hole hierarchy model observed at Andromeda (M31 below left) and the Sombrero galaxy (M104 right).



New class of 'dark' globular star clusters discovered around giant galaxy Centaurus A. Evidence for GABHs of Quantum-FFF Theory.



Below: Merging spiral galaxies with dual Herbig Haro object (Black Hole) systems, original connected by x-ray jets between multiple Electric Dark Matter Black Holes

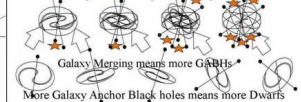


Figure 24, star formation and dying according to Quantum-FFF Theory.







# The cool corus mystery of galaxy clusters: small black holes

The Virgo and Perseus cluster have cool corus and show unresolved 3.5 KeV radiation. The solution: In these centers only small black holes are pushed to be eaten by the central giant black hole.

X-ray point sources (Dark matter black holes) in Virgo and Perseus cluster centres present evidence for black hole hierarchy. According to Quantum FFF Theory (Function Follows Form), not the giants- but the smallest black holes reside in the centre of galaxies (see M104) and consequently in galaxy clusters. See also: <http://vixra.org/abs/1406.0076> Images: <http://arxiv.org/ftp/arxiv/papers/1410/1410.6485.pdf>

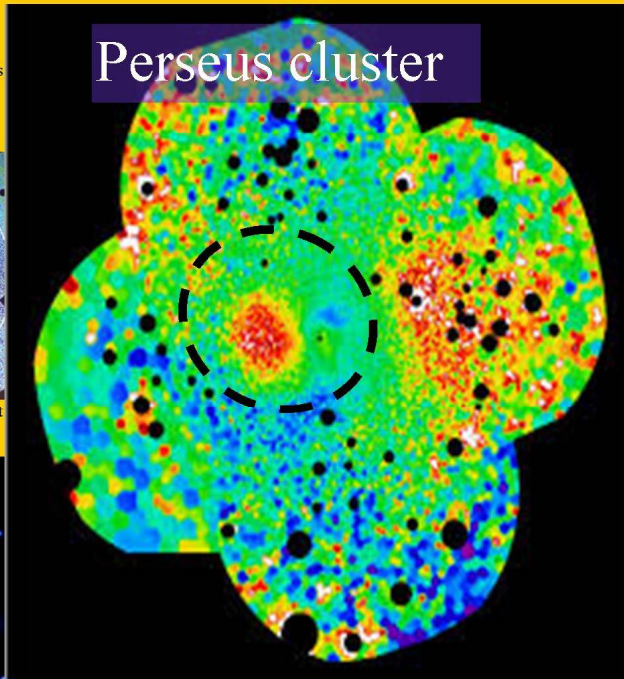
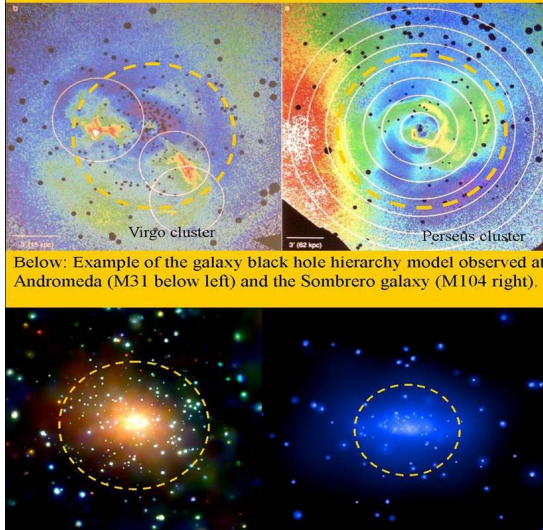


Figure 23

Charge differences of  $1/3$  and  $2/3$  between d and u quarks should be originated by the chirality differences with the vacuum.

Left, the D and U Quarks of a neutron are depicted. Below the chiral oscillating Higgs field vacuum, according to Quantum FFF Theory.

D quark =  $1/3$

U quark =  $2/3$

D quark =  $1/3$

Simplified tetrahedral vacuum lattice structure (left), constructed by complex chiral tetrahedral building blocks (right). Each universe has to choose between a left- or righthanded rotation of its tetrahedral building blocks. Each chiral lattice has the Planck length and is supposed to be equipped with at least two oscillating massless new Higgs particles.

Figure 28, DDU Neutron- Quark configuration



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

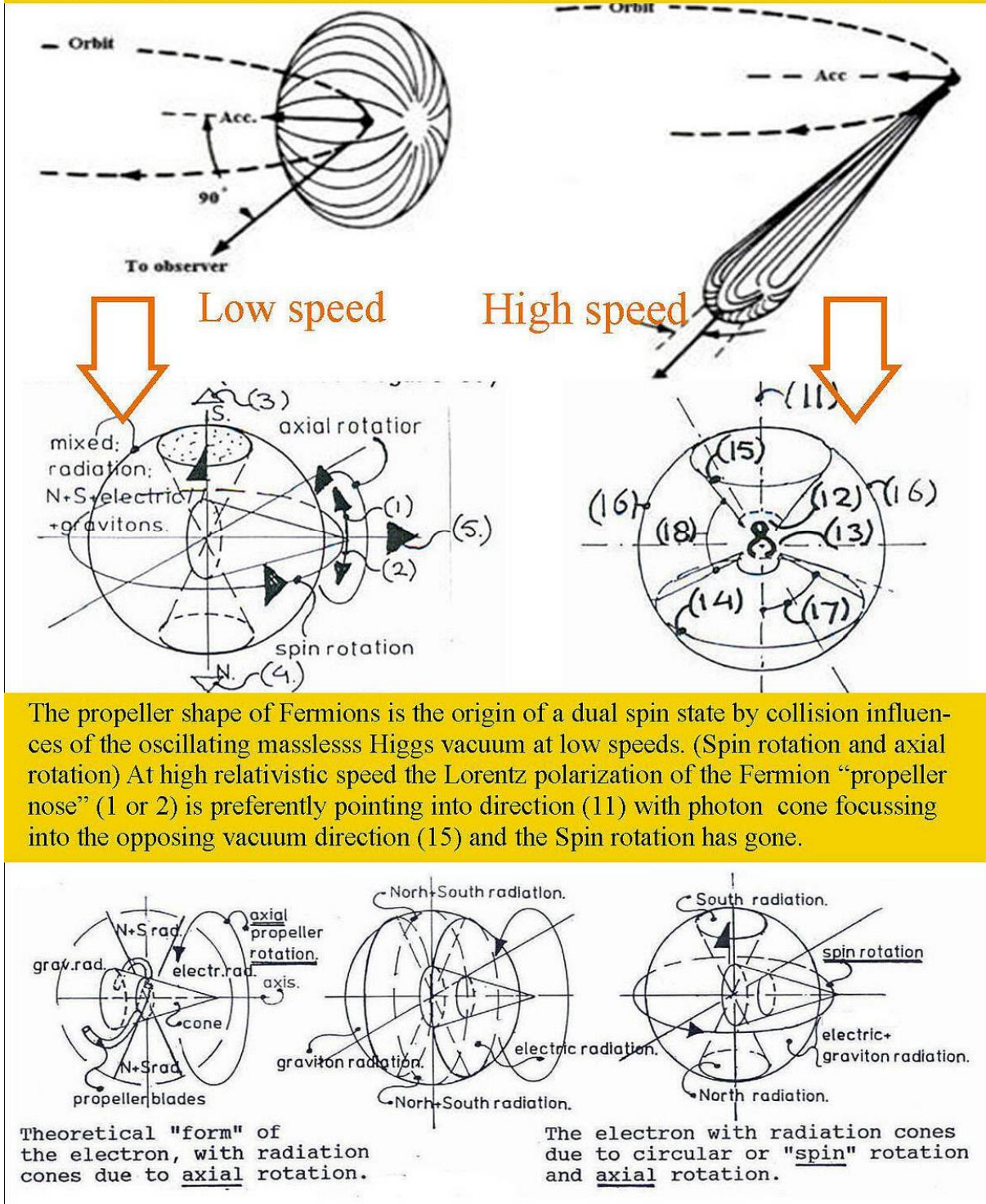


Figure 29, Propeller shaped Fermions and the synchrotron effect.

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- [67] viXra:1609.0407 New Physics Elements in the Quantum Function Follows Form Model.
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