VIII: Mathimatia C: Galaxy Evolution, Dark Energy and Dark Matter Halos as Physicalized Universal Consciousness

The Instanton had expanded from its size of the Weyl wormhole to the size of googol E encompassing 1.006..x10^{112} E_{ps}-Abba quanta of creation in $R_E = r_{ps}\sqrt[3]{E} = 3.4357x10^{14}$ m*. It had taken 13.25 light days to do so and the temperature of Universe had been $T_E(n_E)^4 = \{[n_E+1]^2/n_E^3\}H_o^3M_o/(1100\pi^2\sigma) = 18.1995\{[n_E+1]^2/n_E^3\}$ (K^4/V)* for $T_E = 1.163x10^9$ K* for $n_E=2.150x10^{-12}$.

As a Black Hole hypermass equivalence in the lower dimensional spacetime of Universe, the Hawking Modulus HM specifies curvature radius R_E in a Temperature $T_E = HM/M_{Ehyper}$ for $M_{Ehyper} = hc^3/4\pi G_o k T_E = 7.852x10^{14}$ kg* for a curvature radius $R_{EBH} = 2G_oM_{Ehyper}/c^2 = 1.939x10^{12}$ m*.

Klein's 4-dimensional hyperspace therefore encompassed the 3-dimensional line space in the quantum thermodynamic mechanical evolution of Black Holes from the Instanton to the Inflaton and the Hubble event horizon of the Mother Black Hole $M_H = R_Hc^2/2G_o$.

In particular, the evolution of hypermass from the Instanton's quantum mass had been required to superpose Klein's higher dimensional and positively curved spheroidal spacetime onto its lower dimensional hyperbolic and negatively curved spacetime.

The Mathimatia so defined a boundary condition on the Black Hole evolution and based on the definition of physical consciousness and the magneto charge as Abba's 'Quantum of Universal Love' and so the Eps-gauge photon.

As magneto charge $e^* = 1/hf_{ps}$ in the units of the Star Coulomb could be written as $[C^*] = \{m^3/s^2]^*$ the Gravitational parameter GM in the same units $[Nm^2/kg^2].[kg] = [m^3/s^2]$ could be used for the purpose to relate the volume occupied by a Black Hole to the ubiquitous nature of physical consciousness as permeating spacetime itself.

Logos so utilized the algorithmic foundation of the Mathimatia in the Fibonacci sequence and the Euler Identity.
The FRB or Functional-Riemann-Bound in Quantum Relativity is basic to the pentagonal string/brane symmetries and is defined in the renormalization of a wavefunction B(n) = (2e/hA).exp(-alpha.T(n)), exactly about the roots X, Y, which are specified in the unifying condition of the Euler Identity:

$XY = X+Y = i^2 = -1 = \cos(\pi)+i\sin(\pi) = e^{i\pi}$

X = ½(√5-1) = 0.618033..... and Y = -(X+1) = -½(√5+1) = -1.618033...
-X(X-1) = 0.236067... in analogue to X(X+1) = 1= T(n) and $XY = X+Y = -1 = i^2$ as the complex origin.

The Cosmic Wavefunction is the following Differential Equation:

dB/dT + αB(n) = 0; α being the Electromagnetic Finestructure as the probability of light-matter interaction (~1/137).

This has a solution: **$B(n) = B_o.exp[-\alpha.T(n)]$; $B_o=2e/hA$** from QR boundary conditions defining:

T(n)=n(n+1) as the Feynman Path-Summation of particular histories under the pentagonal supersymmetry given in the (Euler) identity:

XY = X+Y = -1 = i^2 = exp[iπ] and for the limiting condition: lim [n→X]{T(n)} = 1

This allows the Normalization of the $]Y]^2$ wave function to sum to unity in B(n)=(2e/hA).exp[α.n(n 1)] with Functional Riemann Bound FRB=-1/2, centered on the interval [Y,...-1,...-X,...1/2,...(X-1),...0,...X].

Interval [Y,-1] sets F-Space; interval [-1,0] sets M-Space with uncertainty interval [-X,(X-1)] and interval [0,n) sets the C-Space, encompassing Omni-Space.

n<0 is imaginary as real reflection of real n>0 of the C-Space, metrically defined at the coordinate n=0 mapping $n=n_{ps}$, which is the instanton $t_{ps}=f_{ss}=1/f_{ps}$.

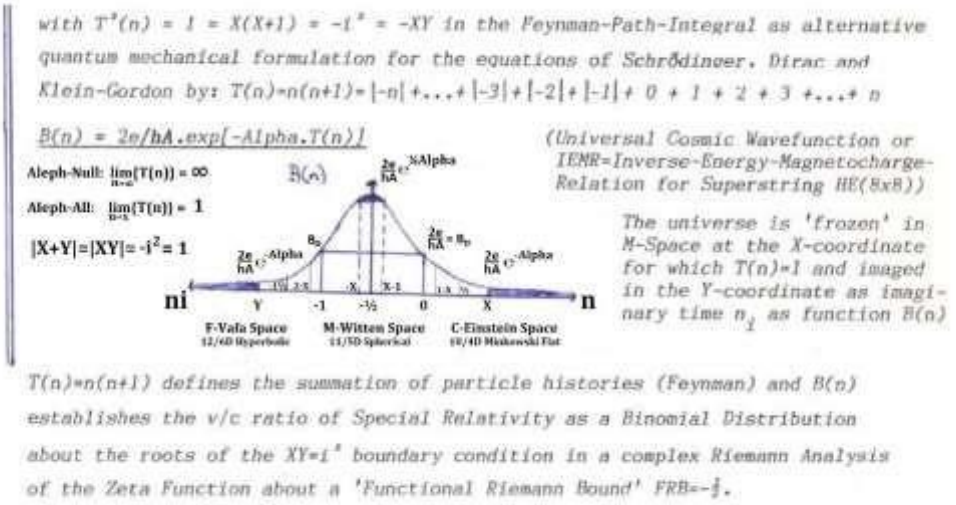
Cycle time n is defined in GR as dimensionless Tau(τ)-Time in curvature radius $R_C=c.dt/d\tau$ for the pathlength of x=ct and become $dn/dt=H_o$, $n=H_ot$ in QR, with H_o the nodal Hubble Constant defined in $c=H_oR_{max}=\lambda_{ps}.f_{ps}$.

The Feynman Path so sums both negative and positive integers as: -n.....-3...-2...-1...0...1...2...3.....n =T(n) in absolute value to double the infinities as the entropy reversal of light path x=c.t=(-c)(-t) in the Möbius Property of the 4 worlds as outlined in the 13 dimensions of the time connectors.

Cantor Cardinality Aleph-Null is thus Unitized in Aleph-All, counting infinities as if they were integers of the Feynman Path.
This allows the Feynman interpretation of Quantum Mechanics as alternative to the formulations of Schrödinger (fermionic 1/2 spin) and Klein-Gordon (bosonic integral spin) as time independent and time dependent (free particle form inconsistent with SR in Schrödinger in 1st order t & 2nd order x), formulations respectively.

The units of B(n) are 1/J, that is Inverse Energy, with A^2 an algorithmic constant defining Current-Squared and 2e/h the Josephson Constant in Amperes/Joules.

B(n) as the universal cosmic wavefunction describes the universe as a potentially infinite collection of 'frozen' wormhole eigenstates at n=0.
The time instanton 'unfreezes' one such eigenstate and activates the protoverse as described elsewhere in this message cluster.
This then allows the 'Mappings' of the C-Space 'real time n>0' from the F-Space of the 'imaginary time n<-1' under utility of the M-Space interval as 'mirror-space'.



A new physical quantity in 'awareness' is defined as the time differential of frequency and allows the concept of 'consciousness' to be born from the defining qualities of magneto charges. Electro magneto-monopolar 'Life' derives as consequence of self-inductions of quantum geometric entities, specified from super membranes, macro-crystallized in electropolar self capacitances and magnetopolar self-inductances, subsequently becoming subject to mutual cross inductances. The purpose of the superbranial self-replication on ever increasing scales, and until modular duality is reached in minmax boundary conditions; is to establish the multiversal nesting of the smallest within the largest - a process which constituted the beginnings of it all in the 'naked singularity' becoming defined as the Genesis BOSON.

Logos then fine structured the gravitational parameter in the absolute value of |XY|=|-1|= 1 in the formulation $G_oX^n.M_oY^n$ = constant = G(n).M(n) = G_oM_o.

The quantum gravitational mass $M_{hyper} = ½\{R_{ps}/L_p\}^2$. m_{ps} then could evolve as $M_{hyper}.Y^n = M_H$ in cycle time $n=H_ot$ and in the form of the Black Hole masses or equivalently in the form of the wormhole radius R_{ps} expanding to the size of the Hubble event horizon $R_H=2G_oM_H/c_2$ as the Inflaton boundary in the higher dimensional spacetime.

Solving for the completion of the protoverse in n-cyclicity then gives $n = \ln\{M_H/M_{hyper}\}/\ln Y = \ln\{R_H/R_{ps}\}/\ln Y = \ln\{1.47325..x10^{25}\}/\ln\{1.618034\} = 234.471..$ and indicating that 234.471 half-oscillations of the Hubble parameter between its minimum Instanton node and its maximum Inflaton node would be required to expand the wormhole radius of the Instanton and hypermass M_{hyper} to the Hubble event horizon as the 11-dimensional boundary of Klein.

As one-half cycle of the 'Heartbeat of Mother Universe' requires $1/H_o = R_H/c = 5.32558..x10^{17}$ s* or so 16.876 Billion years; the evolution of the protoverse as the seed for phase shifted multiverses within the Omniverse would take $234.471x16.876 = 3.957x10^{12}$ years.

After about 4 Trillion years then, the protoverse would quantum tunnel into the next iteration of its Mathimatia definition and a second universe which would have been created by a resetting of the initializing parameters of its precursive first universe or protoverse.

And so the second Inflaton became triggered when the light path of the first universe had reached the Hubble node of the first Inflaton 16.876 Billion years from the beginning of the protoverse.

After trillions of years the first evolution of the mass seed in Universe would have exhausted the transmutation of the elements in the birth and death of stars and galaxies and the Omniverse would require a 'recharging' of the mass seed from the VPE as the energy reservoir of Abba in the physical cosmology.
As universal energy quantum of potential physical manifestation from nowhere in notime this potential energy remains unlimited and the Omniverse in spacetime cannot exhaust its VPE from which the physicalized energy emerges.

At the Inflaton boundary, the 11-dimensional light path in the invariant light speed parameter 'c' in the higher dimensional universe had been both refracted into the 11th dimension, creating new spacetime in the second universe as a multiverse and it had been reflected back into the lower dimensional spacetime as an EMR-EMMR coupled parameter in a 'deja vu' visitation of the 10dimensional spacetime.

This 'return of the light' would self-intersect the expansion of Universe and define particular values for the comoving reference frame for bilocated cosmic or universal observers, one at the origin of the Instanton and the other comoving with the 10-dimenmsional boundary of the Instanton as the image of the Inflaton event horizon.
Particular cosmological redshift corrections would have to be applied to account for this self-intersection of the multidimensional light path to avoid the measurement of this light path as a relative blueshift of approach to be considered a redshift of recession and to presume an accelerating universe apart from the natural acceleration caused by the Dark Energy from Khaibit in balancing the natural Milgröm deceleration of the cosmogenesis with the gravitational pressure of the baryon seed M_o.

M_o so evolves as the luminous or baryon matter seed from the baryon part of M_H defined in $\Omega_o=M_o/M_H = 0.02803$ from the Instanton.
At the beginning, 2.8% of Universe's mass content was baryonic-luminous and would increase as a function of M_oY^n until the Instanton in an 'open' 10-D spacetime of 'de Sitter' dS would intersect the 'closed' 11-D spacetime of 'Anti-de Sitter' AdS for a n-cycle coordinate $n_{DM\cap BM} = \sqrt{2}$ and when the return of the EMR-EMMR light path would be imaged in the n=0.58578... coordinate specifying the forward journey of the light path from the Instanton 9.894 Billion years from the time of the birth of the physicalized universe.
The baryon seed would then constitute 5.536% of the total mass energy and remain constant at that value.
The Baryon Matter BM would so be embedded in the Dark Matter DM and both would be encompassed by the Dark Energy DE in terms of the mass energy of Universe.

Now it would require a precise half cycle for the Hubble oscillation to calibrate the lower 10Dexpansion with the higher 11D-expansion of the light path in the scale factor $R(n=½) = R_H\{n/(n+1)\} = ⅓ R_H$ for a full cycle of n=1 for the 11-dimensional invariant light path speed to reach the Hubble event horizon in $R(1) = R_H\{1/(1+1)\} = ½R_H$.

The gravitationally decelerating universe had expanded to a size 1/27th of the volume of Universe as a Mother Black Hole at a cycle time 0f 8.438 Billion years, when the DE began to appear as an inertia associated parameter in Universe.
It was at this n-cycle coordinate, that the Dark Energy became initiated as a function of mass seed M_o , which as a potential energy form of the VPE/ZPE, had been awaiting light path 'c' to 'illuminate' or to trigger this potentiality.
Until that time the DM component had made up the difference to the BM in BM+DM = 1. The DE in the de Sitter spacetime had been 0 as a function of mass, but it had been and continued to be the balance between the dynamics of the gravitational baryon mass seed and the inherent cosmological Milgröm deceleration as a quintessence.

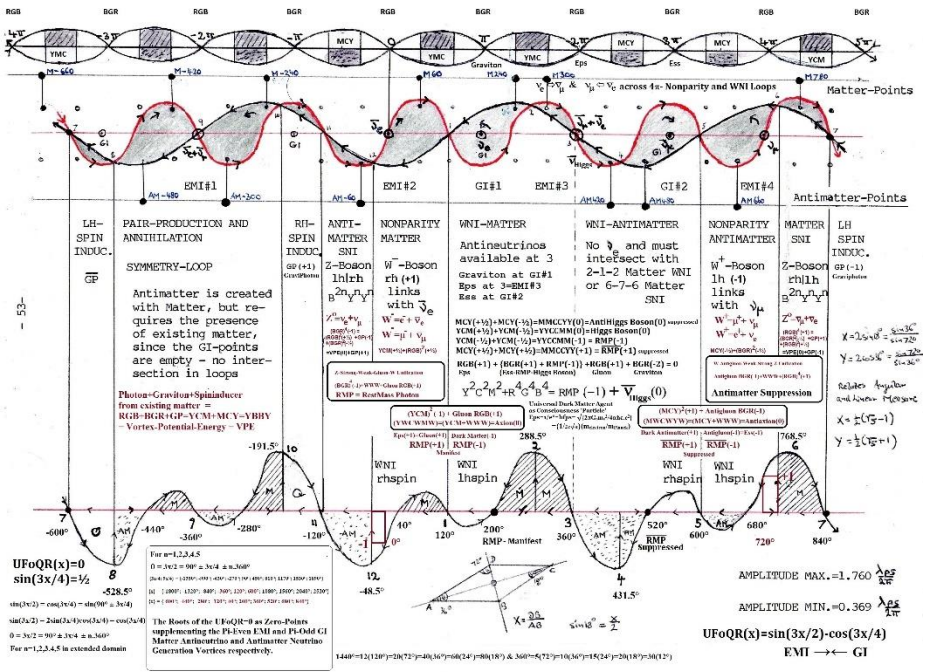
The Unified Gauge Parameter Field of Quantum Relativity

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 : 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

Quarkian Hierarchies in the Unified Field of Quantum Relativity

Operator A{u;d;s} $\Rightarrow \overline{c}$ $\quad$ $c \Leftarrow$ Operator B=A*{u*;d*;s*}

$[-\frac{2}{3}\text{-}\frac{2}{3}].[+\frac{2}{3}+\frac{2}{3}]$ $\quad$ $[+\frac{2}{3}+\frac{2}{3}].[-\frac{2}{3}\text{-}\frac{2}{3}]$

$\overline{uu}\,.\,uu = \overline{U}\,.\,U \left\{ \begin{matrix} u[+\frac{2}{3}] \\ d[-\frac{1}{3}] \\ s[-\frac{1}{3}] \end{matrix} \right.$ $\quad$ $\left\{ \begin{matrix} [-\frac{2}{3}]dd=\overline{D} \\ [+\frac{1}{3}]ud=\overline{b} \\ [+\frac{1}{3}]us=\overline{M} \end{matrix} \right\} t\,S\,.\,\overline{S\,t} = \overline{dsss}\,.\,sssd$

$[-\frac{4}{3}].[+\frac{4}{3}] = [\ 0\ ]\quad[\ 0\ ]$ $\quad$ $[\ 0\ ]\quad[\ 0\ ] = [+\frac{4}{3}].[-\frac{4}{3}]$

$\overline{U}u = \overline{u}.\overline{u}u = \overline{c}$
$\overline{U}d = \overline{u}.\overline{u}d = \overline{c} + IR$
$\overline{U}s = \overline{u}.\overline{u}s = \overline{c} + OR$

$St\overline{D} = \overline{sssd}.dd = c$
$St\overline{b} = \overline{sssd}.ud = c + \overline{IR}$
$St\overline{M} = \overline{sssd}.us = c + \overline{OR}$

$Uu = uuu = \Delta^{++}$
$Ud = uuu + IR = \Delta^{+} = \Delta^{++} + IR$
$Us = uuu + OR = \Sigma^{*+} = \Delta^{++} + OR$

$\overline{StD} = sssd.dd = 2\Delta^{++} + 3IR + 3OR$
$\overline{Stb} = sssd.ud = 2\Delta^{++} + 2IR + 3OR$
$\overline{StM} = sssd.us = 2\Delta^{++} + 1IR + 4OR$

Matrix $|VPE| = \begin{bmatrix} K_1 & K_2 \\ L_1 & L_2 \end{bmatrix} = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ for $Det|VPE| = ad - bc = 0 = K_1L_2 - K_2L_1 = (46.100)(1.501) - (14.113)(4.903) = g_{L1}(mu) - g_{L2}(md)$

Matrix $|md;mu| = \begin{bmatrix} L_1 & L_2 \\ L_1 & -L_2 \end{bmatrix} \begin{bmatrix} 1 \\ 1 \end{bmatrix} = \begin{bmatrix} L_1 + L_2 \\ L_1 - L_2 \end{bmatrix}$ for $Det|md;mu| = -2L_1L_2$ with $|md;mu|^{-1} = \frac{-1}{2L_1L_2} \begin{bmatrix} -L_2 & -L_2 \\ -L_1 & L_1 \end{bmatrix} = \frac{-1}{2mdmu} \begin{bmatrix} -mu & -mu \\ -md & md \end{bmatrix}$

Linear dependency given by $Det|VPE| = 0$ and $g_{L1}/g_{L2} = K_1/K_2 = L_1/L_2 = ULM = 3.2665...$
For k={1;2;3;...8;9;10}={2;1;(u,d);s;(cU);b;M;D;t;S}:
For 2 Groundstates GS with n≥2:

$GS_n = GS_{n-1} + 2g_{n-1} + (ULM)^{n-2}.\ \{\frac{1}{3}e^{-};\frac{2}{3}e^{-}\}$

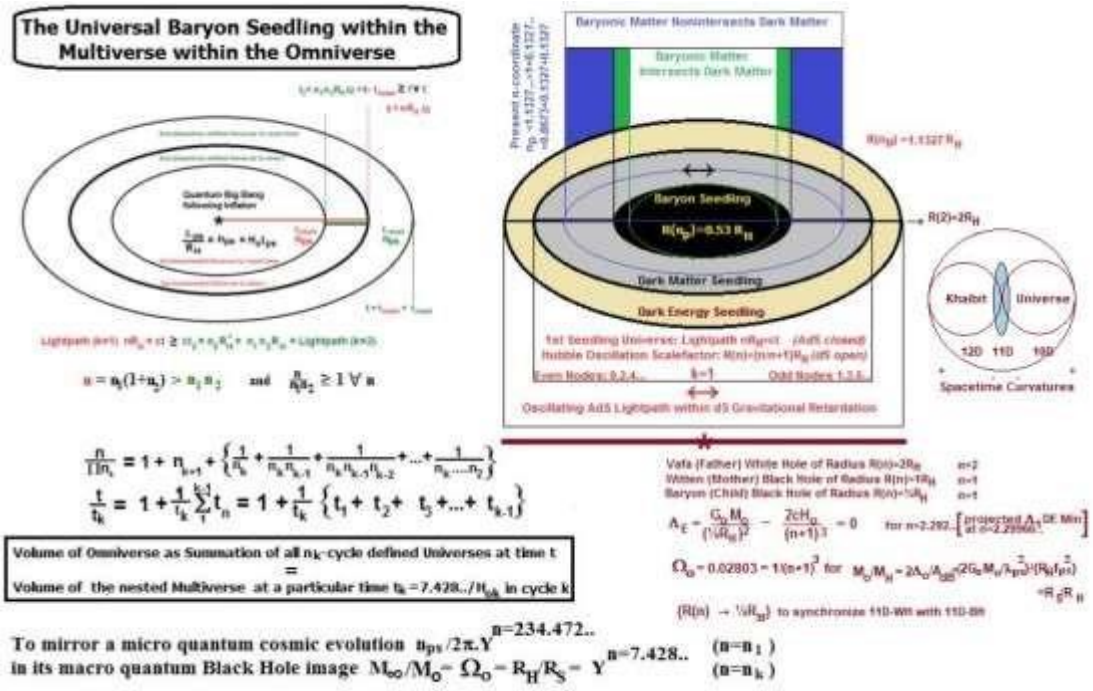
The XL-Boson mass is given in the quark-component: $mX = \#^3 m_W/[ec] = Alpha.m_W/m_P = \#^3\{m_W/m_P\} \sim 1.9x10^{15}$ GeV^{+}; which is the Strong-Electro-Weak Unification energy and the lepton-component: $mL = Omega.[ec]/\#^2 = \#^{52}[ec/m_W] \sim 111.04$ MeV^{+}.

It is this lepton component which necessitates the existence of the muon (and the tauon and their neutrino partners as constituents of the weak interaction gauge bosons) as a 'heavy electron', as the quantum geometry defines the muon mass in a decoupling of the L_1 energy level given in a diquark hierarchy and based on a quantum geometry of the quantum relativity.

The rest masses for the elementary particles can now be constructed, using the basic nucleonic Restmass ($m_c = 9.9247245x10^{-28}$ kg^{+} = √(Omega)xm_P = Alpha^9 x m_P

for n_p as $1.71175286x10^{-27}$ kg^{+} or 958.99 MeV^{+} and setting as the basic maximum
(UP/DOWN-K-mass = mass(KERNEL CORE) = 3xmass(KKK)=3x319.6637 MeV^{+} = 958.991 MeV^{+}).

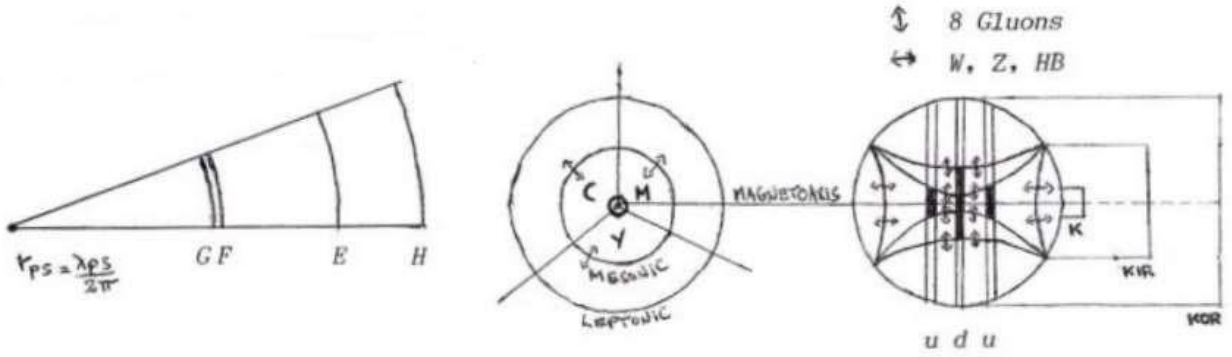
Proton Mass from mKKK - $3(L_1 + L_2)$ = 958.991 - 19.2114 = 939.78 MeV^{+} : 939.776 + 1.5013 - 0.5205 - 0.1735 = 940.583 MeV^{+} and (938.270 MeV) for $1L_2$ and $\frac{2}{3}e^{-}$ - $2e^{-}$ = $-4e^{-}/3$ and 2 up-quarks
Neutron Mass from mKKK - $3(L_1 + L_2)$ = 958.991 - 19.2114 = 939.78 MeV^{+} : 939.776 + 3.0026 - 1.0410 + 0.1735 = 941.911 MeV^{+} and (939.594 MeV) for $2L_2$ and $\frac{1}{3}e^{-}$ - $2e^{-}$ = $-5e^{-}/3$ and 1 up-quark



The temperature of the Black Body Radiator universe so had reached the threshold for nuclear fusion at the E-googol marker as a characteristic temperature at the center of a star. However this was the temperature of the entire universe as the expanding Instanton and the creation of the ylem neutrons from the Higgs Boson coupled to the Restmass Photon RMP had preceded the cooling down of Universe from its superhot and super dense energy self-state of the quark-gluon plasma and as defined in the UFOQR.

The tertiary application of the Mathimatia had defined two googol markers preceding googol marker E in googol space-quanta counter
$G = 67x36^{65} = 9.676924499...x10^{102}$ and $F = 13x66^{56} = 1.019538764...x10^{103}$.

Higgs-Bosonic template for a Calabi-Yau wavequark proton KIR.K.KIR = u.d.u



The eight gluonic permutations are from the pure radiative state WWW and the E_{ps} photon-bosonic part via the HBrmi into the pure massive BBB E_{ss} antiphotonic state The eight permutations assume so the sequence: WWW-WWB-WBW-BWW-BBW-BWB-WBB-BBB.

The proton is stable as the M_o/m_c restmass seedling coupled to the electronic massquantum m_e via the XL=SEW.G or HO(32) superstring, which manifests via the X-Boson and the L-Boson at X-Boson-Time of $2.20x10^{-19}s^*$, an effective temperature of $2.145x10^{28}$ K and an effective postPlanckian radius of $1.051x10^{-11}$ m*.*

A Weyl wormhole as Abba's sourcesink gauge ambassador boson was defined as a volumar quanta for the VPE-ZPE in $V_{ps} = 2\pi^2 r_{ps}^3$ and it had been a curvature radius of $R_E = r_{ps}\sqrt[3]{E} = 3.4357x10^{14}$ m* , which was calculated from $E.V_{ps}/2\pi^2R_E^3 = E.r_{ps}^3/R_E^3$and $E = 26x65^{61} = 1.00620878...x10^{112}$.

As the curvature radius R_E describes a hyperspace Black Hole for the mass seed $M_E = R_Ec^2/2G_o = 1.3915x10^{41}$ kg* as a subset of the Sarkar Mass Seed M_o and a decillion is 10^{33} or 1 billion trillion trillion units; the E marker of Universe inferred 10 trillion decillion decillion decillion wormhole quanta to comprise the size of the universe as a radial size of an extended solar system of 2287 Astronomical Units (AU) in spacial extent.

To reach the E-space quanta googol boundary, Universe had expanded for $t_E=n_E/H_o$ seconds from the Instanton with the speed of light slowed to $v(n_E) = c/(n_E+1)^2$ = due to the gravitational positive pressure opposing the negative pressure of the dark energy from Khaibit.
The DE equation was $\Lambda(n_E) = G_oM_o(n_E+1)^2/R_H^2(n_E)^2 - 2cH_o/(n_E+1)^3$ and scale factor $R(n_E) = R_H\{n_E/(n_E+1)\} = R_E$ for $1+1/n_E = R_H/R_E$ for $n_E = R_E/(R_H-R_E) = 2.150x10^{-12}$ for a time $t_E = n_E/H_o = n_ER_H/c$ = 1,144,900s* or 13.25 light days.

The DE comprised a baryonic matter seed acceleration of $1.708x10^{12}$ [m/s^2]* of G_oM_o/R_H^2 and an intrinsic cosmic Milgröm deceleration of
$-2cH_o/(1+2.150x10^{-12}]^3 = 1.127x10^{-9}$ [m/s^2]* for a total cosmic acceleration of $1.708x10^{12}$ [m/s^2]*.

The DE so is not constant, except in its asymptotic approach, but changes as a cosmic quintessence, $\Lambda(n) = \Lambda_E(n)$ changing over evolutionary time.

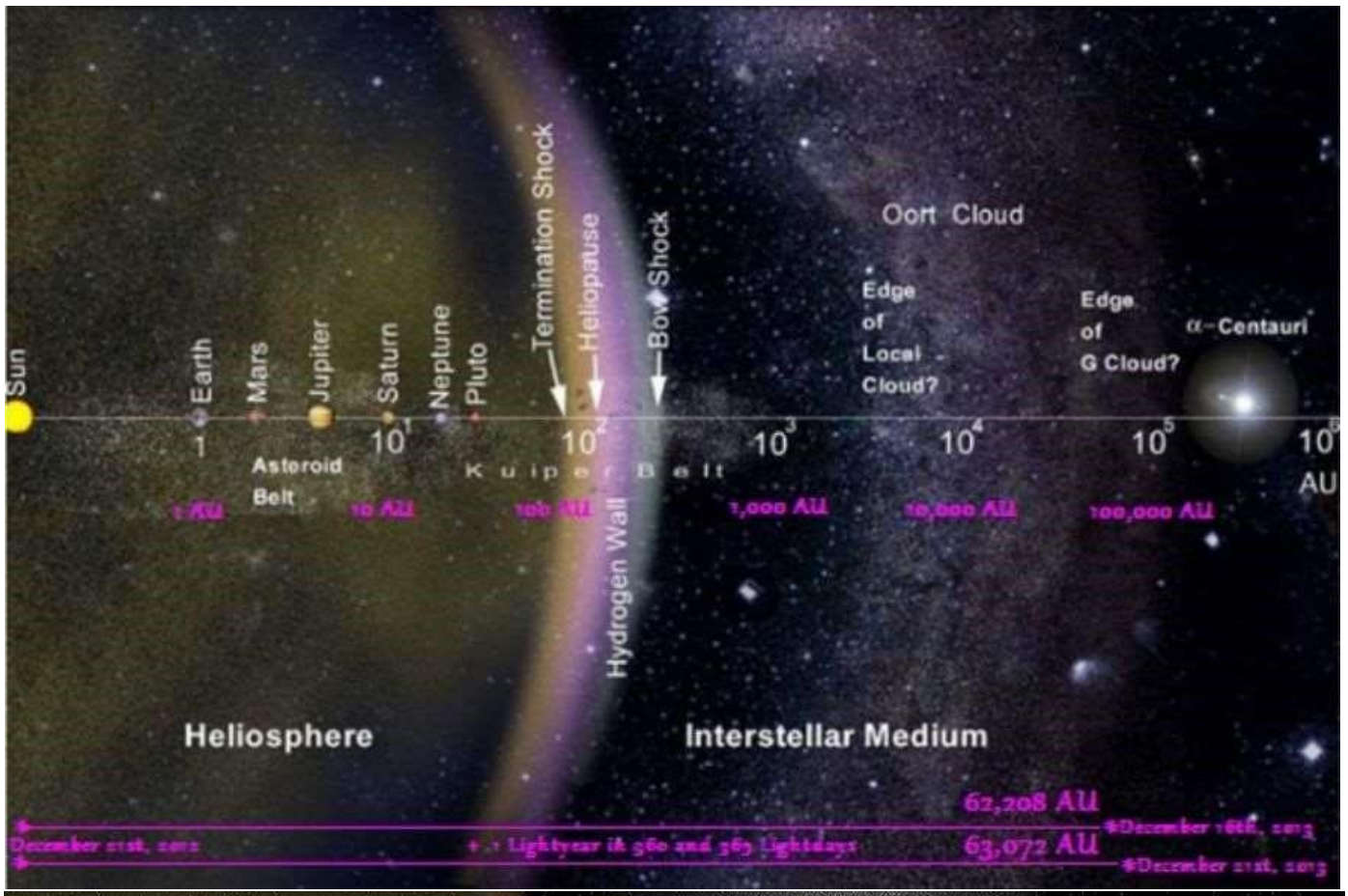
Universe so evolved in time and space from the Instanton and the quantum gravitational interaction between the mass seed M_o and Abba's mass quantum m_{ps} quantum gravitationally coupled to its hypermass equivalent $M_{pshyper} = 6445.78$ kg*.
Abba's temperature $T_{ps} = E_{ps}/k = hf_{ps}/k = m_{ps}c^2/k$ defined the wormhole parameters of the Instanton in a quantum bosonic temperature of $2.22x10^{20}$ K* as the Weyl gauge ambassador boson of creation and so became coupled to the temperature gradient of the Instanton in temperature $T(n_{ps}) = 2.935x10^{36}$ K*.

$T(n_{ps})$ so had been characteristic in the parameter Omega $\Omega_o = M_o/M_H$ for the Black Hole mass evolution in the ratio of the seedling mass M_o and the closure mass M_H as the entire space created by the Inflaton in the de Broglie wave matter acceleration.
$T(n_{ps})$ had then be coupled to the dark energy in the Einstein lambda of the Instanton in the ratio to the de Broglie phase acceleration A_{dB} in the deceleration parameter $q_o = ½\Omega_o = \Lambda_o/A_{dB} = M_o/2M_H = 0.014015...$

Beginning its expansion at light speed 'c' at the Instanton, Universe in the form of the Weyl wormhole had been a singular particle or scalar Higgs boson with hypermass $M_{pshyper}$ and temperature $T(n_{ps})$ and with the remaining mass seed $M_o - M_{pshyper}$ distributed in part of the Inflaton space of Klein as potential Vortex-Potential Energy or VPE.
All of the Inflaton spacetime was however seeded in additional VPE by the closure Black Hole mass M_H.

A space quanta googol counter $E=26x65^{61} = 1.006..x10^{112}$ from the Mathimatia's primary algorithm had defined a boundary in the Inflaton in the quantized volume of space-time occupied by the wormhole quanta.
The purpose for this nexus marker E had been to trigger a specific onset of the gravitational interaction to act upon sufficiently large mass conglomerations.
The background temperature of Universe had to be cool enough to do so yet enabling a process of nuclear fusion to continue in subspaces of Universe in the continuing expansion of Universe in spacetime.

Once Universe had grown to googol size E the encompassing Black Hole, termed a Sarkar Black Hole, it would become defined in mass seed $M_o/M_H = R_{Sarkar}/R_H$ as a characteristic size of Universe at googol E time in $R_{Sarkar} = 2G_oM_o/c^2 = M_oR_H/M_H$ for $2G_oM_H/c^2 = R_H$.


Sun
Earth
Mars
Jupiter
Saturn
Neptune
Pluto
Termination Shock
Heliopause
Bow Shock
Oort Cloud
Edge of Local Cloud?
Edge of G Cloud?
α-Centauri
1
10
10²
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10⁴
10⁵
10⁶
AU
Asteroid Belt
Kuiper Belt
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100 AU
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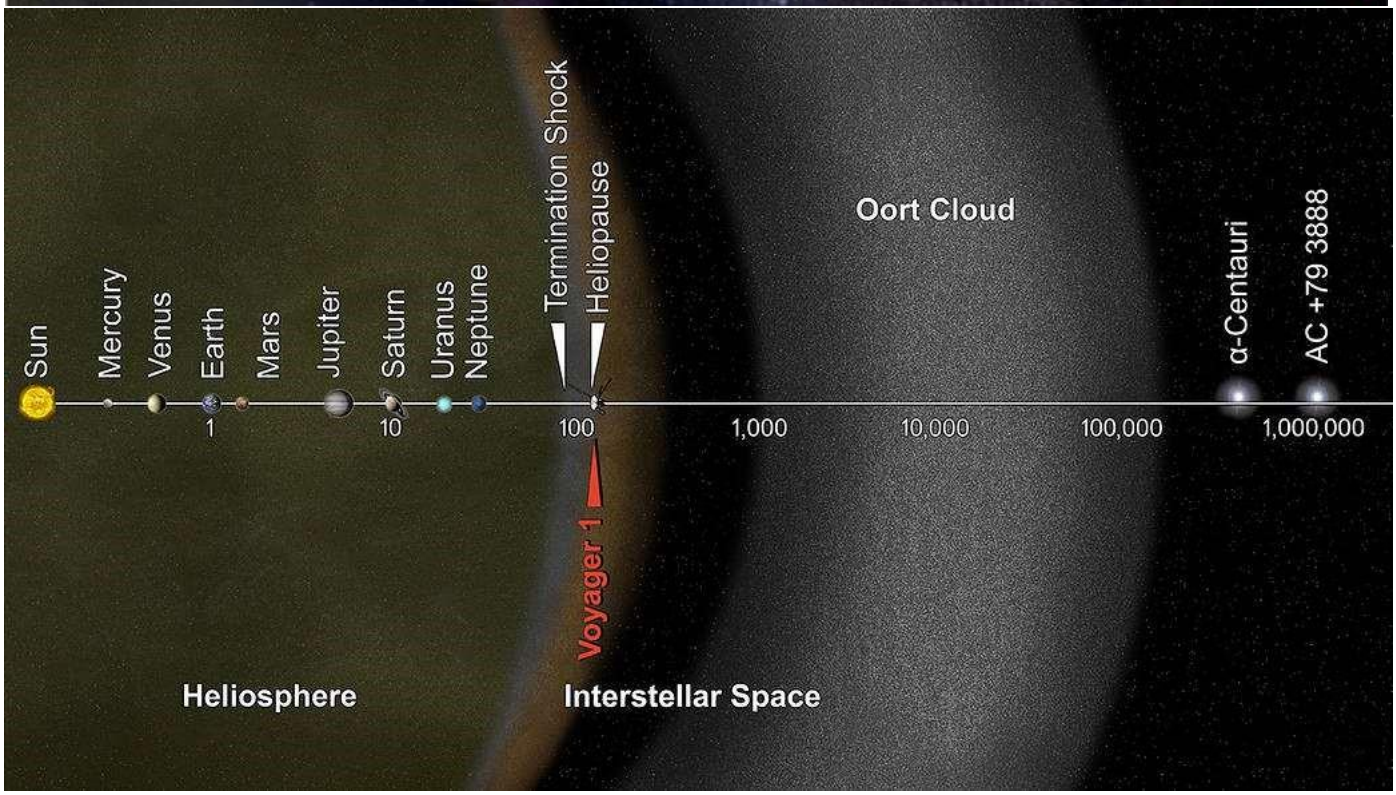
Hydrogen Wall
Heliosphere
Interstellar Medium
62,208 AU
63,072 AU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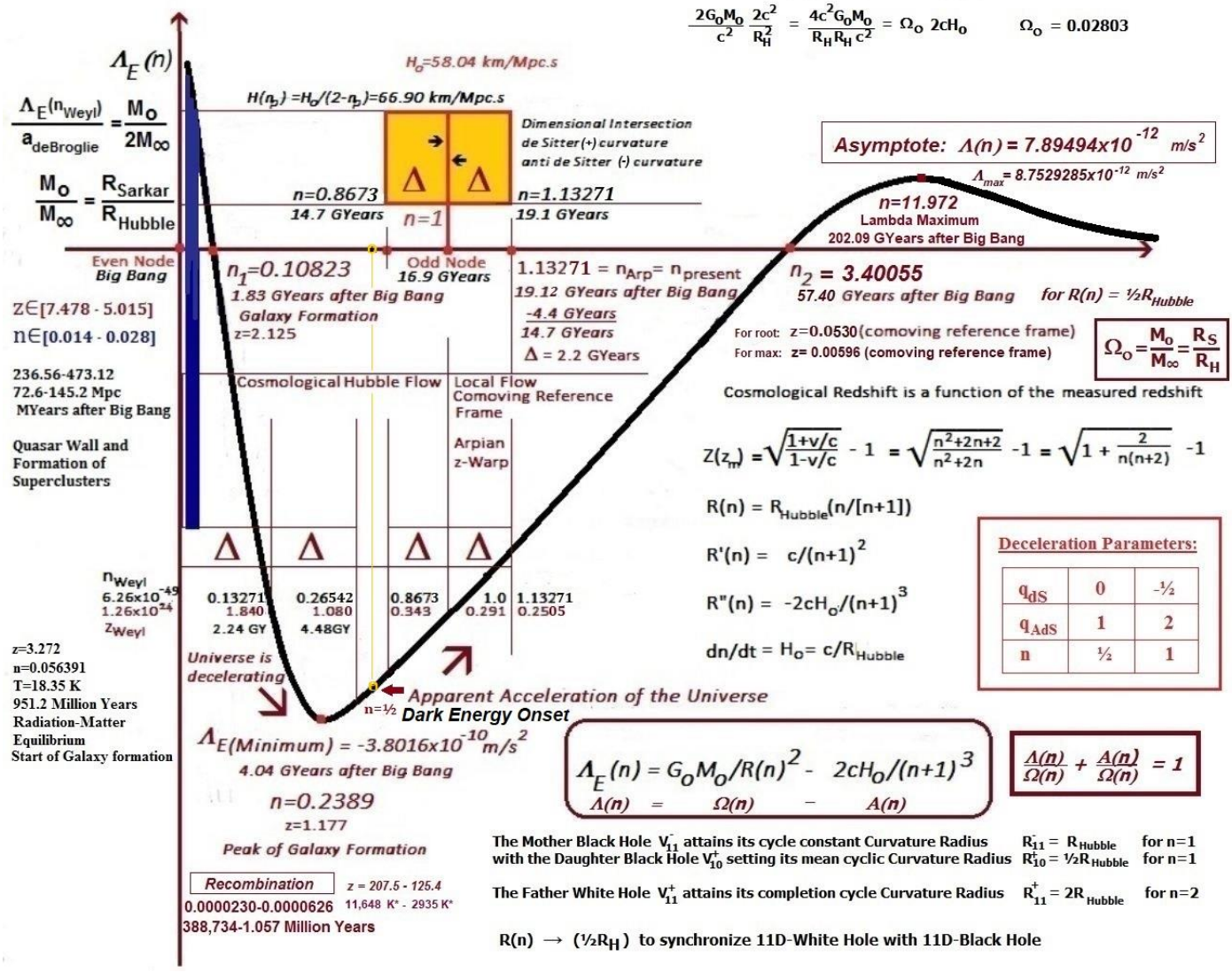
Heliosphere
Interstellar Space

At the instanton t_{ps}, a de Broglie Phase-Inflation defined $r_{max}=a_{dB}/f^2_{ps}$ and a corresponding Phase-Speed $v_{dB}=r_{max}.f_{ps}$.
Those de Broglian parameters constitute the boundary constants for the Guth-Linde inflation and the dynamical behaviour for all generated multiverses as subsets of the omniverse in superspacetime CMF.

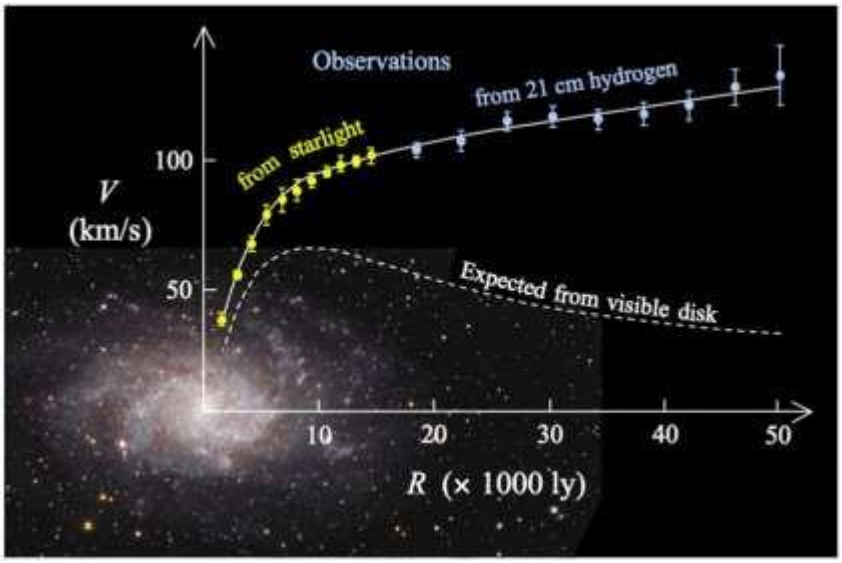
Initially, the de Broglie Acceleration of Inflation specified the overall architecture for the universe in the Sarkar Constant $A_S=\Lambda_E(n_{ps})r_{max}/a_{dB} = G_oM_o/c^2$
The Sarkar Constant calculates as 72.4 Mpc, $2.23541620x10^{24}$ m or as 236.12 Mlightyears as the bounding gravitational distance/scale parameter.

A Scalar Higgsian Temperature Field derives from the singularity and initialises the consequent evolution of the protocosmos in the manifestation of the bosonic superbranes as macroquantisations of multiverses in quantum relativistic definitions.

The Omega of critical density is specified in acceleration ratio $\Lambda_E(n_{ps})/a_{dB}$, which is $G_oM_o/c^2r_{max} = 0.01401506 = \frac{1}{2}M_o/M_\infty = \frac{1}{2}\Omega_o = q_o$ (Deceleration Parameter).



A Synthesis of ΛCDM with MOND in a Universal Lambda Milgröm Deceleration



[Excerpt from Wikipedia:
https://en.wikipedia.org/wiki/Modified_Newtonian_dynamics

Several independent observations point to the fact that the visible mass in galaxies and galaxy clusters is insufficient to account for their dynamics, when analyzed using Newton's laws. This discrepancy – known as the "missing mass problem" – was first identified for clusters by Swiss astronomer Fritz Zwicky in 1933 (who studied the Coma cluster),[4][5] and subsequently extended to include spiral galaxies by the 1939 work of Horace Babcock on Andromeda.[6] These early studies were augmented and brought to the attention of the astronomical community in the 1960s and 1970s by the work of Vera Rubin at the Carnegie Institute in Washington, who mapped in detail the rotation velocities of stars in a large sample of spirals. While Newton's Laws predict that stellar rotation velocities should decrease with distance from the galactic center, Rubin and collaborators found instead that they remain almost constant[7] – the rotation curves are said to be "flat". This observation necessitates at least one of the following: 1) There exists in galaxies large quantities of unseen matter which boosts the stars' velocities beyond what would be expected on the basis of the visible mass alone, or 2) Newton's Laws do not apply to galaxies. The former leads to the dark matter hypothesis; the latter leads to MOND.

MOND was proposed by Mordehai Milgrom in 1983

The basic premise of MOND is that while Newton's laws have been extensively tested in high acceleration environments (in the Solar System and on Earth), they have not been verified for objects with extremely low acceleration, such as stars in the outer parts of galaxies. This led Milgrom to postulate a new effective gravitational force law (sometimes referred to as "Milgrom's law") that relates the true acceleration of an object to the acceleration that would be predicted for it on the basis of Newtonian mechanics.[1] This law, the keystone of MOND, is chosen to reduce to the Newtonian result at high acceleration but lead to different ("deep MOND") behaviour at low acceleration:

$$\mathbf{F_N} = m\mu\left(\frac{a}{a_0}\right)\mathbf{a} \quad \text{.....(1)}$$

Here $\mathbf{F}_N$ is the Newtonian force, m is the object's (gravitational) mass, **a** is its acceleration, μ(x) is an as-yet unspecified function (known as the "interpolating function"), and a_0 is a new fundamental constant which marks the transition between the Newtonian and deep-MOND regimes. Agreement with Newtonian mechanics requires $\mu(x) \to 1$ for $x \gg 1$, and consistency with astronomical observations requires $\mu(x) \to x$ for $x \ll 1$. Beyond these limits, the interpolating function is not specified by the theory, although it is possible to weakly constrain it empirically.[8][9] Two common choices are:

$$\mu\left(\frac{a}{a_0}\right) = \left(1 + \frac{a_0}{a}\right)^{-1}$$ ("Simple interpolating function"),

and

$$\mu\left(\frac{a}{a_0}\right) = \left(1 + \left(\frac{a_0}{a}\right)^2\right)^{-1/2}$$ ("Standard interpolating function").

Thus, in the deep-MOND regime ($a \ll a_0$):

$$F_N = ma^2/a_0$$

Applying this to an object of mass m in circular orbit around a point mass M (a crude approximation for a star in the outer regions of a galaxy), we find:

$$\frac{GMm}{r^2} = m\frac{\left(\frac{v^2}{r}\right)^2}{a_0} \Rightarrow v^4 = GMa_0$$ .....(2)

that is, the star's rotation velocity is independent of its distance r from the center of the galaxy – the rotation curve is flat, as required. By fitting his law to rotation curve data, Milgrom found $a_0 \approx 1.2 \times 10^{-10}$ m s^{-2} to be optimal. This simple law is sufficient to make predictions for a broad range of galactic phenomena.
Milgrom's law can be interpreted in two different ways. One possibility is to treat it as a modification to the classical law of inertia (Newton's second law), so that the force on an object is not proportional to the particle's acceleration **a** but rather to $\mu(a/a_0)\mathbf{a}$. In this case, the modified dynamics would apply not only to gravitational phenomena, but also those generated by other forces, for example electromagnetism.[10] Alternatively, Milgrom's law can be viewed as leaving Newton's Second Law intact and instead modifying the inverse-square law of gravity, so that the true gravitational force on an object of mass m due to another of mass M is roughly of the form $GMm/(\mu(a/a_0)r^2)$. In this interpretation, Milgrom's modification would apply exclusively to gravitational phenomena.
[End of excerpt]

For ΛCDM:
acceleration a: $a = G\{M_{BM}+m_{DM}\}/R^2$

For MOND:
acceleration a: $a+a_{mil} = a\{a/a_o\} = GM_{BM}/R^2 = v^4/a_o.R^2$ for $v^4 = GM_{BM}a_o$ $a_{mil} = a\{a/a_o-1\} = a\{a-a_o\}/a_o = GM_{BM}/R^2 - a$

For Newtonian acceleration a: $G\{M_{BM}+m_{DM}\}/R^2 = a = GM_{BM}/R^2 - a_{mil}$

$a_{mil} = - Gm_{DM}/R^2 = (a/a_o)(a-a_o)$ and relating the Dark Matter to the Milgröm constant in interpolation a_{mil}

for the Milgröm deceleration applied to the Dark Matter and incorporating the radial independence of rotation velocities in the galactic structures as an additional acceleration term in the Newtonian gravitation as a function for the total mass of the galaxy and without DM in MOND.

Both, ΛCDM and MOND consider the Gravitational 'Constant' constant for all accelerations and vary either the mass content in ΛCDM or the acceleration in MOND in the Newtonian Gravitation formulation respectively.
The standard gravitational parameter GM in a varying mass term $G(M+m) = M(G+\Delta G)$ reduces to $Gm=\Delta GM$ for a varying Gravitational parameter G in $(G+\Delta G) = f(G)$.

The Dark Matter term Gm_{DM} can be written as $Gm_{DM}/R^2 = -a_{mil} = a - a^2/a_o = \Delta GM/R^2$ to identify the Milgröm acceleration constant as an intrinsic and universal deceleration related to the Dark

Energy and the negative pressure term of the cosmological constant invoked to accommodate the apparent acceleration of the universal expansion ($q_{dS} = -0.55858$).

$\Delta G = G_o - G(n)$ in $a_{mil} = -2cH_o/[n+1]^3 = \{G_o - G(n)\}M/R^2$ for some function G(n) descriptive for the change in f(G).

The Milgröm constant so is not constant, but emerges as the initial boundary condition in the Instanton aka the Quantum Big Bang and is identified as the parametric deceleration parameter in Friedmann's solutions to Einstein's Field Equations in $a_{mil}.a_o = a(a-a_o)$ and $a_o(a_{mil} + a) = a^2$ or $a_o = a^2/(a_{mil}+a)$.

$A(n)= -2cH_o/[n+1]^3 = -2cH_o^2/R_H[n+1]^3$ and calculates as $-1.112663583x10^{-9}$ (m/s^2)* at the Instanton and as $-1.1614163x10^{-10}$ (m/s^2)* for the present time coordinate.

The Gravitational Constant $G(n)=G_oX^n$ in the standard gravitational parameter represents a fine structure in conjunction with a sub scale quantum mass evolution for a proto nucleon mass $m_c = alpha^9.m_{Planck}$ from the gravitational interaction fine structure constant $\alpha_g = 2\pi G_o m_c^2/hc = 3.438304..x10^{-39} = alpha^{18}$ to unify electromagnetic and gravitational quantum interactions.

The proto nucleon mass $m_c(n)$ so varies as complementary fine structure to the finestructure for G in m_cY^n for a truly constant G_o as defined in the interaction unification.
$G(n)M(n)=G_oX^n.M_oY^n = G_oM_o(XY)^n = G_oM_o$ in the macro evolution of baryonic mass seedling M_o and G_om_c in the micro evolution of the nucleonic seed remain constant to describes a particular fine structure for the time frame in the cosmogenesis when the non-luminous Dark Matter remains separate from the luminous Baryon mass.

The DM-BM intersection coordinate is calculated for a cycle time $n=H_ot=1.4142..$or at a universal true electromagnetic age of 23.872 billion years.
At that time, the {BM-DM-DE} mass density distribution will be {5.536%; 22.005%; 72.459%}, with the G(n)M(n) assuming a constant value in the Hubble cycle.
The Dark Energy pressure will be $P_{PBM\cap DM} = -3.9300x10^{-11}$ (N/m^2)* with a corresponding 'quasi cosmological constant' of $\Lambda_{BM\cap DM} = -6.0969x10^{-37}$ (s^{-2})*.

Within a local inertial frame of measurement; the gravitational constant so becomes a function of the micro evolution of the proto nucleon mass m_c from the string epoch preceding the Instanton. A localized measurement of G so engages the value of the mass of a neutron as evolved m_c in a coupling to the evolution of the macro mass seedling M_o and so the baryonic omega $\Omega_o=M_o/M_H = 0.02803115$ in the critical density $\rho_{critical} = 3H_o^2/8\pi G_o = 3M_H/4\pi R_H^3 = 3c^2/8\pi G_o R_H^2$ for the zero curvature and a Minkowski flat cosmology.

The fine structure for G so engages both the micro mass m_c and the macro mass M_o, the latter being described in the overall Hypermass evolution of the universe as a Black Hole cosmology in a 5/11D AdS 'closed' spacetime encompassing the dS spacetime evolution of the 4/10D 'open' universe.

The Milgröm 'constant' so relates an intrinsic Dark Energy cosmology to the macro cosmic hypermass evolution of Black Holes at the cores of galaxies and becomes universally applicable in that context.

No modification of Newtonian gravitation is necessary, if the value of a locally derived and measured G is allowed to increase to its string based (Planck-Stoney) value of $G_o=1/k=4\pi\varepsilon_o$ = 1.111..x10^{-10} string unification units [C*=m^3/s^2] and relating spacial volume to angular acceleration in gravitational parameter GM.

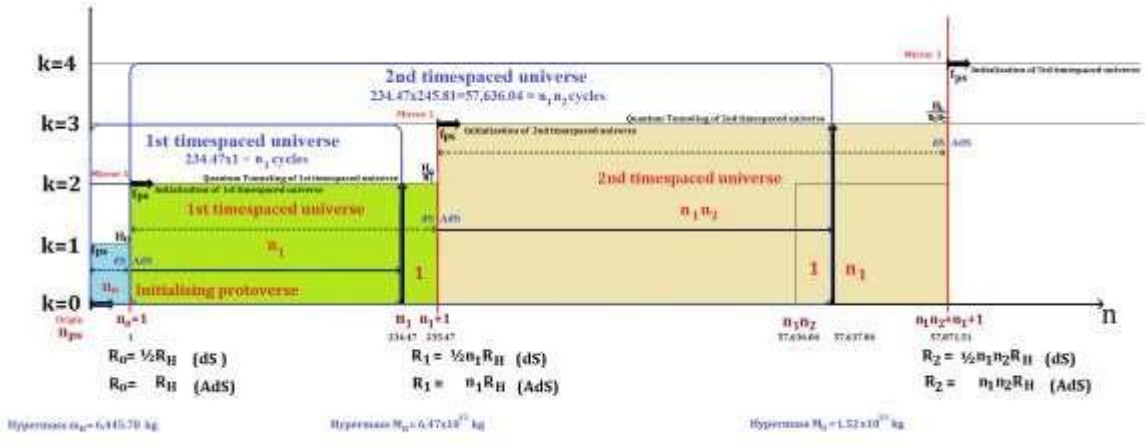
The necessity for Dark Matter to harmonize the hypermass evolution remains however, with the Dark Energy itself assuming the form of the Milgröm deceleration.

$a_{mil} = -2cH_o/[n+1]^3 = -\{G_o-G(n)\}M/R^2 = -G_o\{1-X^n\}M/R^2$ for the gravitational parameter GM coupled to the size of a galactic structure harboring a central Black Hole-White Hole/Quasar power source.
This coupling of the EMMR physical consciousness in the Restmass Photons or RMPs in the form of monopolar displacement currents therefore relates the expansion of the universe to cycle time $n=H_ot$ to the radial size of the Dark Matter Haloes or DMHs at particular coordinates of cycle time n.

Dark Matter Halos and Physicalized Consciousness

At the Instanton $n=n_{ps}$ for $M_o/\lambda_{ps}^2 = \Lambda_o/G_o$ = constant = 1.8137x10^{95} [kg/m^2]* and when all the DM was contained within the Weyl wormhole as a minimum radius for the DMHs.
At the Inflaton Hubble boundary as a prospective DMH maximum, an infinite n for $M_H/R_H^2 = c^2/2R_HG_o$ = constant = 2.5349.. [kg/m^2]* and when all the DM would be within the Inflaton defined Hubble event horizon.

This boundary will however remain 'out of bounds' for the asymptotic expansion of Universe.



Universe will quantum tunnel 234.47 cycles or about 4 Trillion years after the Instanton into the second universe as a Multiverse defined 16.9 Billion years after the Instanton and when the 11dimensional EMR light path had reached the Hubble event horizon as the AdS negatively curved boundary of the hyperbolic cosmology of the convex lensed Witten mirror separating Shadow Universe Khaibit from Universe.

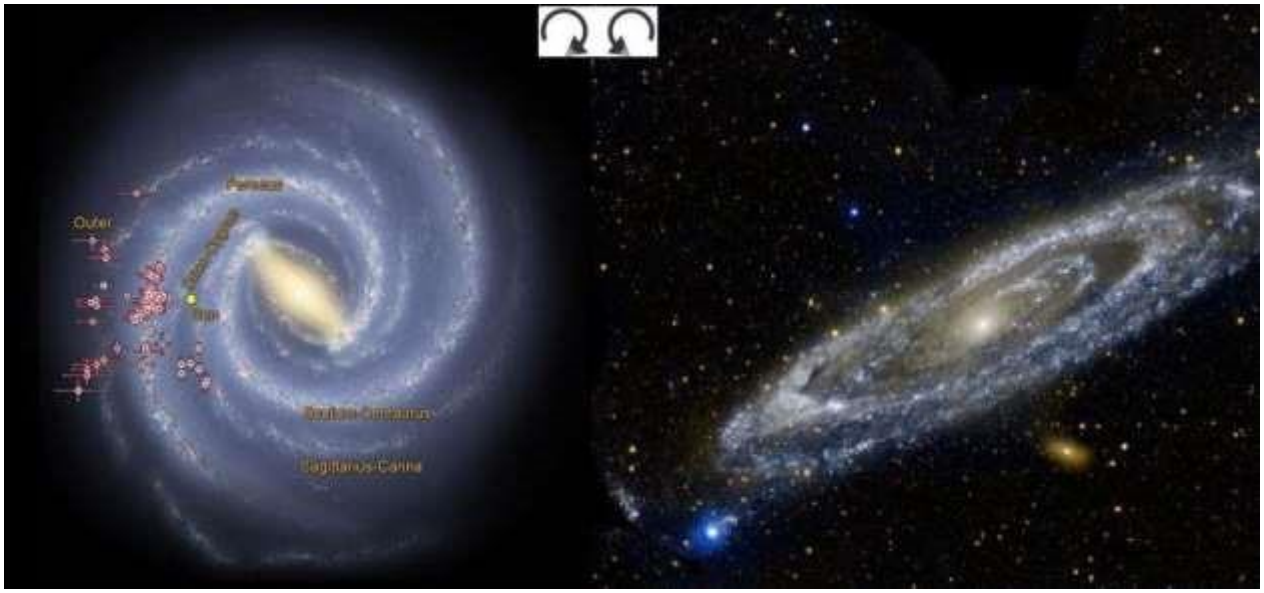
Universal Galactic Cell:..... $G_oM/R^2 = 2cH_o\{n^2/(n+1)^5\}$
for constant initial Milgröm deceleration $2cH_o = 2c^2/R_H = 1.12663683x10^{-9}$ [m/s^2]*

The expansion of the universe given in the dark energy DE in the gravitational acceleration $G_oM_o/R(n)^2 = G_o\sum M_{galaxy}/\sum R_{galaxy}^2 = G_oM_o/R_{sarkar}^2$ in describing the Black Hole defined by the curvature radius $R_{sarkar} = 2G_oM_o/c^2 = 2G_oM_H/c^2 = \Omega_oR_H = 4.4783..x10^{24}$ m* and for the encompassment of the universe at cycle time coordinate $n_{sarkar} = R_{sarkar}/\{R_H - R_{sarkar}/\} = 0.0283..= \Omega_o = M_o/M_H$ from $R(n) = R_{sarkar} = R_H\{n/(n+1)\}$ and $R_H/R_{sarkar} = 1+1/n_{sarkar}$.

This so considers mass seed M_o to be distributed as the baryon luminous matter seed in a summation of galaxies mass M and radius R and within a daughter Black Hole defining the extent of universe at the Sarkar curvature radius containing M_o.
The nonluminous dark matter DM then extends the baryon seed as the fraction added to the $\Omega_{BM}(n) = \Omega_oY^n = M_oY^n/M^H$ to allow $\Omega(n)= \Omega_{BM}(n)+ \Omega_{DM}(n) = 1$
The DE does not participate in this matter distribution until it activates at the n=½ coordinate 8.445 Billion years after the Instanton.
For any cycle time n>½ , the matter energy distribution $\Omega(n) = \Omega_{BM}(n) + \Omega_{DM}(n) + \Omega_{DE}(n) = 1 = \{M_o/M_H\}|_{mod1}$.

$\{M/R^2\}\{R_{sarkar}^2/M_o\}\{M_H/R_H^2\} = \{M/R^2\}.\{M_o/M_H\}|_{mod1} = \{n/(n+1)\}^2.\{2cH_o/G_o(n+1)^3\} = \{2c^2/G_oR_H\}\{n^2/(n+1)^5\}$...as the total mass energy seed
$\{M/R^2\}.\Omega_{BM}(n) = \{2c^2/G_oR_H\}\{n^2/(n+1)^5\}$ ..... as the baryonic luminous mass energy seed for the stellar disk of a galaxy mass M and Radius R
$\{M/R^2\}.\Omega_{DM}(n) = \{2c^2/G_oR_H\}\{n^2/(n+1)^5\}$ ..... as the DM Outer Halo or DMOH mass energy seed and $\Omega_{DM}(n) = 1 - \Omega_{BM}(n)$ for n<½ and $\Omega_{DM}=\Omega_{BM}[1+1/n]^3-1\}$
$\{M/R^2\}.\Omega_{DE}(n) = \{2c^2/G_oR_H\}\{n^2/(n+1)^5\}$ ..... as the DE Boundary Halo or DEBH mass energy seed for n>½

The Milky Way is an observer relative right handed barred spiral galaxy with its complementary left handed barred spiral Andromeda and the Pinwheel galaxy all of a total BM+DM mass of $2x10^{42}$ kg for each galaxy.
They differ in their visible stellar extent, Andromeda the largest at 220,000 light years across, followed by the Pinwheel galaxy at 170,000 light years across and the Milky Way 120,000 light years across. This indicates that the three galaxies are of comparable equal mass but differ in their DM content inversely proportional to their RMP galactic space-occupancy awareness evolution of physical consciousness as monopolar energy distribution.



The DM halos are calculated from the known distribution of $\Omega(n) = \Omega_{BM}(n) + \Omega_{DM}(n) + \Omega_{DE}(n) = 1$

For a present n=1.132711 ..... $1 = \Omega_o Y^n + \Omega_o Y^n\{(1+1/n)^3 - 1\} + \{1 - \Omega_{BM}(n) - \Omega_{DM}(n)\} = 0.0483 + 0.2741 + 0.6776 = 1$

For a n=⅔ ..... $1 = \Omega_o Y^n + \Omega_o Y^n\{(1+1/n)^3 - 1\} + \{1 - \Omega_{BM}(n) - \Omega_{DM}(n)\} = 0.0386 + 0.5645 + 0.3969 = 1$

For the onset of DE at n=½ ..... $1 = \Omega_o Y^n + \Omega_o Y^n\{(1+1/n)^3-1\} + \{1 - \Omega_{BM}(n) - \Omega_{DM}(n\} = \Omega_o Y^{½} + \{1-0.03565\} = 0.03565 + 0.9270 + 0.0373 = 1$

For the 'galaxy formation peak' defined in the Einstein quintessence minimum and for a cosmological redshift of z=1.177..; so 4 Billion years after the Instanton; $n_{gp}=0.2389$ ..... $1 = \Omega_o Y^n + \{1 - \Omega_{BM}(n)\} + 0 = 0.03144 + 0.9686 + 0 = 1$

For the beginning of galaxies at the Einstein-quintessence zero for cosmological redshift z=2.125; so 1.83 Billion years after the Instanton; $n_g=0.10823$..... $1 = \Omega_o Y^n + \{1 - \Omega_{BM}(n)\} + 0 = 0.02953 + 0.97047 + 0 = 1$

For the stellar disks of the three galaxies under consideration and for $f\{M/R^2\} = \{2c^2/G_oR_H\}\{n^2/(n+1)^5\} = 0.2949$ for $n_p=1.13271$.
Function $f\{M/R^2\}$ increases from 0 at n_{ps} to 0.0710 for $n_g=0.10823$ to 0.1983 for $n_{gp}=0.2389$ to 0.3338 for n=½ to a relative maximum at n=⅔ for $\{2c^2/G_oR_H\}\{108/3125\} = 0.35043$ to subsequently decrease from this maximum at 11.25 Billion years after the Instanton or 7.87 Billion years from the present epoch.

n=½ defines the onset of the Dark Energy and results in the measurement of an apparently accelerating universe, 8.438 Billion years after the Instanton or 19.12 - 8.44 = 10.68 Billion years from the present in Anti-deSitter spacetime and 14.64 - 8.44 = 6.20 Billion years ago in deSitter spacetime.
The time period from n=½ to a relative maximum at n=⅔ and 10.68 - 7.87 = 2.81 Gy, so characterizes the introduction of a physicalized DE into the cosmology.

In this epoch, the components of the distribution $\Omega(n) = \Omega_{BM}(n) + \Omega_{DM}(n) + \Omega_{DE}(n) = 1$ changed in decreasing the Dark Matter DM fraction in lieu of the Dark Energy DE fraction.
This had the effect of 'physicalizing' galactic consciousness in a redistribution of the 'missing mass' given in the $q_o = ½\Omega_o = \Lambda_o/A_{dB} = M_o/2M_H = 0.014015...$ Deceleration-Omega parameter.

As the n=½ cycle coordinate defines the midpoint between the two extremum nodes in the Oscillation of the Hubble Constant and metaphysically termed as the 'Heartbeat of the Great Mother Baab'; the 'Father White Hole' in AdS spacetime becomes synchronized with the 'Mother Black Hole' in dS spacetime in their respective Hubble horizons in AdS and dS.
In AdS $nR_{HAdS} = \{1-1/n+1\}R_{HdS}$ in dS for n=1 coinciding with the birth of the second universe in parallel time space and collocal as a multiverse with the protoverse as the seedling universe.

In quantum theoretical terms, the n=½ cycle time coordinate introduced the Restmass Photon RMP as a mass energy equivalent for physicalized universal consciousness in changing its nature from a Dark Matter particle to a Dark Energy particle.
As more VPE transmutes from DM into DE and BM in the universal mass evolution; the transformed 'dark and non-luminous mass energy' begins to 'shine' in a cosmic phenomenon, which can be called the synergy between wave-mind and particle-body or the psychosoma of Aurobindo's Supramentalisation of matter.

Dark Energy so crystallizes itself as physicalized universal consciousness in its self transformation from prior to evolved states of energy defined in the creation events and agenda of Abba and his Logos.

$\{M/R^2\}\{0.0483\} = 0.2949$ for a BMIH Inner Halo stellar radius of $R_{milkyway} = 5.723x10^{20}$ m* or
$R_{mw}/\{c.365.2425.86,400\} = 60,455$ light years ly
and $\Omega_{BM}/\Omega_{DM} = 0.0483/0.3224 = 0.150$ for n_p and
$\Omega_{BM}/\Omega_{DM} = 0.03863/0.35043 = 0.11024$ for n=⅔ and
$\Omega_{BM}/\Omega_{DM} = 0.03565/0.9270 = 0.0385$ for n=½ and
$\Omega_{BM}/\Omega_{DM} = 0.03144/0.9686 = 0.0325$ for n_{gp}
showing the evolution of the galaxy in time with a small increase in Higgs-RMP mass reducing the DM inertia in increased space awareness, generalised in
$df_{ps}/dt = d\{1/f_{ss}\}/dt$.

$\{M/R^2\}\{0.2741+0.0483\} = 0.2949$ for a DMOH Outer Halo of $R_{mw} = 1.479x10^{21}$ m* or
$R_{mw}/\{c.365.2425.86,400\} = 156,192$ ly
$\{M/R^2\}\{0.6776+0.3224\} = 0.2949$ for a DEBH Boundary Halo of $R_{mw} = 2.604x10^{21}$ m* or
$R_{mw}/\{c.365.2425.86,400\} = 275,081$ ly

As the inversion of the wormhole radius of the Instanton defines the coupling of supermembrane Eps.Ess; the galactic separation parameter is given in $r_{ss}|_{min} = 10^{22}$ m* or 1.056 Million ly and $r_{ss}|_{max} = 2\pi x10^{22}$ m* in $6.637x10^6$ ly.

For n=⅔;
$\{M/R^2\}\{0.03863\} = 0.35043$ for a BMIH Inner Halo of $R_{mw} = 4.695x10^{20}$ m* or 49,598 ly
$\{M/R^2\}\{0.6031\} = 0.35043$ for a DMOH Outer Halo of $R_{mw} = 1.855x10^{21}$ m* or 195,942 ly
$\{M/R^2\}\{1\} = 0.35043$ for a DEBH Boundary Halo of $R_{mw} = 2.389x10^{21}$ m* or 252,347 ly

For n=½ and a universal extent of 8.438 Billion light years as $R_{DE} = 7.988x10^{25}$ m* as galaxy crystallization from the group galaxy seed from the supercluster seed, centred on the Milky Way seed and manifesting the Milky Way seed as a major galaxy in the onset of DE participation in the mass energy evolution;
$\{M/R^2\}\{0.03565\} = 0.9270$ for a BMIH Inner Halo of $R_{mw} = 2.773x10^{20}$ m* or 29,295 ly
$\{M/R^2\}\{0.96265\} = 0.9270$ for a DMOH Outer Halo of $R_{mw} = 1.441x10^{21}$ m* or 152,227 ly
$\{M/R^2\}\{1\} = 0.9270$ for a DEBH Boundary Halo of $R_{mw} = 1.469x10^{21}$ m* or 155,153 ly

For $n=n_{gp}=0.2389$ and a universal extent of 4.032 Billion light years as $R_{gp} = 3.817x10^{25}$ m* as galaxy crystallization from the group galaxy seed from the supercluster seed, centred on the Milky Way seed;
$\{M/R^2\}\{0.03144\} = 0.1983$ for a BMIH Inner Halo of $R_{mw} = 5.631x10^{20}$ m* or 59,481 ly
$\{M/R^2\}\{1\} = 0.1983$ for a DMOH Outer Halo of $R_{mw} = 3.176x10^{21}$ m* or 335,457 ly

For $n=n_g=0.10823$ and a universal extent of 1.826 Billion light years as $R_g = 1.729x10^{25}$ m* as the group galaxy crystallization seed from the supercluster seed, centred on the Milky Way seed
$\{M/R^2\}\{0.02953\} = 0.0710$ for a BMIH Inner Halo of $R_{mw} = 9.120x10^{20}$ m* or 96,339 ly
$\{M/R^2\}\{1\} = 0.0710$ for a DMOH Outer Halo of $R_{mw} = 5.307x10^{21}$ m* or 560,621 ly from Local Group

For $n=n_{supercluster}=\Omega_o=0.02803$ and a universal extent of 473.037 Million light years as $R_{sarkar} = 4.4783x10^{24}$ m* as the supercluster seed, centred on the Milky Way seed
$\{M/R^2\}\{0.02841\} = 0.0069$ for a BMIH Inner Halo of $R_{mw} = 2.870x10^{21}$ m* or 303,117 ly
$\{M/R^2\}\{1\} = 0.0069$ for a DMOH Outer Halo of $R_{mw} = 1.703x10^{22}$ m* or 1,798,350 ly from Laniakea Supercluster

For $n=½\Omega_o=q_o=0.0140$ and a universal extent of 236.519 Million light years as $½R_{sarkar} = 2.239x10^{24}$ m* as the supercluster seed initiation, centred on the Milky Way seed
$\{M/R^2\}\{0.02822\} = 0.0019$ for a BMIH Inner Halo of $R_{mw} = 5.450x10^{21}$ m* or 575,706 ly
$\{M/R^2\}\{1\} = 0.0019$ for a DMOH Outer Halo of $R_{mw} = 3.244x10^{22}$ m* or 3,427,061 ly from Laniakea Supercluster

For $n_{min}=½q_o=¼\Omega_o=0.0070075$ as a potential 118.3-Million-year marker for a galaxy of mass $M=2x10^{42}$ kg*, such as the Milky Way and Andromeda and Pinwheel and as a consequence of the Inflaton parameters of supermembrane EpsEss in $r_{ss}|_{max} = 1/r_{ps} = 2\pi/\lambda_{ps} = 2\pi\lambda_{ss}$ as the Milky Way seed
$\{M/R^2\}\{0.028125\} = 0.00048$ for a BMIH Inner Halo of $R_{mw} = 1.0816x10^{22}$ m* or 1,142,479 ly
$\{M/R^2\}\{1\} = 0.00048$ for a DMOH Outer Halo of $R_{mw} = 6.4550x10^{22}$ m* or 6,818,331 ly

The Birth of the Milky Way galaxy as one of the firstborn galaxies in Universe and the home galaxy of Baab's Earth is so calculated at 118.3 Million years after the birth of time and space at the Instanton $n_{ps} = \lambda_{ps}/R_H = H_o/f_{ps}$.and for synchronization and connectivity between Khaibit and Universe as the diameter $Ø=2R_H$.

As the DM distribution in a galaxy reflects its physical consciousness evolution in terms of the monopolar displacement currents and the RMP derived from the Higgs Boson; galaxies with well-defined central supermassive Black Holes and older elliptical galaxies are more evolved in their DM content. As Black Holes drive the evolution of all galaxies, well defined Black Holes indicate more dark matter in their host galaxies total mass energy content, than younger and evolving galaxies, characterised by ubiquitous star formation and smaller central Black Holes, or Ultra-Luminous-X-ray sources or ULX sources. ULX sources are related to quasars and the ylemic protostars as 'inversed' Black Holes or White Holes, characterised by high temperatures and luminosities.

The RMP's quantum geometric template is $YYCCMM(-1) = Y^2C^2M^2(-1) = YCM(-½) + YCM(½)$ and so allows the DM gauge ambassador 'particle' to merge with two left-handed WNI neutrons as mass-energy increase by the Higgs Field $YYCCMM(0) = YCM(0) + YCM(0)$.
The growth of the baryon mass seed M_o in $\Omega(n) = \Omega_o Y^n$ so represents the 'growing in physical consciousness' of matter itself.

Logos called this the 'Aurobindo Supramentalisation of Matter' in the monopolar displacement currents of Universe as a mass increase.

The Milky Way hosts the local star system Rahsol and Earth and so Abba's Baab focus at the center of Earth and so is the template for the general evolution of galaxies as cells in the metaphysical body of Adam and Eve.

The DM distribution of the Milky Way so calibrates the DM distribution relative to the Inner Halo, the Outer Halo and the DE boundary.
$R_{mwBMIH}/R_{andBMIH}$ = 60,455/ 110,000 = 0.55 for $0.0483/0.55^2$ = 0.160 Andromeda's relative baryonic mass fraction
$R_{mwBMIH}/R_{pinBMIH}$ = 60,455/ 85,000 = 0.71 for $0.0483/0.71^2$ = 0.0958 as Pinwheel's baryonic mass fraction

$\{M/(1.08x10^{42}\}\{0.160\}$ = 0.2949 for a BMIH stellar radius of $R_{andromeda}$ = $1.04x10^{21}$ m* or = 110,033 ly and Ω_{BM}/Ω_{DM} = 0.160/0.3224 = 0.496
$\{M/R^2\}\{0.3224\}$ = 0.2949 for a DMOH Halo of $R_{andromeda}$= $1.479x10^{21}$ m* or R_{and} = 156,192 ly
$\{M/R^2\}\{1.0\}$ = 0.2949 for a DEBH Halo of $R_{andromeda}$ = $2.604x10^{21}$ m* or R_{and} = 275,081 ly
$r_{ss}|_{min}$ = 10^{22} m* or 1.056 Million ly for a Galactic Halo of mass $M_{andromeda}$

$\{M/(6.496x10^{41}\}\{0.0958\}$ = 0.2949 for a BMIH stellar radius of $R_{pinwheel}$ = $8.060x10^{20}$ m* or = 85,142 ly and Ω_{BM}/Ω_{DM} = 0.0958/0.3224 = 0.297
$\{M/R^2\}\{0.3224\}$ = 0.2949 for a DMOH Halo of $R_{pinwheel}$ = $1.479x10^{21}$ m* or R_{pin} = 156,192 ly
$\{M/R^2\}\{1.0\}$ = 0.2949 for a DEBH Halo of $R_{pinwheel}$ = $2.604x10^{21}$ m* or R_{pin}= 275,081 ly $r_{ss}|_{min}$ = 10^{22} m* or 1.056 Million ly for a Galactic Halo of mass $M_{pinwheel}$

For the Andromeda barred spiral galaxy or any galaxy seeded with a total BM+DM mass of $2x10^{42}$ kg, the galaxy's DMOH radius would be $1.479x10^{21}$ m* or 156,192 light years for the present era and increase to $3.176x10^{21}$ m* or 335,457 light years at the peak of the galaxies as a function of the Einstein Quintessence for n_{gp}=0.2389 and 4.032 Billion years from the Instanton, observing the galaxy backwards in cosmological time.

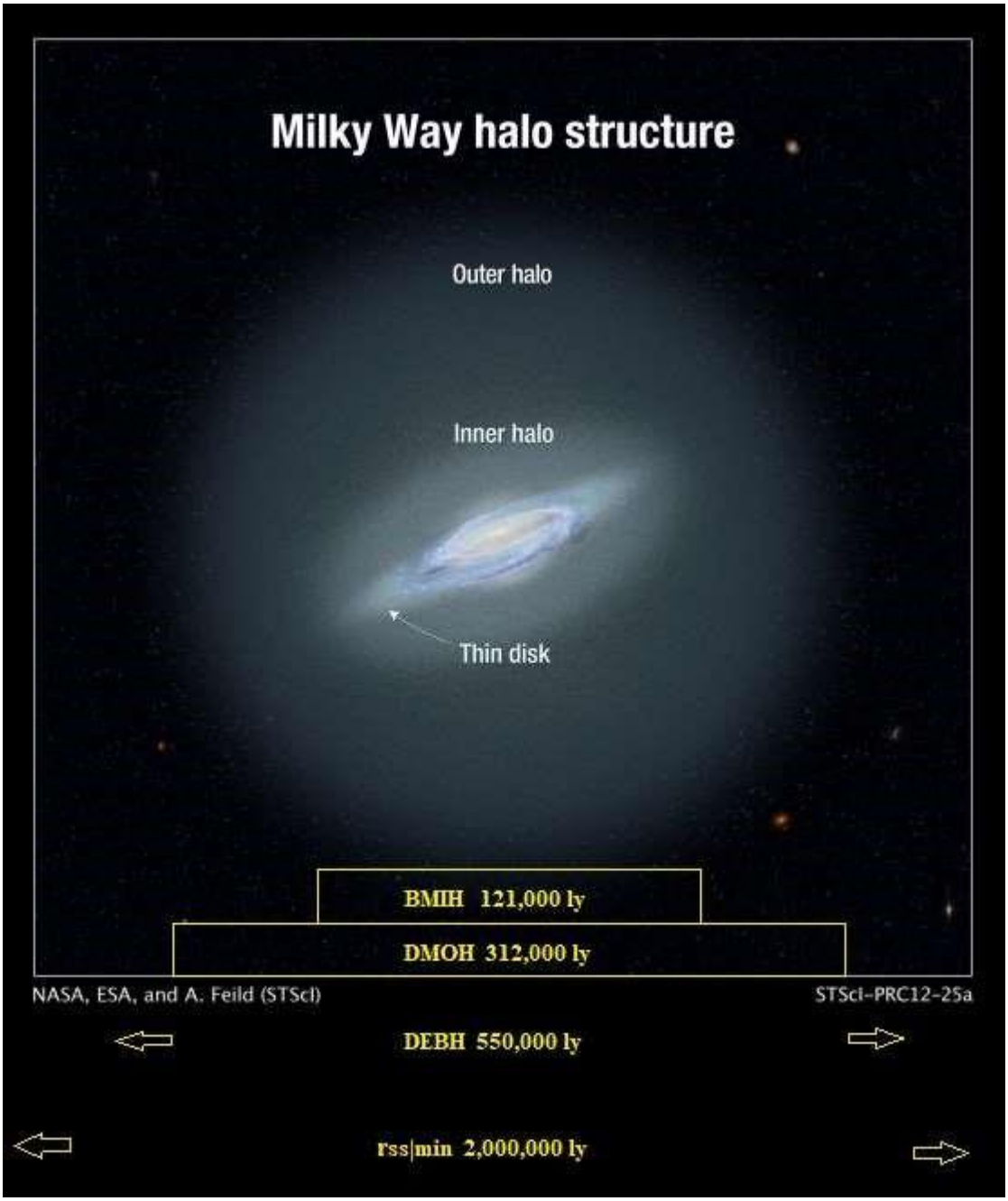
This galactic seed would increase further in its Dark Matter Outer Halo radius to $5.307x10^{21}$ m* or 560,621 light years at the onset of Galaxy formation at the DE zero at n_g=0.10823 or 1.83 Billion years after the Instanton.

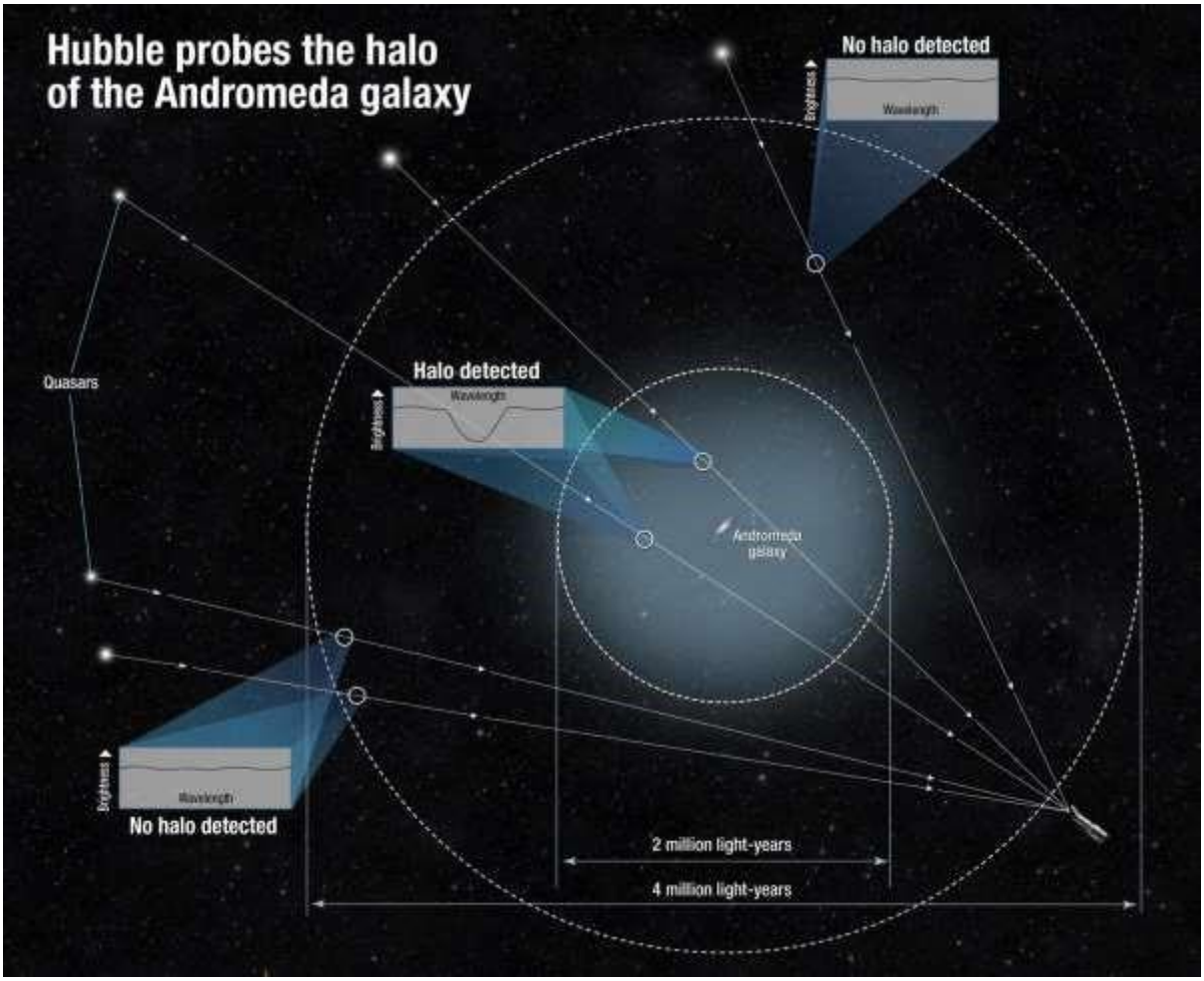
The consciousness evolution of galactic cell Andromeda and represented by its DMOH structure, would be evidenced in Andromeda's DMOH shrinking towards the universal Dark Energy nexus in more of the dark matter becoming 'illuminated' by the universal consciousness evolution of Universe and its parts as subsystems of galactic cells.

The Outer Halo for the Dark Matter Halo DMOH energy distribution is limited by the inversion of the wormhole radius r_{ps} in $r_{ss} = 1/r_{ps} = 2\pi/\lambda_{ps} = 2\pi\lambda_{ss} = r_{ss}$ as a typical separation scale between large cellular galaxies such as Milky Way and Andromeda in $6.28x10^{22}$ m* as

$DMOH|_{max} = \{2\pi r_{ss}/c\}/\{365.2425x24x3600\} = 6.637x10^6$ light years or $6.637x10^6$ ly/3.26 = 2035.9 kiloparsec kpc.

Macro-cellular Modulation $r_{ss}/2\pi = \lambda_{ss} = 10^{22}$ m* then characterizes the Dark Matter Consciousness Haloes around such major galaxies in 10^{22} m* or as $DMH|_{min} = \{r_{ss}/2\pi c\}/\{365.2425x24x3600\} = 1.056x10^6$ light years or $1.056x10^6$ ly/3.26 = 324.02 kpc.





For more details:
https://cosmosdawn.net

And so it continued!