Neutrino Discrepancies and Higgs Neutrino Oscillation Masses

Abstract:
A history of neutrino measurements is described as a reply to a published video by Sabine Hossenfelder from September 21st, 2021

https://youtu.be/p118YbxFtGg

The sterile neutrino can be called a Higgs neutrino, as it derives from the Goldstone boson form of the Higgs Boson also coupled to the dark matter particle here called RMP for RestMass Photon. The problem with the Majorana form of the neutrinos is that they are indeed massless as fist proposed by the Standard Model and so are in fact their own antiparticles in the massless state.
They do however assume a mass value as Dirac particles when mixing with the sterile scalar Higgs neutrinos explained by Sabine Hossenfelder in the link above.

The Dirac forms for the lepton associated neutrinos can be calculated from a Grand Unification Monopole matrix. The weakons so display the bosonic nature of the original X/L bosons but allow a partitioning of the boson integral spin momentum in a sharing between the fermionic kernel and the fermionic outer ring.

The quantum geometry indicated then allows a decomposition of the weakons into leptonic generations and the Z-Boson to assume the weak interaction energy in the form of massless gluons becoming mass induced by the quantum geometric template of a scalar Higgs field as Majorana neutrinos.

The analysis then defines a maximum velocity for the electron with a corresponding quantum relative minimum mass in the form of the electron (anti)neutrino in
$v_e|_{max} = (1 - 3.282806345 \times 10^{-17})$ c and $m(v_e) = m(v_\tau)^2 = 0.00297104794$ eV* (0.002963740541 eV) respectively.
At this energy then, no coupling between the electron and its anti-neutrino would be possible and the W- weakon could not exist.

Subsequently, we shall indicate the effect of the Compton constant and of the quantum relativistic monopolar electron to calculate all of the neutrino masses from first principles in setting $m_v = m_{neutrino} = m_e.(r_{neutrino})/R_e$ and where r_v naturally applies at the limit of the electron's dynamical self-interaction as indicated, that is the electron's quantum relativistic mass approaches that of the instanton of the Quantum Big Bang qbb.

This leads to: $m_{vElectron}c^2 = m_v(v_{Tauon}^2)c^2 = m_v(v_{Muon}^2+v_{Higgs}^2)c^2$
$= \mu_o${Monopole GUT masses $ec\}^2 r_{ps}/4\pi R_e^2$ and where v_{Higgs} is a scalar (anti)neutrino for the mass induction of the (anti)neutrinos in tandem with the mass induction of the scalar Higgs boson in the weak Goldstone interaction.

Details here chapter XIV: The Monopolar Quantum Relativistic Electron - An extension of the standard model and quantum field theory
https://www.researchgate.net/.../357807147_Dirac's...

The Higgsian Scalar-Neutrino

The (anti)neutrinos are part of the electron mass in a decoupling process between the kernel and the rings. Neutrino mass is so not cosmologically significant and cannot be utilized in 'missing mass' models'.
We may define the kernel-scale as that of the singular spacetime-quantum unit itself, namely as the wormhole radius $r_{weyl} = r_{ps} =10^{-22}/2\pi$ meters.

Before the decoupling between kernel and rings, the kernel-energy can be said to be strong-weakly coupled or unified to encompass the gauge-gluon of the strong interaction and the gauge-weakon of the weak interaction defined in a coupling between the leptonic Outer Ring and the Kernel and bypassing the mesonic Inner Ring.

So for matter, a W-Minus (weakon) must consist of a coupled lepton part yet linking to the strong interaction via the kernel part. If now the colour-charge of the gluon transmutes into a 'neutrino-colour-charge'; then this decoupling will not only define the mechanics for the strong-weak nuclear unification coupling; but also, the energy transformation of the gauge-colour charge into the gauge-lepton charge.

There are precisely 8 gluonic transitive energy permutation eigenstates between a 'radiative-additive' Planck energy in W(hite)=E=hf and an 'inertial-subtractive'
Einstein energy in B(lack)=E=mc^2, which describe the baryonic- and hyperonic 'quark-sectors' in:
mc^2=BBB, BBW, WBB, BWB, WBW, BWW, WWB and WWW=hf.
The permutations are cyclic and not linearly commutative. For mesons (quark-antiquark eigenstates), the permutations are BB, BW, WB, and WW in the SU(2) and SU(3) Unitary Symmetries.

So generally, we may state, that the gluon is unified with a weakon before decoupling; this decoupling 'materializing' energy in the form of mass, namely the mass of the measured 'weak-interaction-bosons' of the standard model (W$^-$ for charged matter; W$^+$ for charged antimatter and Z^o for neutral mass-currents say). Experiment shows that a W$^-$ decays into spin-aligned electron-antineutrino or muon-antineutrino or tauon-antineutrino pairings under the conservation laws for momentum and energy.

So, using our quantum geometry, we realize, that the weakly decoupled electron must represent the Outer Ring, and just as shown in the analysis of QED (Quantum Electro-Dynamics).

Then it can be inferred, that the Electron's Anti-neutrino represents a transformed and materialized gluon via its colour charge, now decoupled from the kernel and in a way revisiting the transformation of a bosonic ancestry for the fermionic matter structures, discussed further on in the string class transformations of the inflaton era. There exists so a natural and generic supersymmetry in the quark-lepton hierarchy and no additional supersymmetric particles are necessary.

Then the Outer Ring contracts along its magneto axis defining its asymptotic confinement and in effect 'shrinking the electron' in its inertial and charge- properties to its experimentally measured 'point-particle-size'.

Here we define this process as a mapping between the electronic wavelength $2\pi R_e$ and the wormhole perimeter $\lambda_{weyl}=2\pi r_{weyl}$.

But in this process of the 'shrinking' classical electron radius towards the gluonic kernel; the mesonic ring will be encountered and it is there, that any mass inductions should occur to differentiate a massless lepton gauge-eigenstate from that manifested by the weakon precursors.

{Note: Here the W⁻ inducing a lefthanded neutron to decay weakly into a lefthanded proton, a lefthanded electron and a righthanded antineutrino. Only lefthanded particles decay weakly in CP-parity-symmetry violation, effected by neutrino-gauge definitions from first principles}.

This then indicates a neutrino-oscillation potential at the Inner Ring-Boundary. Using our proportions and assigning any neutrino-masses m_v as part of the electron mass m_e, gives the following proportionality as the mass eigenvalue of the Tau-(Anti)Neutrino as Higgsian Mass Induction in the Weak Nuclear Interaction at the Mesonic Inner Ring Boundary within the subatomic quantum geometry utilized as the dynamic interaction space:

$$m_{Higgs/Tauon} = m_e\lambda_{weyl}.r_E/(2\pi r_M R_e) = 5.34587844^{-36} \text{ kg* or } 2.9949713 \text{ eV*}..[Eq.XII-8]$$

So we have derived, from first principles, a (anti)neutrino mass eigenstate energy level of 3 eV as the appropriate energy level for any (anti)neutrino matter interaction within the subatomic dynamics of the nuclear interaction.

This confirms the Mainz, Germany Result (Neutrino 2000), as the upper limit for neutrino masses resulting from ordinary Beta-Decay and indicates the importance of the primordial beta-decay for the cosmogenesis and the isomorphic scale mappings referred to in the above.

The hypersphere intersection of the G- and F-count of the thermodynamic expansion of the mass-parametric universe so induces a neutrino-mass of 3 eV* at the $2.765931439\times10^{-18}$ meter marker.

The more precise G-F differential in terms of eigenenergy is 0.052 eV as the mass-eigenvalue for the Higgs-(Anti)neutrino, which is scalar of 0-spin and constituent of the so called Higgs Boson as the kernel-Eigenstate. This has been experimentally verified in the Super-Kamiokande (Japan) neutrino experiments published in 1998 and in subsequent neutrino experiments around the globe, say Sudbury, KamLAND, Dubna, MinibooNE and MINOS.

Recalling the Cosmic scale radii for the initial manifestation of the primordial 'Free Neutron (Beta-Minus) Decay', we rewrite the Neutrino-Mass-Induction formula:

$r_E = 3.435971077\times10^{14}$ meters and an E-count of $(26\times65^{61}) = 1.00\times10^{112}$ spacetime quanta:
$m_{vHiggs-E} = m_{velectron} = m_e.r_{ps}\{r_E/r_E\}/R_e = 5.323079952\times10^{-39}$ kg* or 0.00298219866 eV* as Weak Interaction Higgs Mass induction.

But in this limiting case the supermembrane modular duality of the instanton identity $E_{ps}.e^* = 1$ applied to the Compton constant will define the limiting neutrino mass for the electron as a modular neutrino mass per displacement quantum defined in the Compton constant $m_e R_e = \alpha m_P l_P = h\alpha/2\pi c$ and for a modulation displacement factor $\{R_e^2/r_{ps}\}$ as monopolar displacement current as mass equivalence, the Planck Length bounce displacement $x = \sqrt{\alpha}.l_P = e/c^2$ for finestructure unification $k_e G_o = 1$ and the Action Law {Action h = ee* Charge^2} via mass
$[m] = h/cx = hc/e = [ec]$ for $[i]_{monopolar} = [ec]_{monopolar}/$displacement x

$|m_{vHiggs-E} = m_{velectron}|_{mod} = m_e.r_{ps}\{R_e^2/r_{ps}\}/R_e = \{\alpha h/2\pi c\}|_{mod} = 2.58070199 \times 10^{-45}$ kg[m/m]* …[Eq.XII-9]

$r_F = 3.451077503 \times 10^{11}$ meters for the F-count of $(13 \times 66^{56}) = 1.02 \times 10^{103}$ spacetime quanta:
$m_{vHiggs-F} = m_{vmuon} = m_e.r_{ps}\{r_E/r_F\}/R_e = 5.299779196 \times 10^{-36}$ kg* or 2.969144661 eV* as Weak Interaction Higgs Mass induction.

$r_G = 3.39155805 \times 10^{11}$ meters for the G-count of $(67 \times 36^{65}) = 9.68 \times 10^{102}$ spacetime quanta:
$m_{vHiggs-G} = m_{vtauon} = m_e.r_{ps}\{r_E/r_G\}/R_e = 5.392786657 \times 10^{-36}$ kg* or 3.021251097 eV* as Weak Interaction Higgs Mass Induction.

The mass difference for the Muon-Tauon-(Anti)Neutrino Oscillation
then defines the Mesonic Inner Ring Higgs Induction: …………..[Eq.XII-10]

$m_{vHiggs} = m_e.r_{ps}\{r_E/r_G - r_E/r_F\}/R_e = 9.3007461 \times 10^{-38}$ kg* or 0.05210643614 eV*
as the Basic Cosmic (Anti)Neutrino Mass.

This Higgs-Neutrino-Induction is 'twinned' meaning that this energy can be related to the energy of so termed 'slow- or thermal neutrons' in a coupled energy of so twice 0.0253 eV for a thermal equilibrium at so 20° Celsius and a rms-standard-speed of so 2200 m/s from the Maxwell statistical distributions for the kinematics.
The (anti)neutrino energy at the R_E nexus for $R_E = r_{ps}\sqrt[3]{(26 \times 65^{61})}$ m* and for
$m_{vHiggs-E} = m_{velectron} = \mu_o e^2 c^2.r_{ps}/4\pi R_e^2 c^2 = 30e^2\lambda_{ps}/2\pi c R_e^2$
or μ_o\{Monopole GUT masses $ec\}^2 r_{ps}/4\pi R_e^2 c^2 = 2.982198661 \times 10^{-3}$ eV* and for:

$m_{vElectron}c^2 = m_v(v_{Tauon}^2)c^2 = m_v(v_{Muon}^2 + v_{Higgs}^2)c^2 = \mu_o$\{Monopole GUT masses $ec\}^2 r_{ps}/4\pi R_e^2$ ..[Eq.XII-11]

This can also be written as $m_{vHiggs-E} = m_{velectron} = m_{vTauon}^2$ to define the 'squared' Higgs (Anti)Neutrino eigenstate from its templated form of the quantum geometry in the Unified Field of Quantum Relativity (UFoQR).
Subsequently, the Muon (Anti)Neutrino Higgs Induction mass becomes defined in the difference between the masses of the Tau-(Anti)Neutrino and the Higgs (Anti)Neutrino.

$m_{vTauon} = B^4 G^4 R^4[0] + B^2 G^2 R^2[-\frac{1}{2}] = B^6 G^6 R^6[-\frac{1}{2}] = \sqrt{(m_{velectron})} = \sqrt{(0.002982)} = 0.0546...$ eV*
$m_{vHiggs} = B^4 G^4 R^4[0] = m_e\lambda_{ps}.r_E\{1/r_G - 1/r_F\}/(2\pi R_e) \sim 9.301 \times 10^{-38}$ kg* or 0.0521... eV*
$m_{vMuon} = B^2 G^2 R^2[-\frac{1}{2}] = \sqrt{(m_{vTauon}^2 - m_{vHiggs}^2)} = \sqrt{(0.00298 - 0.00271)} = \sqrt{(0.00027)} = 0.0164...$ eV*
$m_{vElectron} = B^2 G^2 R^2[-\frac{1}{2}] = (m_{vTauon})^2 = (0.054607...)^2 = 0.002982...$ eV*

This energy self-state for the Electron (Anti)Neutrino then manifests in the Higgs Mass Induction at the Mesonic Inner Ring or IR as the squared mass differential between two (anti)neutrino self-states as: $(m_{v3} + m_{v2}).(m_{v3} - m_{v2}) = m_{v3}^2 - m_{v2}^2 = 0.002981...$ eV*^{2} to reflect the 'squared' energy self-state of the scalar Higgs (Anti)Neutrino as compared to the singlet energy eigen state of the base (anti)neutrinos for the 3 leptonic families of electron-positron and the muon-antimuon and the tauon-antitauon.

The Electron-(Anti)Neutrino is massless as base-neutrino weakon eigenstate and inducted at R_E at 0.00298 eV*.

The Muon-(Anti)Neutrino is also massless as base-neutrino weakon eigenstate and inducted at the Mesonic Ring F-Boundary at 2.969 eV* with an effective Higgsian mass induction of 0.0164 eV*.

All (anti)neutrinos gain mass energy however when they become decoupled from their host weakon; either a W^- for matter or a W^+ for antimatter. So as constituents of the weakon gauge for the weak interaction the electron- and muon (anti)neutrinos are their own antiparticles and so manifest their Majorana qualities in the weak interaction.

Once emitted into the energy-momentum spacetime however, the monopolar nature from a self-dual GUT/IIB monopole mass $[ec]_{uimd}$ or their energy $[ec^3=2.7 \times 10^{16}$ GeV*$]_{unifiedinmodularduality}$ manifests in their masses. The premise of the older Standard Model for a massless (anti)neutrino so remains valid for them in respect to their Majorana-coupling their lepton partners as the weakon agents in their quantum geometric templates; but is modified for 'free' (anti)neutrinos as Dirac particles.

The Tauon-(Anti)Neutrino is not massless with inertial eigenstate inducted at the Mesonic Ring G-Boundary at 3.021 eV* and averaged at 3.00 eV* as $\sqrt{(0.05212+0.01642)} = 0.0546$ eV* as the square root value of the ground state of the Higgs inertia induction. The neutrino flavour mechanism, based on the Electron (Anti)Neutrino so becomes identical in the Weakon Tauon-Electron-Neutrino oscillation to the Scalar Muon-Higgs-Neutrino oscillation.

The weakon kernel-eigenstates are 'squared' or doubled (2x2=2+2) in comparison with the gluonic-eigenstate (one can denote the colour charges as $(R^2G^2B^2)[\frac{1}{2}]$ and as $(RGB)[1]$ respectively say and with the [] bracket denoting gauge-spin and RGB meaning colours Red-Green-Blue).

The scalar Higgs-Anti(Neutrino) becomes then defined in: $(R^4G^4B^4)[0]$ and the Tauon Anti(Neutrino) in $(R^6G^6B^6)[\frac{1}{2}]$ in doubling of the singular $R^2G^2B^2$ inflexion points in the UfoQR for odd π Gravitational Interaction GI and even π Electromagnetic Interaction EMI. The GI points define BGR color charges, and the EMI points define RGB color charges for (anti)neutrino generation as a function of the 12 interwoven monopolar current loops (see diagram below).

The reason as to why no right-handed neutrinos and left-handed antineutrinos manifest in the UfoQR crystallizes in the distribution of the odd and even pi-nodes established in the base templates of the QBBS.

The Dark Matter agent of the RMP manifests in the 0° - 120°- 180°- 200° interval in the UfoQR and so includes an odd π GI monopolar current coordinate; whilst the Anti-RMP manifests in the 520° - 540° - 600° - 720° interval with 540° as $3\pi+\pi/6$ in between the odd π GI at 3π and the even π EMI at 4π.

The Anti-RMP as an Anti-Dark Matter agent is therefore suppressed in that the $B^2G^2R^2[-\frac{1}{2}]$ Majorana neutrino at 720° flipping into a $R^2G^2B^2[+\frac{1}{2}]$ Majorana Anti-neutrino at 600° but cannot then flip into a Majorana neutrino at the 540° nexus and remains as a Majorana Anti-neutrino at the 520° coordinate to suppress the manifestation of the Anti-RMP $M^2C^2Y^2[+1]$ as the spin induced form of the scalar Anti-Higgs Boson or Anti-HB $M^2C^2Y^2[0]$.

The right-handed $R^2G^2B^2[+\frac{1}{2}]$ Majorana Antineutrino so continues to the intersection monopolar current coordinate as the 2π-EMI 3-junction where it meets and merges with a left-handed Majorana Antineutrino which flipped from $R^2G^2B^2[+\frac{1}{2}]$ Majorana Antineutrino at 0° into a $B^2G^2R^2[-\frac{1}{2}]$ Majorana Neutrino at 120° before flipping its color charge permutation cyclicity from anticyclic $B^2G^2R^2$ to cyclic $R^2G^2B^2$ into a $R^2G^2B^2[-\frac{1}{2}]$ Majorana Antineutrino at 180° to complete its unified field Weak-Nuclear matter-antimatter interaction in conjunction with the manifested dark matter agency of the RMP[-1] to create the template for the Higgs Anti-neutrino $R^2G^2B^2[-\frac{1}{2}]+R^2G^2B^2[+\frac{1}{2}] = R^4G^4B^4[0]$.

The Unified Gauge Parameter Field of Quantum Relativity

Primary-Secondary-Tertiary Colour Triplets of the Chromaticity Unities in the UFoQR 1-2-3-4-5-6-7-8-9-10-11-12-13
Anticolours for 8 Gluon Permutations in Energy gravitational $E=mc^2$ for B(lack) and Energy radiative E=hf for W(hite)
R+C and O+A and Y+B and L+I and G+M and T+P and C+R and A+O and B+Y and I+L and M+G and P+T and R+C

Gluon RGB=(RG)B=YB=CR=MG=YB=CR=MG=RGB
for: {BBB;BBW;BWB;BWW;WBB;WBW;WWB;WWW} hyperonic triplets and {BB;BW;WB;WW} mesonic doublets

R(ed)-O(range)-Y(ellow)-L(ime)-G(reen)-T(urquoise)-C(yan)-A(quamarine)-B(lue)-I(ndigo)-M(agenta)-P(urple)-R(ed)

The 12 Junction-Loops of the Unified Field Natural Current Field in Quantum Relativity   Extent: $4\lambda_{ps}$ & Amplitude=$\lambda_{ps}/2\pi$
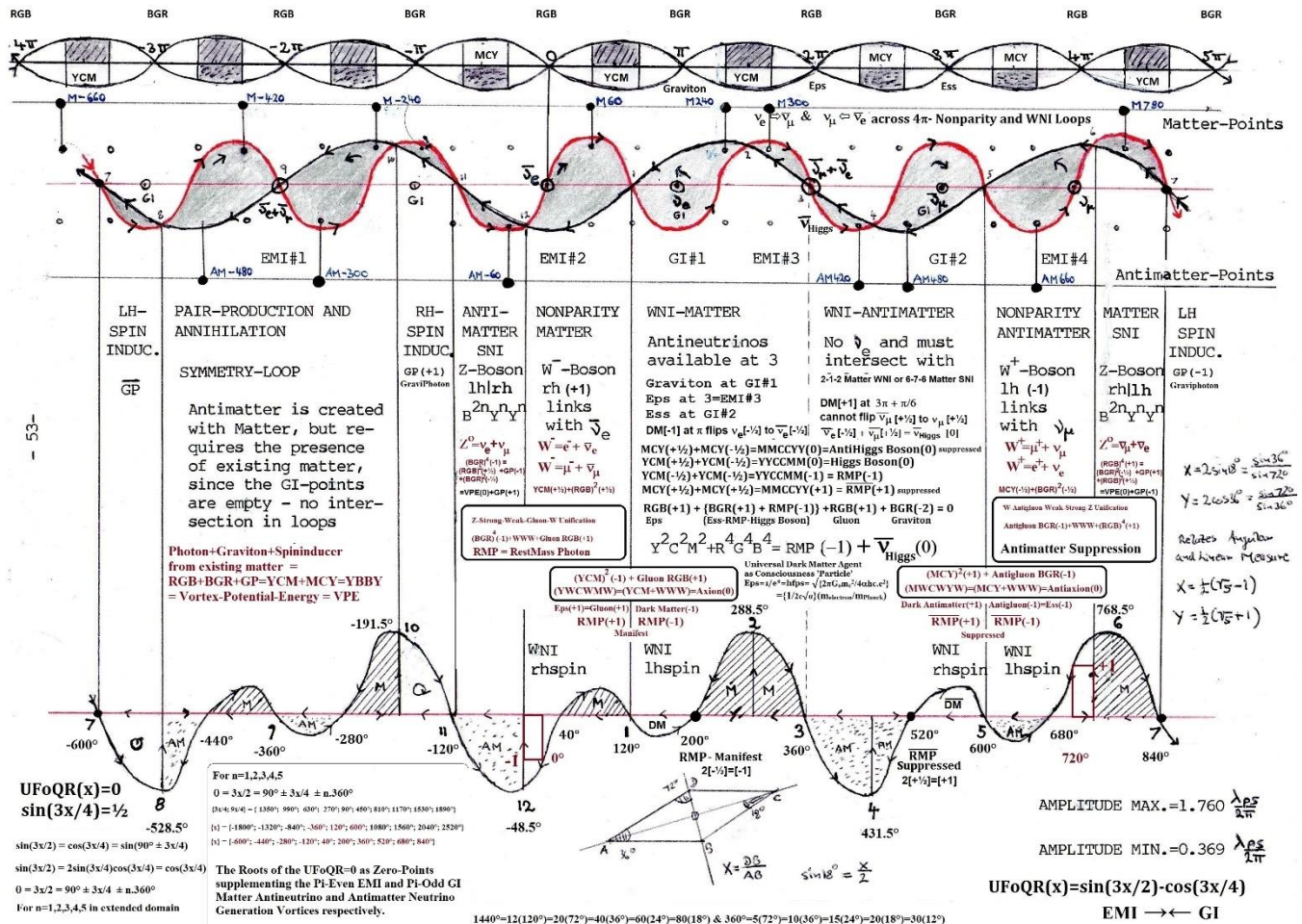
EM(M)I=ElectroMagnetic (Monopolic) Radiation Interaction = Unified Field of QR before spacetime creation
{Inflation to Quantum Big Bang} without Gravitational Interaction GI
Metaphysical Abstraction of Mathimatia Supersymmetry by Logos Definition in Radiation-Antiradiation Symmetry

Möbian-Klein Twosided 11D-Mirror SelfIntersection : | 0° .... 180° .... 360°=0°
RGB(+1)+RGB(-1) ⇒ RRGGBB(0) ⇒ YCM(0)+YCM(0) ⇒ BBGGRR(0)⇒ MCY(0)+MCY(0) ⇒ BGR(-1)+BGR(+1)

Eps=RGB(+1) at 0°--------------------Ess=RGB(-1) at 360°.............Eps=BGR(-1) at 180° Inflexion Ess=BGR(+1)
Ess=RGB(+1) at 0°--------------------Eps=RGB(+1) at 360°............Breaking of the metaphysical supersymmetry in quantum spin to allow the birth of the Graviton and matter-antimatter symmetry, suppressing however the matter-antimatter symmetry in the reformulation of antiradiation
[Encoded as the retracing of the 'steps of the creator' --Ezekiel.28.13-19; Isaiah.14.12-14]

Unified Field of QR in the 11D-Membrane Inflation, followed by a Quantum Big Bang of Relativistic Thermodynamic Cosmology
Physicalisation of the Metaphysical Precursor in an inherent Matter-Antimatter Asymmetry

Möbian-Klein Onesided 10D/12D-Mirror SelfIntersection as the Goldstone Boson Unification of all Interactions in the UFOQR:
RGB(+1)+BGR(+1)+RGB(+1)+BGR(-2)+YYCCMM(-1) = EMI Eps-Photon + WNI Ess-Antiphoton + SNI Gluon + Graviton + EMMR-RMP
⇒ MGGM(+2)+MGGM(-1)+YYCCMM(-1) = VPE(+2)+VPE(-1)+YYCCMM(-1) = VPE(+1)+YYCCMM(-1) = EMMR UFOQR Unification

The Ess-Anti-Photon(+1) is suppressed as Goldstone ambassador gauge in spin +1 by The SNI ambassador Gluon and is suppressed in colour charge BGR by the GI gauge ambassador Graviton. The birth of the Graviton demands a net spin of +1 of the Vortex-Potential Energy or VPE/ZPE to become neutralized by the fifth gauge ambassador of the RMP with spin -1 as the gauge ambassador and Goldstone Boson as the primal gauge ambassador for the consciousness energy interaction encompassing all particular constituents in the Unified Field of Quantum Relativity.

Council of Thuban, Saturday, August 15th, 2015

The 'missing' left-handed Anti-neutrino so is integrated or absorbed by the scalar or sterile Higgs Anti-neutrino with a natural suppression of the scalar or sterile Higgs neutrino by the not manifested RMP[+1] and Anti-HB[0] templates in the UfoQR.

$R^2G^2B^2[+\frac{1}{2}]-\pi\rightarrow B^2G^2R^2[-\frac{1}{2}]-\pi\rightarrow R^4G^4B^4[0]\leftarrow\pi-R^2G^2B^2[+\frac{1}{2}]\leftarrow\pi-B^2G^2R^2[-\frac{1}{2}]$ across a 4π interval.

The scalar Higgs-Anti(Neutrino) then is defined in $(R^4G^4B^4)[0]$
and the Tauon Anti(Neutrino) in $(R^6G^6B^6)[\frac{1}{2}]$.

The twinned neutrino state so becomes apparent in a coupling of the scalar Higgs-Neutrino with a massless base neutrino in a $(R^6G^6B^6)[0+\frac{1}{2}])$ mass-induction template.

The Higgs-Neutrino is bosonic and so not subject to the Pauli Exclusion Principle; but quantized in the form of the FG-differential of the 0.0521 Higgs-Restmass Induction.
Subsequently all experimentally observed neutrino-oscillations should show a stepwise energy induction in units of the Higgs-neutrino mass of 0.0521 eV.
This was the case in the Super-Kamiokande experiments; and which was interpreted as a mass-differential between the muonic and tauonic neutrino forms.

$m_{vHiggs} + m_{velectron} = m_{vHiggs} + (m_{vTauon})^2$ for the 'squared' ground state of a massless base (anti)neutrino for a perturbation Higgsian (anti)neutrino in $(m_{vTauon})^2 = (m_{vHiggs} + \Delta)^2 = m_{vElectron}$ for a quadratic $m_{vHiggs}^2 + 2m_{vHiggs}\Delta + \Delta^2 = 0.002982$ from $(m_{vHiggs} + \Delta) = \sqrt{(m_{velectron})}$
and for a $\Delta = \sqrt{(m_{velectron})} - m_{vHiggs} = m_{vTauon} - m_{vHiggs} = 0.0546$ eV - 0.0521 eV = 0.0025 eV.
$m_{vHiggs} + \Delta = 0.0521 + 0.0025 = (m_{vHiggs}) + (m_{velectron}) - 0.00048 = m_{vtauon} = 0.0521 + 0.00298 - 0.00048 +$
... $= 0.0546$ eV* as a perturbation expression for the 'squared' scalar Higgs (Anti)Neutrino.
$(m_{vMuon} - m_{vElectron})\{(m_{vMuon} + m_{vElectron}) - (m_{vMuon} - m_{vElectron})\} = 2m_{vElectron}(m_{vMuon} - m_{vElectron})$ as the squared mass difference: $m_{vMuon}^2 - m_{vElectron}^2 = 2m_{vElectron}(m_{vMuon} - m_{vElectron}) + (m_{vMuon} - m_{vElectron})^2$
and for $m_{vMuon}^2 = m_{vElectron} - m_{vHiggs}^2 = (0.002982 - 0.00271 = 0.00027)$
for $\sqrt{(0.00027)} = m_{vMuon} = 0.01643 = 5.51 \, m_{vElectron}$.

$\{m_{vMuon}^2 - m_{vElectron}^2\} - m_{vMuon}^2 + 2m_{vMuon}m_{vElectron} - m_{vElectron}^2 = 2m_{vMuon}m_{vElectron} - 2m_{vElectron}^2$
$= 2m_{vElectron}\{m_{vMuon} - m_{vElectron}\}$
$= 2mv_{Electron}^2\{m_{vMuon}/m_{vElectron} - 1\} = 8.892 \times 10^{-6}\{11.02-1\} = 8.910 \times 10^{-5}$, approximating the KamLAND 2005 neutrino mass induction value of $7.997..\times 10^{-5}$ eV^2 obtained for a ratio of $11m_{vElectron} = 2m_{vMuon}$.
For 3 (anti)neutrinos then, the cosmological summation lower and upper bounds for (anti)neutrino oscillations are: $0 + m_{velectron-muon} + m_{velectron-tauon} + m_{vmuon-tauon} = 3(0.002982) = 0.00895$ eV* or 0.00893 eV [SI] and $3(0.0030+0.0546) = 3(0.0576) = 0.1728$ eV* or 0.1724 eV [SI] respectively.
Inclusion of the scalar Higgs (anti)neutrino as a fourth (anti)neutrino inertial self-state extends this upper boundary by 0.0521 eV* and 0.0520 eV to 0.2249 eV* or 0.2243 eV [SI].

$\sum m_v = m_{vElectron} + m_{vMuon} + m_{vHiggs} + m_{vTauon} = 0.00298..+ 0.0164..+ 0.0521..+ 0.0546.. = 0.1261$ eV*

In terms of the Higgs Mass Induction and so their inertial states, the Neutrinos are their own antiparticles and then Majorana defined; but in terms of their basic magneto charged nature within the Unified Filed of Quantum Relativity, the Neutrinos are different from their Antineutrino antiparticles in their Dirac definition of $R^2G^2B^2[+\frac{1}{2}]$ for the Antineutrinos and in $B^2G^2R^2[-\frac{1}{2}]$ for the Neutrinos.

$mv_{Higgs} = m_e\lambda_w.r_E/(2\pi r_M R_e)\{1/r_G - 1/r_F\} \sim 9.3\times10^{-38}$ kg or 0.052 eV for a scalar blueprint

$Antiv_{Higgs} = R^4G^4B^4[0]$ with anti-state $v_{Higgs} = B^4G^4R^4[0]$ and coupling as the Tauon (Anti) Neutrino as

$Antiv_{tauon} = R^2G^2B^2[+\frac{1}{2}] + R^4G^4B^4[0] = R^6G^6B^6[+\frac{1}{2}] = Antiv_{electron} + Antiv_{Higgs}$

and $v_{tauon} = B^2G^2R^2[-\frac{1}{2}] + B^4G^4R^4[0] = B^6G^6R^6[-\frac{1}{2}] = v_{electron} + v_{Higgs}$

Neutron ⇨ Proton + Electron + Electron AntiNeutrino

Basic Neutron Beta-Minus Decay: $n^o[-\frac{1}{2}] \Rightarrow p^+[-\frac{1}{2}] + e^-[-\frac{1}{2}] + \bar{v}_e[+\frac{1}{2}]$

$d[-\frac{1}{2}]u[+\frac{1}{2}]d[-\frac{1}{2}]$(stable in nucleus)$\Rightarrow u[+\frac{1}{2}]d[-\frac{1}{2}]d[-\frac{1}{2}]$ (free) $\Rightarrow u[+\frac{1}{2}]d[-\frac{1}{2}]d*[-\frac{1}{2}]$ (IR-OR Oscillation)
$\Rightarrow u[+\frac{1}{2}]d[-\frac{1}{2}](u[-\frac{1}{2}].W^-[+1].GP[-1]) \Rightarrow u[-\frac{1}{2}]d[+\frac{1}{2}]u[-\frac{1}{2}]+e^-[-\frac{1}{2}]+\bar{v}_e[+\frac{1}{2}] \Rightarrow udu[-\frac{1}{2}]+$electron-OR$[-\frac{1}{2}]+\bar{v}_e[+\frac{1}{2}]$

Muon ⇨ Electron + Electron AntiNeutrino + Muon Neutrino

Basic Muon Weak Decay: $\mu^-[-\frac{1}{2}] \Rightarrow e^-[-\frac{1}{2}] + \bar{v}_e[+\frac{1}{2}] + v_\mu[-\frac{1}{2}]$

OR$^-[-\frac{1}{2}]$ (free)$\Rightarrow$ OR$^-[-\frac{1}{2}]$ (KKK-OR Oscillation) $\Rightarrow (v_\mu.OR)^-[-\frac{1}{2}]).(W^-[+1].GP[-1]) \Rightarrow e^-[-\frac{1}{2}] + v_e[+\frac{1}{2}] + v_\mu[-\frac{1}{2}]$

Only lefthanded matter particles and only righthanded antimatter particles participate in the Weak Nuclear Interaction in a fundamental Nonparity between Matter and Antimatter and as a consequence of the magnetocharged gauge interaction particles suppressing any naturally occuring antimatter in a inflationary and 'Big Bang prior' radiation-antiradiation grand symmetry 'Goldstone Boson' superstring unification:
RGB/SourceSink Photon(+1)+{BGR/SinkSource Photon(+1)+RestMass Photon(-1)}+RGB/Gluon(+1) +BGR/Graviton(-2)=0
and in coupling to the templates for Matter YCM and Antimatter MCY.

The suppressed SinkSource Photon (Devil/AntiGod Particle) with the 'Dark Matter/Energy Particle' descriptive in the definition of Consciousness/Space Awareness transforms into a Scalar Higgs Gauge Boson to form a recreated Supersymmetry in the Unified Field of Quantum Relativity or UFoQR.
The Gauge Photon RGB(+1) can also be described in the high energy vibratory part Eps of the supermembrane EpsEss with the Gauge Photon BGR(+1) its low energy winded conjugative part Ess.

The Scalar Higgs AntiNeutrino $(RGB)^4[0] + (RGB)^2[+\frac{1}{2}]$ creates the Tau AntiNeutrino $\bar{v}_\tau[+\frac{1}{2}]$ in Leptonic Energy Resonance.
The Scalar Higgs Neutrino $(BGR)^4[0] + (BGR)^2[-\frac{1}{2}]$ creates the Tau Neutrino $v_\tau[-\frac{1}{2}]$ in Anti-Leptonic Energy Resonance.

Quantum Spin Conservation in Photon-Matter Interaction via Dark Matter agency of the Higgs Boson HB+RMP Superposition

HB+AntiRMP superposition: YCM[0]+MCY[+1]
AntiHB+RMP superposition: MCY[0]+YCM[-1]

Unified Field Dark Matter Agency 2x{YYCCMM[0-1] + MMCCYY[0+1]} = 2x{BBYY}[0]
Via Gravitational Interaction from 5D-Kaluza Klein Graviton-Graviphoton-Graviscalalar spacetime

Pair-Production
High Energy Photon $\gamma[+1]$(no colour charge) + AntiHB[0](MCY)RMP[-1](YCM) $\Rightarrow$ (BBYY)[0] $\Rightarrow$ YCM$[-\frac{1}{2}]$ + MCY$[+\frac{1}{2}]$
High Energy Photon $\gamma[-1]$(no colour charge) + HB[0](YCM)AntiRMP[+1](MCY) $\Rightarrow$ (BBYY)[0] $\Rightarrow$ YCM$[-\frac{1}{2}]$ + MCY$[+\frac{1}{2}]$
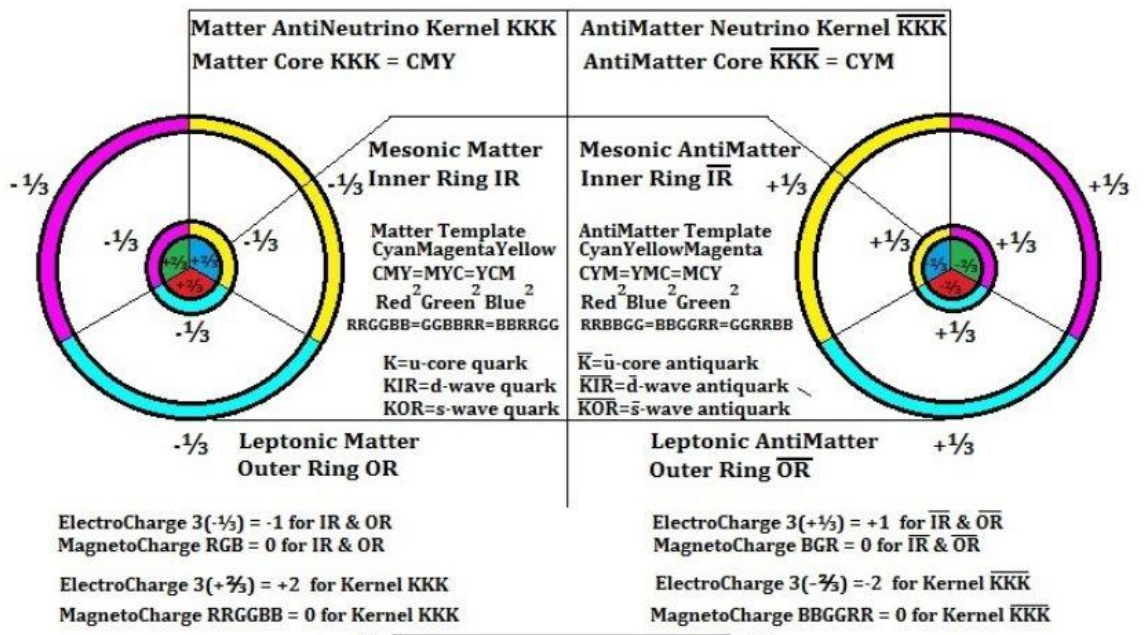
Photon Emission from Atomic Electron Emission/Transmission

Electron YCM$[+\frac{1}{2}]$ + Graviphoton[-1] $\Rightarrow$ Electron YCM$[+\frac{1}{2}]$ + γ[-1]
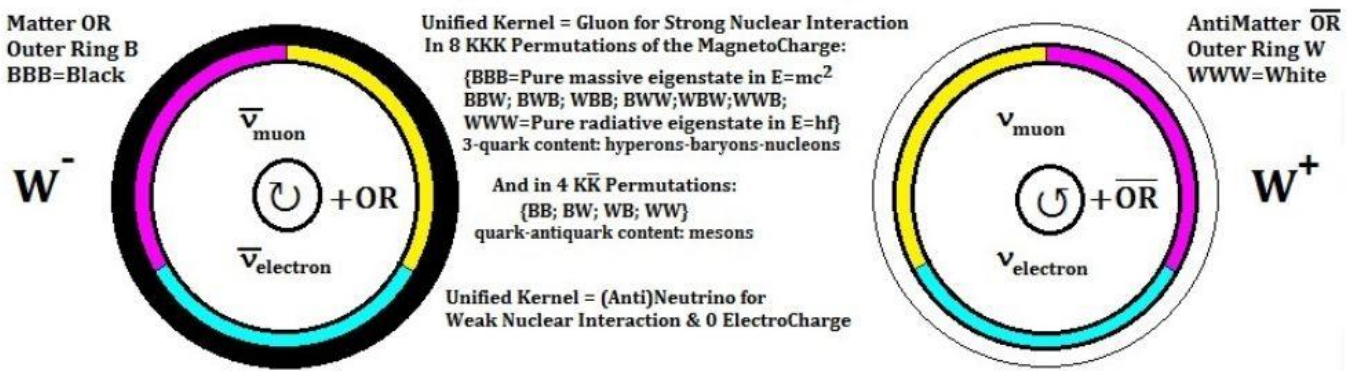Electron YCM$[-\frac{1}{2}]$ + Graviphoton[+1] $\Rightarrow$ Electron YCM$[-\frac{1}{2}]$ + γ[+1]

The Universal Quantum Geometric Matter-AntiMatter Template

Matter AntiNeutrino Kernel KKK

Matter Core KKK = CMY

AntiMatter Neutrino Kernel $\overline{KKK}$

AntiMatter Core $\overline{KKK}$ = CYM

$-\frac{1}{3}$ $-\frac{1}{3}$ **Mesonic Matter**
Inner Ring IR

Mesonic AntiMatter
Inner Ring $\overline{IR}$ $+\frac{1}{3}$ $+\frac{1}{3}$

$-\frac{1}{3}$ $-\frac{1}{3}$ **Matter Template**
CyanMagentaYellow
CMY=MYC=YCM
$Red^2 Green^2 Blue^2$
RRGGBB=GGBBRR=BBRRGG

AntiMatter Template
CyanYellowMagenta
CYM=YMC=MCY
$Red^2 Blue^2 Green^2$
RRBBGG=BBGGRR=GGRRBB $+\frac{1}{3}$ $+\frac{1}{3}$

$-\frac{1}{3}$

K=u-core quark
KIR=d-wave quark
KOR=s-wave quark

$\overline{K}$=$\overline{u}$-core antiquark
$\overline{KIR}$=$\overline{d}$-wave antiquark
$\overline{KOR}$=$\overline{s}$-wave antiquark

$+\frac{1}{3}$

$-\frac{1}{3}$ **Leptonic Matter**
Outer Ring OR

Leptonic AntiMatter
Outer Ring $\overline{OR}$ $+\frac{1}{3}$

ElectroCharge 3($-\frac{1}{3}$) = -1 for IR & OR
MagnetoCharge RGB = 0 for IR & OR

ElectroCharge 3($+\frac{2}{3}$) = +2 for Kernel KKK
MagnetoCharge RRGGBB = 0 for Kernel KKK

ElectroCharge 3($+\frac{1}{3}$) = +1 for $\overline{IR}$ & $\overline{OR}$
MagnetoCharge BGR = 0 for $\overline{IR}$ & $\overline{OR}$

ElectroCharge 3($-\frac{2}{3}$) = -2 for Kernel $\overline{KKK}$
MagnetoCharge BBGGRR = 0 for Kernel $\overline{KKK}$

MagnetoCharge = ColourCharge = GluonCharge

Matter OR
Outer Ring B
BBB=Black

Unified Kernel = Gluon for Strong Nuclear Interaction
In 8 KKK Permutations of the MagnetoCharge:

{BBB=Pure massive eigenstate in $E=mc^2$
BBW; BWB; WBB; BWW;WBW;WWB;
WWW=Pure radiative eigenstate in E=hf}
3-quark content: hyperons-baryons-nucleons

And in 4 $K\overline{K}$ Permutations:
{BB; BW; WB; WW}
quark-antiquark content: mesons

Unified Kernel = (Anti)Neutrino for
Weak Nuclear Interaction & 0 ElectroCharge

AntiMatter $\overline{OR}$
Outer Ring W
WWW=White

$\overline{\nu}_{muon}$

$+OR$

$\overline{\nu}_{electron}$

W$^-$

ν_{muon}

$+\overline{OR}$

$\nu_{electron}$

W$^+$

Matter Weakon W-minus   [+]   [-]   **AntiMatter Weakon W-plus**

Clockwise
Righthand

Anticlockwise
Lefthand

ElectroCharge -1 for OR

Muon μ^- or Electron e$^-$

MagnetoCharge = 0 for AntiNeutrino Core

Quantum Spin

ElectroCharge +1 for $\overline{OR}$

AntiMuon μ^+or Positron e$^+$

MagnetoCharge = 0 for Neutrino Kernel

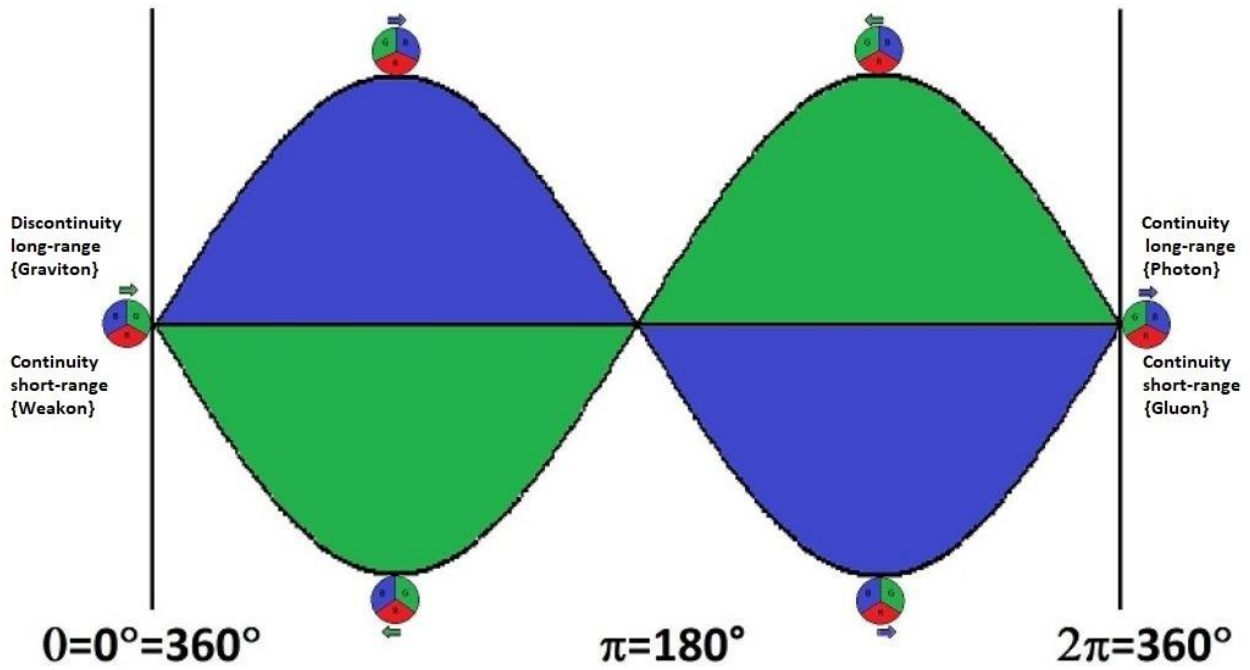$e^- + \overline{\nu}_{electron} = W^-[+1] = \mu^- + \overline{\nu}_{muon}$

Vortex-Potential-Energy
VPE = ZPE
OR-Flip
+ $\overline{OR}$-Flip
(Core +OR)VPE
YCM+YMC=(CM=B)YY(B=MC)
BYYB=GMMG=RCCR
YBBY=CRRC=MGGM
RGB+RBG=(GB=C)RR(C=BG)

$e^+ + \nu_{electron} = W^+[-1] = \mu^+ + \nu_{muon}$

OR-Flip = $W^-[+1] + \circlearrowleft[-1]$

GraviPhoton

$\overline{OR}$-Flip = $W^+[-1] + \circlearrowleft[+1]$

GraviPhoton

$0=0°=360°$ $\pi=180°$ $2\pi=360°$

Discontinuity long-range {Graviton}

Continuity short-range {Weakon}

Continuity long-range {Photon}

Continuity short-range {Gluon}

Abba Mirror
Eps=Energy Primary SourceSink
{God CreatorCreation}

Inflexion Nexus

Baab Mirror
**Ess=Energy Secondary SinkSource**
{AntiGod-Satan CreationCreator}

Father White Hole Energy Source-Sink
Universal 12D-11D-Supermembrane
Vibratory High Frequency fps = 1/fss

Creation Quantum Big Bang Wormhole
Weyl-Frequency 3×10^{30} Hertz

Mother Black Hole Energy Sink-Source
Universal 10D-11D-Supermembrane
Winding Low Frequency fss = 1/fps

Creation Quantum Big Bang Anti-Wormhole
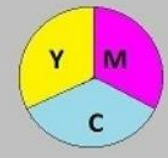Mass-Eigen-Frequency $3.33...\times10^{-31}$ Hertz

Abba-Eps Photon{+1} long
EMI: Monopolar EMR
SNI: Gluon{+1} short

Baab-Ess Photon{+1} short
Monopolar Anti-EMR
Suppressed Anti-Radiation
GI: Graviton{-2} long
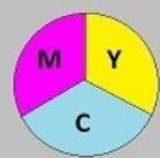
Matter Template {±½}
Basic Nucleon-Neutron
YCM=CMY=MYC=YCM
Cyclic Permutative

Anti-Matter Template {±½}
Basic Anti-Nucleon Anti-Neutron
MCY=CYM=YMC=MCY
Anticyclic Permutative

Anti-Neutrino Template {+½}
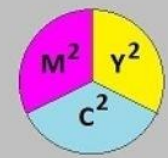(RR)(GG)(BB)=(GG)(BB)(RR)=...
Cyclic Permutative
W-minus Matter Weakon {+1}
= YCM{+½} + (RR)(GG)(BB){+½}
WNI: Weakon{+1} short

Neutrino-Template {-½}
(BB)(GG)(RR)=(GG)(RR)(BB)=...
Anticyclic Permutative
W-plus Anti-Matter Weakon{-1}
= MCY{-½} + (BB)(GG)(RR){-½}
WNI: Weakon{-1} short
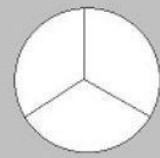
Graviphoton GP{-1} short
Dark Matter Template
QGI: Quantum Gravity short

Higgs Boson HB{0} short
RestMass Photon RMP{-1}
Universal Consciousness Agent

The Creation of the Graviton in the Unified Field Of Quantum Relativity
Quantum Gravity emerges from the Conservation of Gauge Supersymmetry of SourceSink
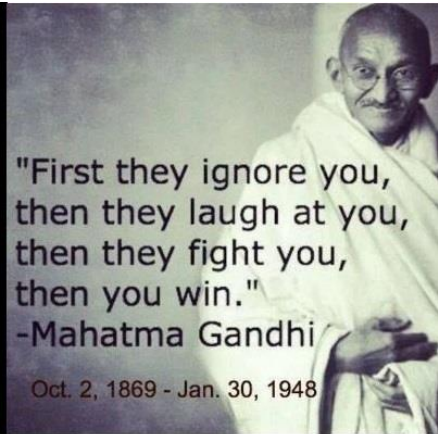Energy, of Colour Charges and Quantum Spin from Templates of a Quantum Geometry

{Encoded and decoded from Ezekiel.28.13-19 with Isaiah.14.13-14 - masoretic texts}
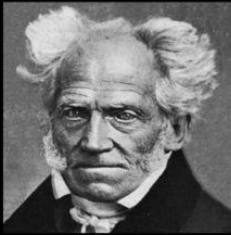
All truth passes through three stages:

1. First, it is ridiculed.
2. Second, it is violently opposed.
3. Third, it is accepted as being self-evident.

~ Arthur Schopenhauer (1788 – 1860)

"First they ignore you, then they laugh at you, then they fight you, then you win."
-Mahatma Gandhi

Oct. 2, 1869 - Jan. 30, 1948

Kuhn Cycle

PARADIGM CHANGE

New paradigm replaces the old and becomes the new normal

MODEL REVOLUTION

Serious candidates for new paradigms emerge; radically different form old version

ESTABLISHED PARADIGMS

Scientifically based model(s) of understanding (e.g., established paradigms)

MODEL CRISIS

No longer a reliable guide; field does not understand what is happening

MODEL DRIFT

Accumulation of anomalies unpredicted by the model

January 16th, 2022