Primordial initial Black Hole and the Quantic Space curvature

Space is Quantic from the tiny dimension of the particle to the vast size of the Local Universe. The Local Universe is a sphere with a radius of 16.41866 billion Light Years with the definition that nothing escapes beyond that boundary even light nor γ ray and it is integrated into the Big Universe about ~37 trillion LY or ~400 times bigger than the Local Universe.

Mass gives gravity and gravity gives space and the two of them are materialized through particles the Higgs Boson and the Muon neutrino which are bonded together. The equation of quantic space:

$$\frac{R_s}{r}\Delta\psi(r,t) = \frac{1}{c^2}\frac{\partial^2\psi(r,t)}{\partial t^2} \qquad (1)$$

Where ψ is the Quantic wave function of space from the smallest to the wide expanse of space…
As the initial condition $\psi(2R_S)=0$, $\psi'(0)=R$, and the speed of interaction is the velocity of light c the same as electronic neutrino so gravity and space are two aspects of the same reality…
Hence the value $2\cdot Rs = R\cdot$dimension nucleon/dim quark thus is $2\cdot3.9228\cdot0.841419/0.43\cdot10^{25}$ m = $15.5329\cdot10^{25}$ m = 16.41866 billion Light Years.
Thus $2\cdot Rs$~16.41866 billion Light-years
A) [f(r,t) = 0 for $r=2\cdot R_S$ for any t] that can be replaced with g $(2\cdot R_S) = 0$;
B) g'(0) = R for r = 0 the initial derivate;
C) And that verifies the condition that the speed of interaction is the velocity of light c.
The above 3 conditions imposed onto the Muon Neutrino Effective Wave Function f(r,t) uniquely determine the basis of separated solutions of interest.
Condition C) can be expressed employing the divergence operator in general coordinates r and c·t thus obtaining the simple equation div[f(r,c·t)]=1, expanded to
$\frac{df(r,t)}{dt} = \frac{\partial[u(t)g(r)]}{\partial t} + \frac{\partial[u(t)g(r)]}{\partial r}\cdot\frac{dr}{dt} = c.$ Coordinates r and c·t thus obtaining the simple equation div[f(r,c·t)]=1, expanded to

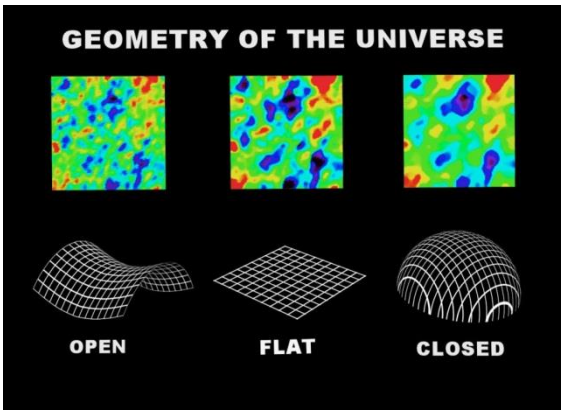
$$\frac{df(r,t)}{dt} = \frac{\partial[u(t)g(r)]}{\partial t} + \frac{\partial[u(t)g(r)]}{\partial r}\cdot\frac{dr}{dt} = c. \qquad (2)$$

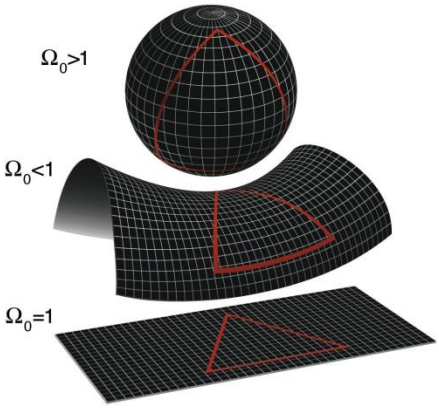
The same with the other quantum coordinates (space), time, mass, electric charge magnetic field, and temperature gravity light phonon, and all thus have a similar equation according to onduscular theory.
The particle in the motion is one-time quant a microparticle and one-time quant a wave of probability and between it executes an instant quantum jump from the successive position in space. At the transformation of the microparticle into a wave of probability, it emits a muon neutrino which gives the repartition of the mass.
Space is Quantic from the tiny dimension of the particle to the waste side of the Local Universe and is the same as gravity…mass gives gravity and gravity bends space and the two of them are materialized through the μ (muon) neutrino particles and Higgs Boson.
That mince space is the wave and particle are elastic and can be bent and torched as a piece of rubber. The same with the other quantum coordinates (space), gravity, time, phonon, electric charge, magnetic field temperature, light, and magnetism, and all thus have a similar equation, according to onduscular theory & and mass which is peculiar.
Generalized (special) relativity can be applied below these coordinates in the sense that each coordinate bends the so-called space-time curvature in Reimann's multidimensional space.
These cords are with **spherical symmetry Gravity(ν)**, **Phonon, 3D space*(μ)***, *Time(τ)*, Electric Charge (electron), Heat (ThermalPart), & *Mass coordinate* with Bottom Quark and Higgs Boson as in Chromodynamics that bends space-time. The similarity between muon neutrino (μ space) and electronic neutrino (ν graviton) equation and boundary condition was the reason that in general relativity the gravity field and space are the same things to Einstein, but they are not as you can see in the file GravBend.mw

$$\frac{R}{r}\Delta\psi(r,t) = \frac{1}{c^2}\frac{\partial^2\psi(r,t)}{\partial t^2} \qquad (3)$$

The ratio between R_s and R, $R_s/R=1979.8$ mince that there is a transformation between the 2 equations which means the Effective Wave Function is proportional but not equal. If we substitute r=r/1979.8 the

equations (3) and (1) are equivalent thus the curvature of space is approx. ~1980 times smaller than the gravitational field.
They are very similar the space and the gravity field and the curvature of space are similar but the structure is different: ν gives gravity and μ gives space that is completely different from structure and coverage.
We can assume that Space-Time bends due to Gravity, Mass, Time, Phonon, & Heat with spherical symmetry are ordered I linear thus is available superposition.

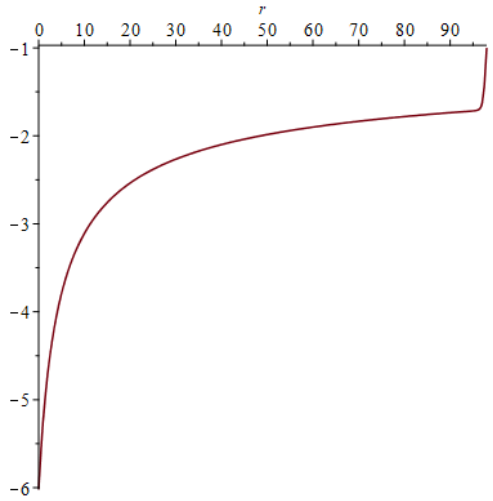




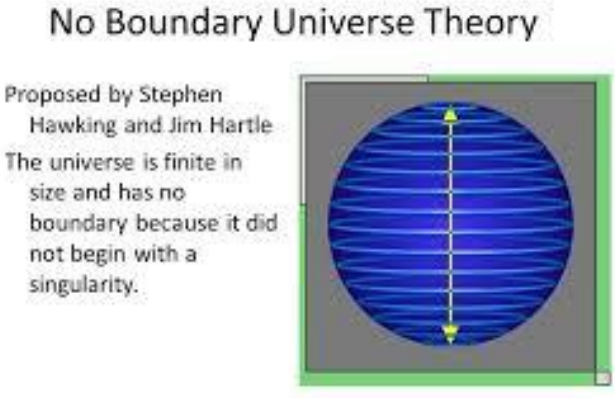
The order of distance R_S is the same as the curves radius of the universe corresponding to $\Omega_0>1$ so the Local Universe in which we have a Riemann geometry is a closed one (1.02 +/-02 is the value accepted and confirmed by the Planck telescope). If the constant distance R of gravity is of order several thence of million lightyears (approximately 4. mil lightyears…) the R_S is of order several thence of billion lightyears where the constant distance R is about $3.9228 \cdot 10^{22}$ m, which is 4.1465 million light-years, the same value as for the equation's cases for the graviton, the tau neutrino, the magnetron, and the electron. Only the R_s constant from the quantic space is around $7.766 \cdot 10^{25}$ m (Hence the value $2 \cdot Rs = R \cdot$dimension nucleon/dim quark thus is $2 \cdot 3.9228 \cdot 0.841419/0.43 \cdot 10^{25}$ m = $15.5229 \cdot 10^{25}$ m = 16.41866 billion Light Years Thus $2 \cdot Rs$~16.418 billion Light-years. This differs from the constant R for the magnetron, photon, electronic neutrino & tau neutrino. A simple observation of the star sky shows that there exists no galaxy larger in a radius greater than 2R (Diameter of $2 \cdot 8.293$ = 16.588 million light-years), simply because after that distance occurs the rejection of the star, a circumstance that explains why the universe is accelerating expanding only within $2 \cdot R_s$ radius that is Local Universe.
We start with the supposition that the Local Universe existed for 13.79 billion years and the expansion of it is made with the light speed by muon neutrino (μ) thus the event horizon of the observable universe is 16.41866 billion and due to the expansion of space 92÷94 billion lightyears for light to travel. We presume that the first stars appeared 362 million years after the Big Bang, and also appeared τ and μ neutrino thus time and space as we know it.
https://www.astro.ucla.edu/~wright/CosmoCalc.html
Thus, the time when Galaxy GN-z11 and our galaxy were made should be around ~1.187 billion light-years at the time when the light was emitted, and the redshift shows that the space increased by a factor of 12.1 to 16.41866 billion lightyears for light to travel and commoving radial distance 84.8 billion light-years as in the

redshift.mw; With the parameters: Ω_M = 0.018, Ω_{vac} = 1, and Hubble constant H_o = 69.6 we have the age at redshift z were 1.39billion years, commoving radial distance 82 billion light-years and the light travel time 24 billion lightyears.
The redshift and the name of the Galaxy GN-z11 are public at: https://en.wikipedia.org/wiki/GN-z11

Quantum Space gives reality and all particles the duality wave-particle which is generated in essence by quantum space particles. Space is one quantum of time is a wave and one quantum of time is a particle with mass. That's why an electron passing through a double split interfered with him in the time quanta in which it's a wave and also in the double split if the conditions are right the width of the split is the order of size of the wavelength of the incident particle, so the interference process appears, and the particle has an associated wavelength (de Broglie) in the order of width split. The space quanta are the dimension of the Quark $0.43 \cdot 10^{-18}$ m see https://arxiv.org/abs/1604.01280
The quanta of time provided by τ neutrino for photons is the time interval Tq in the order of probably $\sim 1.765 \cdot 10^{-19}$ seconds = the time that the photon required to travel the Bohr Radius nucleus of the atom 0.53 Angstrom at $3 \cdot 10^8$ m/s. "Experimentally, the least measured time interval until now is $\sim 10^{-18}$ s, it is 10^{26} units of Planck time. Anyway, the accuracy of the measurement of any time interval is limited by the Heisenberg principle of uncertainty, so the possibility to confirm the discrete nature of time strictly looks to be unlikely, as my modest opinion" 5th May 2017 V. V. Bannikov Russian Academy of Sciences.). The equation (1) with initial condition $\psi(R_S)=0$, $\psi'(0)=R_S$, and the speed of interaction is the velocity of light c with R_S =16.418mildLigtYear different as electronic neutrino led to the solution of the wave function on stationary state t_0=0 For radius r = 0..Rs for R_S =49:



Plot for radius r = 0..Rs where Rs = 49
Space is like in Hartie-Hawking theory a No Boundary Universe finite in size and it began from a Primordial Initial Black Hole with a dimension of a mile. At 362 ÷ 372 million years after the initial explosion appeared the first Stars



thus τ, μ that generated time and space as we know it today.

After the Big Bang there was not an equal amount of matter and antimatter thus antimatter there was a lot of matter and also a tiny amount of antimatter because of mass Quark asymmetry and the Big Bang genesis. The initial explosion of the universe was from a huge ultra-large Black Hole with a concentration of quarks of about a mile radius and that's why normal matter is predominant in the local universe. Thus, the Primordial Black Hole appeared 13.8 billion years ago. A very small version of it exists in the center of the MilkyWay the size between a basketball and a soccer ball soup of quarks. That is a consequence that according to onduscular theory the gravity force is very high but not infinite in origin because of the granulation of space thus there is no singularity in 0 points. The Schwarzdsield radius of BlackHole in Sagittarius A (Milky Way) is $r_S = \frac{2GM}{c^2} = 1.217 \cdot 10^{10} m$. The mass of our Black Hole in the Milky Way is $4 \cdot 10^6$ solar mass and the ratio of a mile and 11.2cm in volume thus the ratio is $2.9867 \cdot 10^{12}$ of the initial Black Hole in the Local Univers should have $1.24 \cdot 10^{19}$ solar mass. Inside the Gravitational Event Horizon, there is a Temporal Event Horizon with the radius $R_{\tau EvHo}$=322.587m, and within that sphere, Time goes backward because Tau neutrino (τ) within the Te.Ev.Ho. has spin - ½ and "younger" quarks arise.

Also when the soup of quarks reaches the value of $R_{sEvHo} = 5 \cdot R_{\tau EvHo}$ = 1613m the space collapses into itself and explodes in the Big Bang. http://www.michaelvio.byethost8.com/GFtau.pdf

The Schwarzschild radius of the Primordial initial Black Hole using the same equation is about 4.14 million light-years (more accurately equal to R) and that was probably the inflation limit in space and time. Is correct to say that stars around are attracted and engulfed by the Blackhole but the Blackhole is not attracted by stars around it because the graviton from the Blackhole does not escape. Thus, the Blackhole in the center of the Milky Way is not traveling because of the attraction of the neighboring Stars after all it could be spinning but not moving because of gravity.

-We know that nothing escapes from a Blackhole even light and also, we can suppose that neither the graviton (because the escape velocity from the Blackhole is greater than "c" for photon or graviton either) so is correct to say that stars around are attracted and engulf by the Blackhole but the Blackhole is not attracted by stars around it because the graviton from Blackhole does not escape. Thus, the Blackhole in the center of the Milky Way is not traveling because of the attraction of the neighboring Stars after all it could be spinning but not moving because of gravity?

Close but not right, a Blackhole does not emit gravitons but engulfs it, thus the attraction of it, by other stars is the force created by the law of gravity.

-We can generalize that, a pair of Blackholes do attract each other?

The correct answer is that the accretion disk of the matter around each Blackhole is attracted thus there is a very slow dance in 4, we may say. That is in concordance with the astronomical observations of a long time of "gravitational negotiation between Blackholes".

The minimum distance in the Black Hole of our Galaxy is $3.524 \cdot 10^{-25}$ m between the quarks mass (uniform density) $2.5559 \cdot 10^{-31}$ kg is crowded in the center of BH so the attraction force is limited to a finite value there is not a singularity in the way of infinite gravity in origin. Thus the light travels that distance in $1.17548 \cdot 10^{-33}$ seconds.

Most of the process has a positive time arow and only a few have spin projection quantum number positive ½ that's why antimatter is far less than normal matter.

The same with the other quantum coordinates (space), time, mass, electric charge magnetic field, and temperature gravity light phonon, and all thus have a similar equation according to onduscular theory.

The other physical quantities are derived from the basic of these 5 coordinates meaning that they are the combination of basic 9 (11coordinnates if we consider the space 3D).

Generalized (special) relativity can be applied to the spherical symmetry coordinates in the sense that each coordinate bends the so-called space-time curvature of the Reimann in multidimensional space.

These cords are 3D space, **spherical symmetry Gravity(v)**, **Phonon,** *Time(τ)*, *Mass(μ),* Electric Charge (electron), and Heat (Thermal Particle).

10 Nov. 2025