#### Axion-Higgs 3-Dimensional Rigid Transformable Strings and the Compound 650 GeV Z-Z Decay into Quarks/Leptoquarks according to the Quantum FFF model.

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#### 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 paper I present possible 3D particle solutions based on only one complex 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 some sort of mechanical collision with other particles into a different shape, with a different function and interlocking abilities with other particles.

Thus in this Quantum Function Follows Form theory, the Axion-Higgs vacuum particle is interpreted as a massless transformer string particle able to create the universe by transforming its shape after real mechanical collision and merging with other shaped particles into complex and compound knots like quarks, W Z particles and even ball lightning black hole nuclei.

#### 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)

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)



125GeV+375gEv=500GeV And More

500GeV

# 375GeV+375gEv=750GeV

## 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)



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. OUO is e-e+ related, UUU, LUL,RUR are Neutrino related. Called sterile Neutrinos.

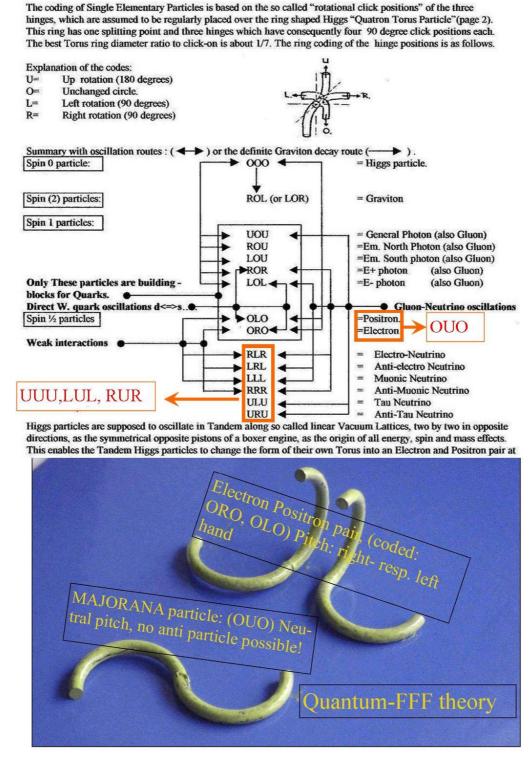


Figure 4, The geometric principle of Quantum FFFModel.

#### **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

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

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

**HINGE ROTATIONS** O= Ring shape L= Left 90 degr. R= Right 90 degr. U=Up 180 degr. OLO-ORO-OUO. Calabi Yau rotation result.

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

Electron: ORO. Positron: OLO. Majorana: OUO

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

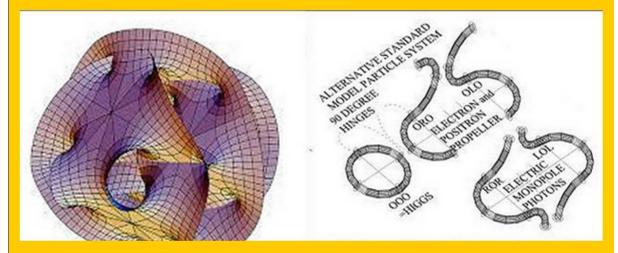


Figure 5, The principle based on 3x hinge rotaions of 90 degrees.

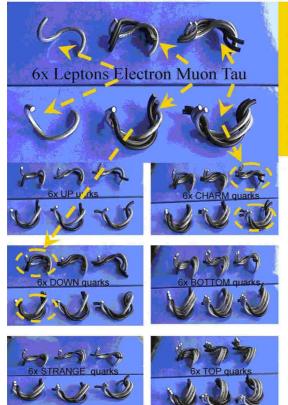
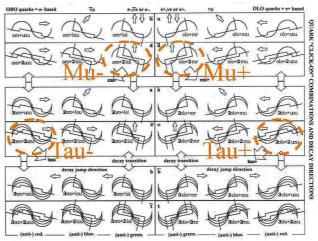
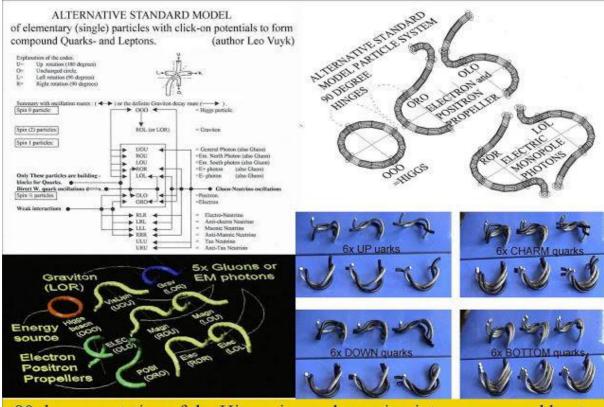


Figure 6, general view of the basic particle zoo.

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 respectivily Charm Quarks. According to Quantum FFF Theory. (Function Follows Form in particle physics)





90 degree rotation of the Higgs ring and merging into coumpound knots... Figure 7, most common particles.



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.

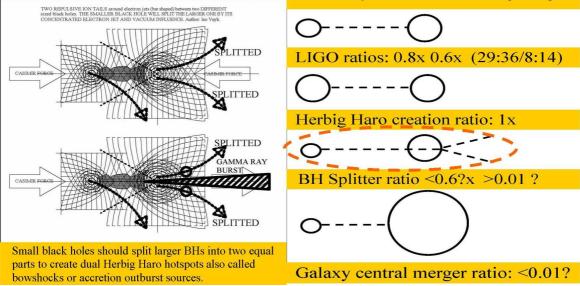
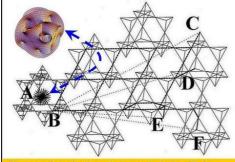


Figure 9, suggestions for black hole nuclear splitting by BH collision.

## 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 Multivese a cyclic self organising system.



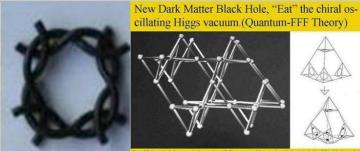
Photon trajectories through the tetrahedral oscillating Higgs vacuum lattice. (Acc. to Quantum FFF Theory) A: a real shaped Photon is created by Higgs collision with a du-

al axis spinning (Calabi Yau) Fermion propeller. B: that Photon transferes CODED form information (monopole photon info) and direction information into one Higgs particle which transferes this information by mutual Higgs collisionary oscillations through the vacuum in one specific direction. C. D. E. or F.

E. 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.

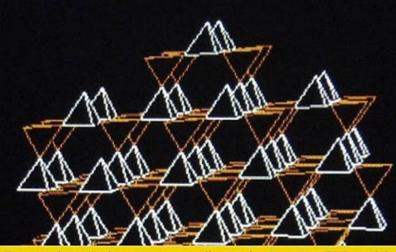
III The vacuum lattice has helix- or chiral quality being the origin of our material universe.



Dark Matter Quantum Knots inside BH Nuclei







Truncated tetrahedron space according to the Quantum-FFF model. Each tetrahedron lattice has a spiral shape based on three linear units 3-D image of TWO tetrahedron space fill units with chiral, left or right handed characteristics, the origin of our matterial universe and our opposite anti-matter universe.



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

Figure 10, Dark energy vacuum field with topological superconductor function for local and interuniversal entanglementas a base for avefunction 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.

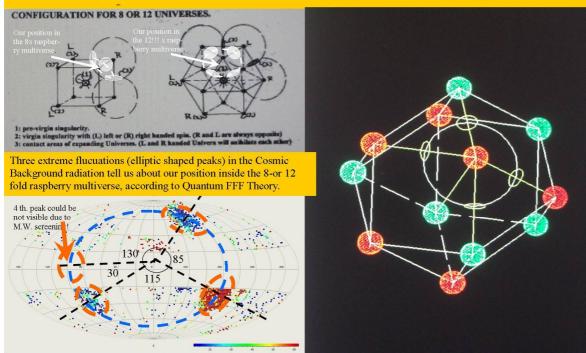


Figure 11, the entangled 8- or 12 fold raspberry multiverse.

#### 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.

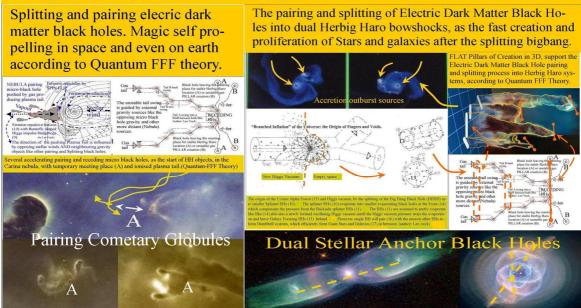
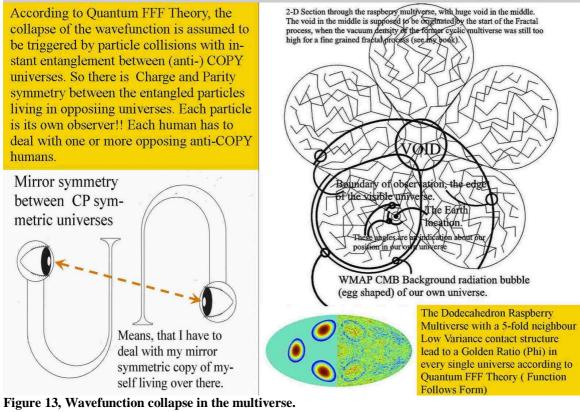


Figure 12, great misconceptions in astronomy and the solution with alternative electric dark matter black holes able to combine into Herbig haro objects with star formation in between.

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



#### The great Penrose High-Low Entropy misconception.

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

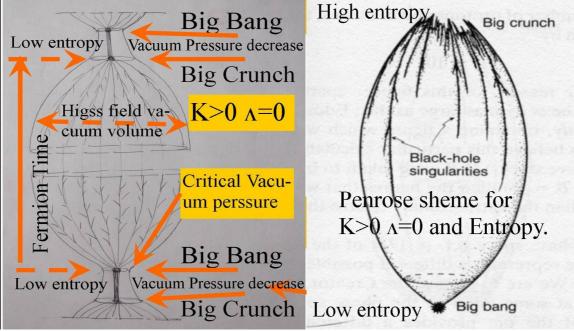


Figure 14, The consequence: a bouncing CP(T) symmetric multiverse.

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.



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.

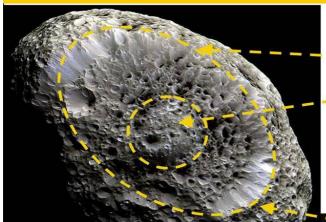
Ball lightning pushed by Plasma tail against the wind Vapour trail washed out by the wind

### Other examples of BLs with plasma tails

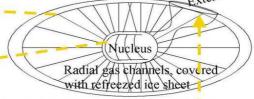


Figure 16, other examples of Ball Lightnings with plasma tails.

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



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)

Hyperion, a Saturn moon<sup>47</sup> 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 positiveprotons and external negative electrons charged). They produce H2 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.

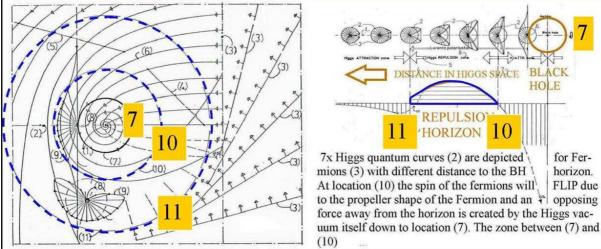
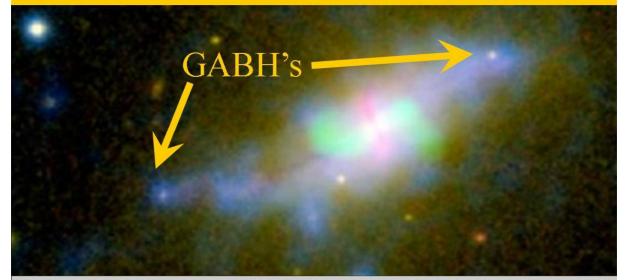


Figure 17, The principle of fermion production (also water) and repulsion around a new paradigm black hole.

## 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 (G-SABHs) as former Herbig Haro bowshocks, star formation in between, in the halo of the MW.

Dual Galaxy- and Stellar Anchor Black Holes observed in deep space or Planetary Nebula.

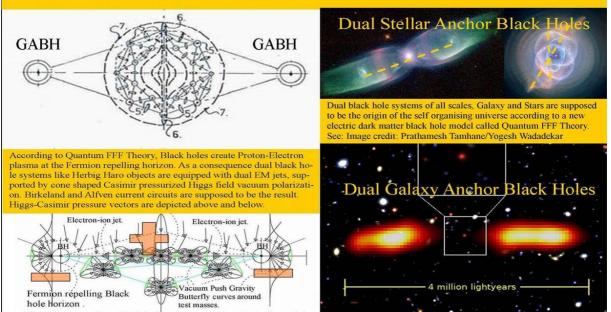
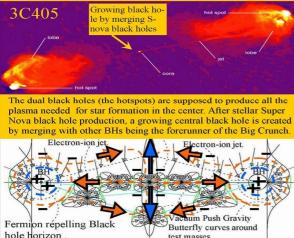


Figure 18, how stars and galaxies are formed bu HerbigHaro systems between two equal sized new paradigm black holes.

#### 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



test mass

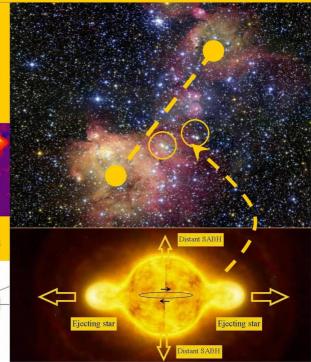


Figure 19, Binary star production .

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.

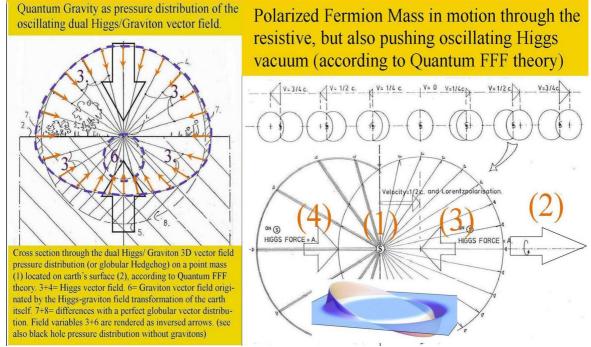
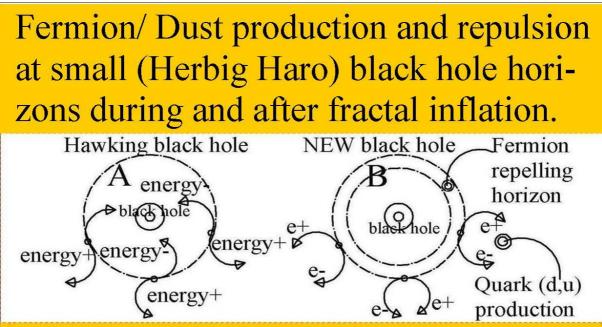


Figure 20, equivalence between gravity and acceleration does not hold in Q-FFF theory.



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: <a href="http://vixra.org/abs/1410.0039">http://vixra.org/abs/1410.0039</a>

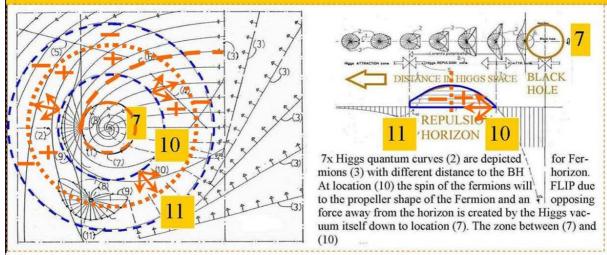


Figure 21, the new electric dark matter Black Hole paradigm.

#### 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 Qauntum FFF Theory.

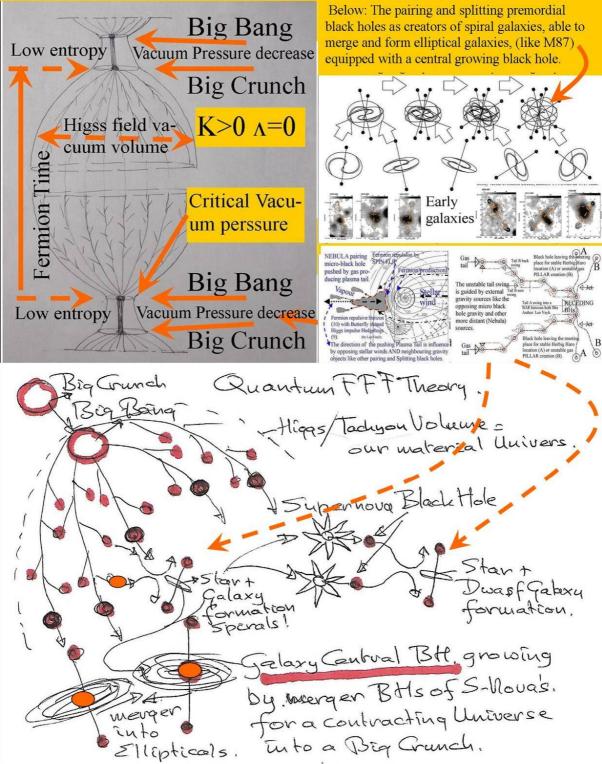
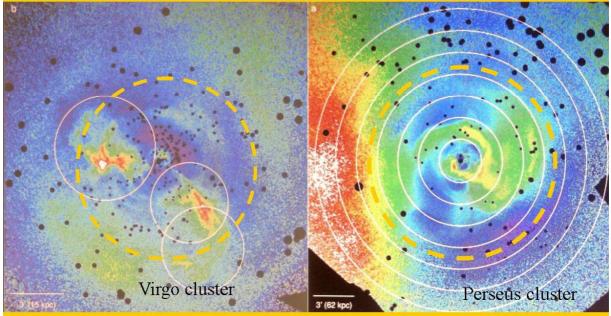


Figure 22, The new Cyclic Multiverse with CP(T) symmetric universes.

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



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

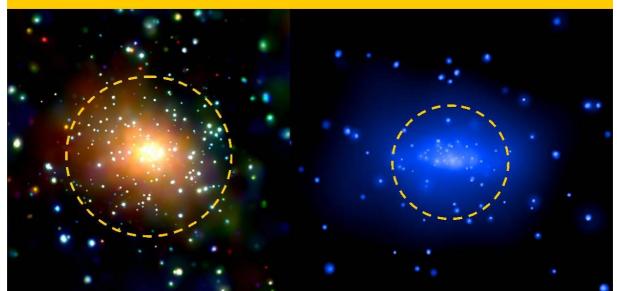
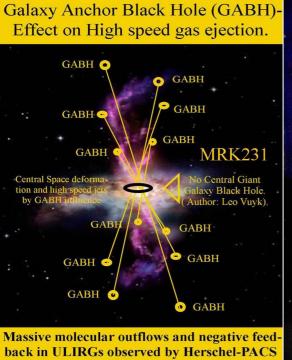


Figure 23, Black hole hierarchy in the center of galaxies and even clusters Virgo and Pereus. As support for Central Monster black holes eating/ merging with small central BHs.

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



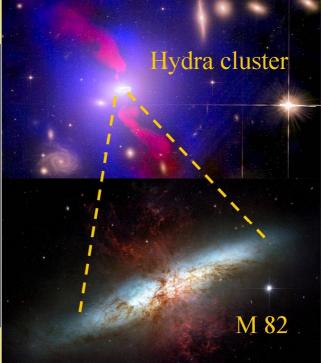


Figure 24 Primordial Galaxy Anchor black holes.

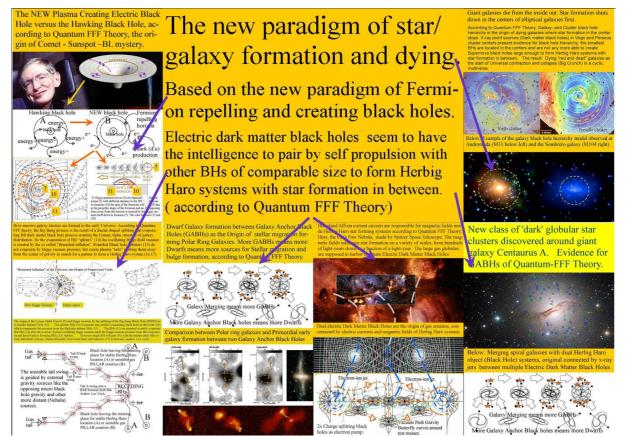


Figure 25, Star formation and dying according to Quantum-FFF Theory.

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