

# BLACK HOLE MODEL OF THE UNIVERSE : A NEW PARADIGM FOR A UNIFIED FIELD THEORY

C. Jolley Smith

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## Abstract

With NASA just announcing that black holes form before galaxies indicating that black holes may play a fundamental role in creating galaxies, there is a need to reexamine the big bang model. As an alternative paradigm, this paper proposes the early universe take the form of a Schwarzschild black hole of fused unitary electromagnetic energy.

As Einstein proposed, all energy states and forces in the universe are electromagnetic in origin arising out of the black hole fused electromagnetic energy. They are differentiated only by their total energy content limited to multiples of  $c$  and force interactions limited to multiples of  $h$ . Light =  $c$ ; matter =  $c^2$ , gravity defined as total energy content of the universe =  $c^3$  and the vacuum energy field =  $-c$ . These energy states alternate between “resting” and “quantum” energy content. When interacting, they conserve their inertial linear momentum through angular momentum, a vector. Matter which is electromagnetic energy ( $e=mc^2$ ) is formed, not in thermal collisions, but through wave interference patterns (Huygens’s Principle) that create energy superpositions of extraordinary velocities of  $C6$  and  $C8$ . These energy states have inertial mass and when interacting, conserve their inertial mass by exchanging energy and emitting the net excess, causing further collapse into point particle, or atoms. The net excess or “rate of exchange” produces the “flux” of force in multiples of  $h$  or  $f=h/w$  that produces the torque and spin of the universe as it exchanges energy at a constant and steady state. From multiples of  $h$ , the gravitational force and Hubble’s constant are derived.

The Schwarzschild vacuum solution shows that instead of a big bang, the universe started as a black hole of collapsed fused solid-state electromagnetic energy into a unitary two dimensional Euclidian Schwarzschild black hole that precludes a singularity. The universe of today is the “lighting up” of the black hole universe as energy is increased producing flows of energy and matter in spiraling intersecting motion based on the lattice solutions of Schwarzschild. Around these lattice energy flows, new black holes collapse centrally producing space and light forming new spiraling galaxies.

Such intense velocities needed to collapse electromagnetic energy into matter are only produced at the cores of stars, planets and black hole horizons. Crossing electromagnetic energy waves create superpositions of energy velocities of  $c^6$  to  $c^8$  when confined and under pressure at Planck’s dimension of  $10^{-33}$  cm. At these velocities, electromagnetic energy collapses into point like particles.

**Unified Field Principle: All energy and force states are electromagnetic origin and are limited to multiples of  $c$ , the speed of light, which is  $6.67 \times 10^{34}$ . All force states are limited to multiples of  $h$ , Planck’s constant of  $6.67 \times 10^{-34}$ .**

Defining electrons as cavity radiation moving uniformly in a magnetic envelope, Max Abraham (1875-1922) calculated the resting mass of an electron to be  $\frac{4}{3}c^2$ . Max Abraham showed the resting inertial mass of an electron is  $\frac{4}{3}C^2$  and quantum state of  $C^2$  moving in the direction of its pulse, and contracting in the opposite direction due to a quantity of negative energy of approximately 25%.

These particles reside in a field with an energy density of  $c$ . A particle of cavity radiation is produced when the linear momentum of electromagnetism is conserved through infinite angular momentum at a right angle which is a

vector. The vacuum density field or “white hole” of the Schwarzschild lattice solution provides the negative background energy field that provides the material support or field of all atomic particle interactions.

The following fields are introduced

<b>QUANTUM FIELDS – SPACE TIME</b>	Resting Inertial Mass--Radiation	Quantum Inertial Mass--Force
	Electromagnetic = c	Electromagnetic field = c
	Atomic +Electromagnetic= $c^2$	Atomic +Electromagnetic field $4/3c^2$ Rate of flux (force) =h
	Universe Gravity Field $2/3C^3$	Universe Gravity Field = $c^3$ Rate of flux (force) =3h
	Vacuum Density = -c Rate of flux= - h Space-time field	Quantum Vacuum Density -1/3c Rate of flux (force) $\frac{1}{2} hw$ Casmir Energy $\rho = .046 c/(4/3)R^4$
	Photon linear momentum = c Rate of flux angular momentum = $\hbar$	Photon Electrostatic Quantum Energy Density -1/2c =0= +1/2c
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The quantum vacuum energy density field based on the Schwarzschild vacuum lattice solution provides the negative background energy that produces the material support and stability for all force interactions in the universe. Because it is a static field that only vibrates in its excited or quantum state, it may be considered an oscillating field that produces “sound” waves when it interacts with particles of  $C^2$  cavity radiation. In its resting state, the vacuum density field is trans-Planckian and creates the undetectable matrix (because its wave magnitude is trans-Planckian) When it converges with light and particles, the vacuum torques and oscillates producing signature harmonic and color light of atoms. The trans-Planckian dimensions of the field are derived from the following fundamental equations showing trans-Planckian space and time.

The above proposes that the negative or attractive force of gravity holding matter together does not emanate from the particle itself in the form of a Higgs boson or graviton. Rather, the stability of particle structure of matter is due to the negative contraction of the vacuum interplaying with the positive forward pulse contraction of matter. This pulse in the forward direction and contraction in the negative direction predicts Maxwell equations of advance and retarded waves. It also is consistent with Schrödinger’s wave collapse equations and Dirac’s spinor Lagrangian symmetries. .

From this chart of inward and outward waves of positive and negative energy, one can derived the DeBroglie wave equation of  $E=ha/c$  and shows the energy density is a consequence of their internal angular momentum and the energy field they are operating and interacting in. This may be done by a quadrupolar energy field of  $C$ . Vacuum energy density has been calculated as

$$E=1/2 hw$$

Light always travels at a constant rate of  $C$  in a vacuum. This is because the vacuum density also has inertial mass which we previously showed was  $1/2 h$ . The DeBroglie wave equations are as follows:

$$P=e/c$$

$$E=hv=hc/w \text{ so } p=h=hc/cw =h/w \text{ } w=h/p$$

$$E=hc/w \text{ so } P=h/w$$

The following can be derived from the quantum density interaction with two particles.

$$p_1 (hc^2/c^2) + (hc^2/c^2)+ 1/2 hc/c^2 = 2hc/c^2 \text{ for two particles } =e/c^2$$

$$\text{Then } p = h = hc/cw$$

Heisenberg equation shows a relationship to the vacuum density:

$$P_1 +P_2 >h/2 \text{ and}$$

This again contributes to the overall energy “content” of the electron in its orbital field within the nucleus.

Using the rest energy formulation of Abraham, the energy density flux, or material supports of the background energy against which electromagnetic inertial mass interacts or the particle of  $C^2$  inertial mass must be something less than  $hv/2$  This is Casimir energy density equation that shows flux is  $E=2hv_j$ . Therefore, the quantum wave flux contributing to the electron conservation of inertial mass into light is  $1/2 hv$ .

$$1/2 hv_j+6.67 \cdot 10^{-35}_j = 1 \times 10^{-34}$$

This shows the **33% to 66 %** energy ratio and flux between electron and the quantum vacuum energy field. So the energy of the quantum wave field to which the electron is attached and which drives its angular momentum is  $C^3$

and the flux or negative energy of the quantum vacuum density wave that conserves its inertial mass is  $\frac{1}{2} h\nu$  that contributes to its negative energy and contraction.

The vacuum energy density provides the negative energy field support necessary for the stability of all nuclear interactions. The force of gravity is the consequence of the negative energy or advanced negative waves counterposing with an equal positive or forward moving wave which maintains the coherent structure of the atom. The force of gravity is not inherent in the photon's structure such as Higgs Boson which mirrors the photon's zero mass charge, but is produced dynamically by the negative vacuum energy of the vibrating lattice. In all quantum particles composed predominantly of "captured" vacuum energy in the interior of the electron shell, there is always a torque as the electromagnetic wave interferes with itself. In the atom, the energy exchange between magnetic and positive wave interference provides the apparent spin and polarity.

Light always travels at a constant rate in a vacuum as does matter, because matter has double the energy density or double the absorption of angular momentum before it interacts with the vacuum energy density. A particle of matter may have the ability to absorb energy longitudinally and also transversally, so it has more ability to strain or torque before it emits a "flux" of energy. If matter exceeded its quantum density energy absorption and gained on the constant of  $c$ , it would fly apart from internal pressure force causing it to explode in the same fashion as the cells in a deep sea diver suffering from a fatal case of the bends.

### **The Schwarzschild Lattice Provides the Architecture for the Universe.**

The following assumptions are made in proposing a black hole universe model:

The entropy of the universe is greater than zero which means the universe is a closed system. (Clausius) In a closed system universe, the energy remains constant as a whole. When energy increases in one region of a universe, it will flow to a lower energetic region when possible. If not possible; the universe collapses energy quantumly over time to produce massive black holes and stars.

Mach's principle is "*Local physical laws are determined by the large-scale structure of the universe*" In other words, all matter in the universe produces the gravitational force that mutually affects all other matter in the universe. This gravitational field is the field of energy of the entire closed system universe that remains at constant state of zero through energy exchange from local and non-local regions of the universe. Energy in the universe is being constantly exchanged and converted to lower and higher energy densities producing the "non-locality" of quantum interactions. Local events, as well as non-local events occur on Planck energy scale and so appear infinitely complex.

### **The Black Hole Model of the Universe**

Therefore, the Schwarzschild vacuum lattice solution requires the early universe take the form of a black hole produced from a "big crunch" of electromagnetic energy "fused" into a solid state. This produced the unitary frozen superforce of fused electromagnetic energy when a super-massive black hole collapsed into a center of a white vacuum sphere outside our universe's event horizon. As with all black holes, our black hole universe continued to absorb energy from its exterior. Under increasing pressure, the interior of the black hole universe conserved energy by symmetry breaking of the fused electromagnetic into lateral fissures of opposite pulsing negative and positive energy. Under further pressure these fissures torqued under angular momentum splitting lateral electromagnetic energy ropes into perpendicular axis configuration of positive pulsing and negative contracting lattice energy. The universe continued to split and torque into infinitely small lattice cells of pulsing and contracting energy suspended in space forming a fine mesh of energy at transPlanckian dimensions. This oscillating energy lattice composes the vacuum density field that is undetectable due to its monopolar "flat" wave magnitudes of frozen lattice energy.

Over time and under pressure, the vibrating lattice cells conserved energy into motion, shedding and collapsing loosened electromagnetic energy into the interior of the cells like wallpaper stripped off interior walls. It was the interplay between energy flows produced by the expansion and contraction of the transPlanckian lattice that produced the initial energy condition for the interior black hole universe to collapse into smaller black hole centered galaxies surrounded by galaxy formations in the white hole exterior vacuum. Our galaxy is a white hole within a matrix of black-hole-white-hole galaxies emerging concentrically from the interior of an expanding white-hole – black-hole universe. This evolving white hole lattice matrix within the interior of an initial black hole is produced through energy conservation. Schwarzschild vacuum solution demonstrates that a spherical body such as planets and stars surrounding a sphere will not “feel” the effects of the interior body. In a lattice vacuum gravity does not radiate. The field energy inside the spherical vacuum cavity must be “flat,” even if the surrounded spherical fields move radially. This produced the seemingly flat geometry of our universe. Further, the vacuum solution provides the “torque” of the entire universe providing all motion. It also provides coordinated “spins” of all particle interactions based on a quadratic lattice solution.

This splitting of fused electromagnetic energy of the black hole universe produced the architecture over which electromagnetic waves interact to produce matter and photons through symmetry breaking or wave collapse. Because it does not move through space, the lattice may be characterized as timeless and space-less. It may be compared to an arterial system through which all other energy vibrates inwardly and back outwardly in an infinite energy loop. The oscillations of the lattice produces the signature harmonics of the vacuum field which has been momentarily torqued through angular momentum of crossing energy flows. The lattice is formed from monopolar in-flowing and out-flowing energy perpendicular or orthogonal to each other creating singular arterial system energy of vibrating negative and positive energy with a cell structure at transPlanckian dimension. Evidence of transPlanckian energy is the neutrino whose inertial mass frequency exceeds Planck dimensions allowing it to travel through the entire atomic structure of earth without interacting with any of the atoms.

Overtime, the flow of the electromagnetic waves through the lattice produced more symmetry breaking into particles. These particles of standing electromagnetic cavity radiation with infinite angular momentum arrange themselves around the vertices of the lattice cell intersections creating superpositions of energy. As loose linear electromagnetic energy wave passed over, matter or standing wave particles, accretions or occlusions of electromagnetic energy formed at the oscillating energy vertices of the lattice of negative energy. These accretions of particles like cavity radiation as evolved into areas of intense negative energy pulling and fusing more electromagnetic energy into larger planetary and star like matter creations. Superpositions of immense energy at the cores of matter accretion disks evolved into present galactic stars and planets through fusion under electromagnetic symmetry breaking. Galaxies and stars are formed around the vertices of the lattice and rotate similarly to atoms rotating in a 90 degree quadrupolar relationship of up and down with a companion quadrupolar formation at 45 degrees. These binary quadrupolar formations produced companion mirrored atoms at the quantum level and mirrored galaxies at the cosmic level. Hence the E8 lie geometry applies to the energy interaction of the binary quadrupolar energy exchange and symmetry breaking.<sup>1</sup>

The Schwarzschild vacuum lattice solution predicts the Faraday effect of matter and light flows in a spiraling corkscrew effect. This spiraling lattice energy create twisting cones ending at the horizon of the black hole atomic nucleus and twisting in a loop and flowing outward in the perpendicular direction. This twisting at Planck’s dimension flowing in Huygens wave interference lattice superpositions creates an intricate tapestry of inward-outwardly flowing alternating vibrating matrices. It is these flows of pulse and flux that combined cosmologically to produce the movement and stability of “gravity” of the cosmos.

The Schwarzschild solution of  $2mg = 0$  provides all matter is composed of black hole-white hole concentric spheres that are flat or two dimensional. Atoms are produced from symmetry breaking at Planck’s dimension where the

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<sup>1</sup> The Schwarzschild lattice, is given by:  $d/2 = dr^2(1 - 2m/r) + r^2(d^2 + \sin^2 \theta)$

wave collapses under energy velocities of C6 to C8. This produces the nucleus which may be characterized as a quantum black hole of a broken magnetic particle surrounded by radiated vacuum of the white hole of the electron shelf. At both the atomic and cosmic dimension, the lattice creates an interior vacuum where particles can pulse radially around an axis consistent with Dirac spinors. The orthogonal vector groups of Dirac spinors provide that atoms align themselves into binary quadrupolar clusters around the vertices of the Schwarzschild lattice. Dirac spinors are a mathematical description of the quantum state of the relativistic electron and defines the geometric quadratic form of vector space of an algebraic quantization procedure. The space of spinors thus carries a projective representation of the rotation group which provides the three dimensional holographic quality to spherically flat atoms and the universe.<sup>2</sup> The three dimensional holographic quality is produced by E8 Lie manifolds of pulsing up and down particle-like waves. Atoms are not particles, but an occlusion of or spherical electromagnetic energy which continues to reproduce itself or self replicate under increased pressure accreting at the energy occlusion wave.

The Schwarzschild lattice provides that all energy waves in the universe spiral infinitely into to a relative point like particle wave, intersecting through the atomic nucleus. At the boundary of the atom, the photon is produced and infinitely radiates. The net excess energy of the wave which is trans-Planckian electromagnetic energy twists in a loop through the nucleus and changes course by taking the outwardly flowing waves in the direction opposite of and at a 90 degree angle or perpendicular to its previous path. The energy flows in the complex dynamics of the Penrose twistor formations looping infinitely over upon its self and exchanging energy with companion binary quadratic atoms. This produces an energy exchange of 720 degrees between 8 90 degree turns as energy is looped through the quadrupolar atomic cluster complex. As energy spirals in and out, its spreads outwardly in spirals through space based on n Huygens wave interference patterns creating infinitely small to large vortices of flowing energy exchanges throughout the universe. The math of Dirac-Lagrangian symmetries and the nonabelian E8 lie geometry is consistent with both the gauge mathematics of the Standard Model and the Super String model mathematics. The wave interference patterns of the universe mirror the directions and particle superpositions of the E8 lie geometric.

This creates complex dynamical geometry to the energy in the universe that provides for matter production through collapsing energy into atomic particles under immense energy velocity superpositions of  $c^6$  to  $c^8$ . Atoms are defined as rotating asymmetrically electromagnetic cavity radiation with a nucleus. The nucleus composed of asymmetrically charged protons and neutrons are infinitely looping energy of a Schwarzschild black hole model at Planck's dimension surrounded by a white hole electron shelf confining the interior vacuum energy.

The lattice structure provides the macro-architecture of the universe of companion galaxies rotating around vertices of the galactic lattice. H is Hubble's constant and g represent interacting galaxies and r equals the radius. However, Schwarzschild lattice solution shows that a photon is infinitely outwardly radiated light that continues as long as its source. Therefore, extrapolating the constant to account for the expanding universe of 1-z is inaccurate. Light (photons) between galaxies expands at a constant rate with the expansion of the universe. Also, as galaxies rotate advancing each other there will be a torquing or a blue shift in the photon frequency as it squeezes the vacuum between. e. Companion galaxies are arrange along the lattice like spinning atoms with up and down spin in a quadrupolar or orthogonal configuration. Energy is exchanged between companion galaxies maintaining their inertial masses.

## Binary Star System: The Supernova- Black Hole Tango: The Energy Sustaining The Lattice Energy Universe

<sup>2</sup> Gauge symmetries E8lie geometry  $S = \int dt S = \int L(x) dx$ ; Dirac Lagrangian  $L = (i\hbar \bar{\psi} \dot{\psi} - mc^2 \bar{\psi} \psi)$ ; Cyclic system Lagrangian also applies, any action in differentiable symmetry is conserved the principle action of least action.  $L = T - V$   $p_1 := L/q_1$   $p_2 := L/q_2$  of Noether's Theorem.  $L(q_1, q_2, q_3, q_4, \dots, q_1, q_2, q_3, q_4, t) = L(q_i)$ ; Schrödinger's time equation:  $E = i\hbar \frac{\partial \psi}{\partial t} = -\hbar^2 \nabla^2 \psi + V\psi$ . In the time-dependent equation, complex conjugate waves move in opposite directions. Given a solution to the time dependent equation,  $\psi(x, t)$  the replacement:  $\psi(x, t) \rightarrow \psi(x, -t)$

The role of super nova explosions and black hole collapse produces the energy and forces in a steady state and acts according to fluid dynamics to hold the structure of the universe in perfect equilibrium.

Stellar mass black holes may be produced by the collapse of the cores of massive stars during supernova outbursts. After a neutron star explodes producing a super nova on the order of 1.4 M(Sun), shock wave next propagates through the outer layers of the star igniting nuclear reactions and pushing on the envelope of the star depending upon the detailed structure of the envelope of the star. After the neutron star phase there is no known type of matter which can generate sufficient pressure to overcome the effects of gravity and the star must then continuously collapse until it compresses to infinite density and zero volume.

When a supernova explodes, it blows energy outward in huge tidal pulse wave. The pulse is visible by the photons careening outward in Huygens super currents producing waves that collapse into matter of heavier elements and spreading outwards into space. Matter, energy and photons create huge fireworks that light up a region of space

At the moment this huge energy pulse spreads through space, the black hole collapses, imploding and suctioning energy producing a counterbalancing vacuum that results in the forward pulse and suctioning vacuum to split the electromagnetic energy in a unipolar lattice of frozen energy. This creates a black hole surrounded by a white hole producing an expanding universe of greater space and light. This is the quantum waves of energy being pulled backward in time running to meet in a head on collision the forward moving pulse produced by the Supernova.

These binary supernova black hole formations creating huge energy pulses produce the Maxwell advance and retarded waves. The black hole literally strips energy from the interior walls of the black hole universe with produces more electromagnetic content into the universe. This energy at the interior walls is stripped of at Trans-Planckian energy. The corollary to black hole formation is the instantly equal expansion of space by pulling energy off the walls of the unversed. This explains why outer rim galaxies appear to be accelerating apart at the speed of light.

The alternating collapse and wave pulses produced by the black hole formation increases the total energy in the universe and expand it equally. It acts both in advanced waves from the other side of the universe and retarded wave from the forward moving energy pulses. The energy is a like a piston engine but on a quantum and cosmological scale.

The Universe as an energy field has a sum total equaling 0, but in local regions the energy is negative or positive just like in an electric field. The energy flowing to the black hole from the opposite region of the universe and the energy flowing outward from the star's tidal wave of light produce the unipolar fused energy configuration that produces the flat energy wave of the lattice.

It is frozen energy grid through which positive energy from the supernova explosion is blown outward in all directions and negative energy from the collapsed of space into a black hole pulls energy from the opposite direction from the distant rim toward the positive energy flowing outward. Both energy waves are unipolar with one degree of freedom going forward or backward in space time.

### **Geometry of the Black Hole Model**

In 1923 Birkhoff showed the static Schwarzschild solution is the unique vacuum solution with spherical symmetry. If the spherical body explodes or implodes the surrounding field would not respond or "feel" any trace of it. In particular no spherically gravity radiation is possible. This field inside the spherically vacuum cavity must be "flat" with no charge or angular momentum, even if the surrounding field moves radially. For space time if  $\mathbf{r} = \mathbf{0}$  then  $\mathbf{m} = \mathbf{0}$  in which case the Schwarzschild metric becomes the Minkowski metric. It shows that concentric spheres E1 and E2, with symmetric sphere but radially moving both inside and outside, do not "feel" the influence of the other. Inside tee two spheres the Schwarzschild metric applies. A massive star surrounded by and expanding in an isotropic

universe does not “feel” the effects of the Universe.

As for the lattice, spherical symmetry implies that it will be a radial distortion of Euclidean 3-space E3. The metric of E3 in polar coordinates is  $dl^2 = dr^2 + r^2(d\theta^2 + \sin^2\theta d\phi^2)$

The Schwarzschild solution, taken to be valid for all  $r > 0$ , is called a **Schwarzschild black hole**. It is a perfectly valid solution of the Einstein field equations. For  $r < r_s$  the Schwarzschild radial coordinate  $r$  becomes time-like and the time coordinate  $t$  becomes space-like.  $2MG/c^2$

At infinity a particle  $A=1$ . Schwarzschild space becomes Minkowski space so that:  $1-dt/ds = \gamma$  the Lorentz factor.

With the Schwarzschild  $r = 2m$ , the g-field is infinite. The infinite static g-field metric means a particle remains at rest in a lattice and means it has infinite acceleration or becomes a photon. The locus of  $r = 2m$  means that the outwardly directed spherical light goes nowhere. The light radiation will turn out to be a horizon of a black-hole whenever the energy continues through it. The geometry of the space in the sphere is flat and Euclidean. The radius is equivalent to vacuum solution ends at the surface of the central body. The radius is equivalent to:  $r_s = 2GM/c^2$

At  $r = 0$  the curvature becomes infinite indicating the presence of a singularity or black hole. However,  $r < 0$  and produces the infinite black hole-white hole curvature. Kruskal-Szekeres coordinates are a coordinate system for the Schwarzschild geometry for a black hole. These coordinates cover the entire spacetime manifold of the maximally extended Schwarzschild solution and preclude a singularity and are given as follows:  $R^{abcd} R_{abcd} = 12r^2/s^6$

These equations support the notion of the background quantum wave field is in the shape of a lattice with vibrating points of spherical outward directed light at infinite acceleration which is at “rest” throughout the universe. These “frozen” outward radiating points of light have a “flat” wave frequency (photons) that surround a black hole cavity. When the inertial mass of this Schwarzschild increases over time it must conserve its linear momentum into angular momentum, and virtual particle and neutrinos appear briefly. The particles are the quanta wave energy from the quantum energy lattice field.

This equates to two quadrupolar rotating spheres along the lattice vertices grid, producing an inward and outwardly directed energy of the lattice. This does not produce a singularity in the generally understood sense. The singularity is the moment of infinite magnetic inflow of energy to a point in space. As far as black holes, the light ends at the horizon of the black hole and is infinite. The energy entering the black hole is also infinite. The energy flows toward the black hole horizon and outwardly in a perpendicular direction.

Black Hole Entropy: Hawking radiation from a black hole also shows the vacuum density to be a field with a velocity approximately  $C^3$ .

The Schwarzschild solution requires that a photon’s frequency stay regular if extended back into the past region. Again, this is consistent with a physics of the black Hole Universe. Notwithstanding, Hawking used a black hole solution without a past region which forms at a finite time in the past because the trans-Planckian issue is seen by many to be not physically possible.

If one assumes the Casimir vacuum density of a bounded sphere, then it is fundamental to the universe. The same effect occurs at the point where matter falls within a white hole where it accumulates on it but has no future region where it can be emitted. Tracing this photon its future must be into a trans-Planckian region.  $r = 2M + u^2 / 2M$ .

So a field theory defined on a black hole background is in a thermal state whose temperature at infinity is:

$$T_H = 1/8 M$$

Is in natural units with  $G$ ,  $c$ ,  $h$ -bar and  $k$  equal to 1, and where  $\kappa$  is the surface gravity of the horizon. So a black hole can only be in equilibrium with a gas of radiation at a finite temperature. Since radiation incident on the black hole is absorbed, the black hole must emit an equal amount to maintain equilibrium.

The radiation from a Schwarzschild black hole is as follows:  $T = \frac{\hbar \kappa}{8\pi G M k}$

where  $\hbar$  is the reduced Planck constant,  $c$  is the speed of light,  $k$  is the Boltzmann constant,  $G$  is the gravitational constant, and  $M$  is the mass of the black hole.

The change in entropy when a quantity of heat  $dQ$  is added is:  $dS = dQ/T = 8\pi M dq$

The entropy of the hole by Hawking is follows:  $S = \frac{c^3 k A}{4 \hbar G}$

Again, thermal energy is escaping at trans-Planckian wave velocity of  $C^3$  because the inertial mass or total energy content of the Universe; including the energy of the black hole is  $C^3$  at its quantum maximum energy state. The black hole must release its maximum energy density of  $C^3$  to return to its equilibrium. Super-massive black holes may absorb more energy than they evaporate, and therefore may grow, or in the reverse will shrink.

Hawking temperature evaporation is proportional to the surface gravity of the black hole, which in turn is inversely proportional to the mass with large black holes thus emitting less radiation than small black holes.

From the evaporation of a black hole, it may also be extrapolated that the energy is decreasing into a static state of  $C^3$  from a black hole. The energy traveling at  $C^3$  flows from the evaporation of black-holes and saturates the space around it and is considered a singular static moment of time-space light. It is the moment membrane or seam of frozen light and frozen magnetic wave.

Finally, like an atom, the black hole has a flat 2 dimensions. That is why its energy density is based on its area and not its volume.

The inertial mass state of the Gravity is  $E = E_0 / (1 - (q/c)^2)$

A vacuum rotating gravitation field gives rise to electromagnetic forces which are given by where  $e$  is the charge on the electron,  $c$  is velocity of light and  $g$  is local gravitation acceleration and  $w$  is the angular velocity of rotation of the body or black hold. The term  $g \times w$  is analogous to a gravitation gyroscopic term.  $B = \left(\frac{e}{c^3}\right) g \times \omega$  The Schwarzschild lattice, is given by:  $d^2r = dr^2(1 - 2m/r) + r^2(d\theta^2 + \sin^2\theta d\phi^2)$

### Gravity in multiples of $h$

If according to the Schwarzschild metric, energy flows inward and outward at the rate of Planck, then Gravity may be derived from particle interactions occurring in multiples of Planck. **Max Von Laue** (1879-1960) in **Inertia and Energy** emphasizes that Newton does not equate gravity of mass with the acceleration but to the rate of the change of momentum. Therefore the force of gravity may be derived from the rate of energy exchange at the particle level. According to Von Laue, particles defined as cavity radiation moving uniformly in a magnetic envelope have a linear momentum, “resting velocity,” and angular momentum or quantum velocity. The interaction of two particles produces a torque into angular momentum of the quantum state until energy is exchange in conservation of inertial mass. It is the emission of the excess energy that produces a “**flux**” and the accelerative force felt by opposing objects. This net excess energy is inversely proportion al to the difference in mass of the two bodies and their distance. When both bodies achieve maximum energy or inertia, the rate of energy exchange and the “flux” of excess energy produced the accelerative opposing force pushing apart the recoiling bodies. The energy exchange and the “flux” or force produced thereby occurs at the rate of Planck. Energy states are defined by linear

momentum. Flux or torque is the result of linear momentum conserved into angular momentum. Particle creation is produced when angular momentum reaches perpendicular right angle, or infinite vector aligned with the perpendicular axis of the lattice.

As previously stated light always travels at a constant rate in a vacuum as does matter, because matter has double the energy density or double the absorption through angular momentum before it interacts releases its excess energy into the vacuum energy density. A particle of matter has the ability to absorb energy longitudinally and transversally, so it has more ability to strain or torque before it emits a “flux” of energy. An atomic configuration in a binary quadrupolar intersection of the vacuum density vertices, has three times the ability to torque because of two transversal axis that give it a three dimensional absorption of energy. Therefore, unit of mass is its quadratic structure of four atoms. Each particle has a combined a quadrupolar torsion strength as it fires off its torque round in a circle before emitting excess energy. Therefore, the gravitational force between to objects interacts at three time absorption so three times less fast than light in a vacuum. Therefore  $G = h^3$ .

Hubble’s law is used to determine distances based on velocity due to the expansion of the universe can be used. Since gravitationally interacting galaxies move relative to each other independent of the expansion of the universe, these relative velocities, called peculiar velocities, need to be accounted for in the application of Hubble’s law. Contrary to this interpretation, the black hole model shows that everything is expanding relative to everything else in the universe. Hubble’s constant performs the same function as Newton’s constant. It determines the rate of energy exchange between rotating “companion” galaxies which is based on the inverse proportion law. It constant energy emission produced as a force between rotating galaxies orbiting each other and exchanging energy when they reach their quantum states. As with particle energy exchange, galactic energy exchange produces the accelerative force pushing a part the recoiling galaxies akin to elliptical orbits of the moon around the earth.

Therefore the equation should read:  $F = H g l g^2 / r^2$ . Hubble’s constant is net energy change at every point in the universe as it recedes away from us. Some galaxies are approach while other galaxies recede based on Schwarzschild lattice, orbit radially in a flat geometric spherical universe. Earth also is a wave superposition from which all energy flows outward from a central point. Therefore, from earth all energy red-shifts in every direction from a central point of earth. The redshift is smaller near our galaxy and sharper the farther out. Hubble’s constant is the net energy emitted at every wave superposition at every point in the universe. Every expanding point produces a red shift since it is expanding outwardly from a central point in the direction of time away from its original position centrally. Hubble’s constant is still tied to the speed of light but represents the net difference of energy emission between four interacting energy waves conserving their linear momentum. The quadrupolar interacting energy waves are based on  $C^3$ . From the position of earth the universe appears to be expanding outwardly in a red-shift because earth is a planetary wave superposition wave spreading outwardly according to Huygens’s principal. that observation from earth sees a red shift expansion is because earth is at a Huygens wave superposition

## Conclusion

The lattice solution provides the geometry of the white-hole-black-hole universe is a unitary system explains more phenomena than the big bang. It explains the isotropic flat geometry of the universe. It explains the constant symmetric energy redistribution of continuous energy through pulse and contraction of spinning particle torquing radially through space. Torque and spin can only be explained by using a closed system model of the universe. The black hole model explains dark energy and dark matter which is matter and energy yet fused with photon producing visible matter. Dark energy + dark matter = Black hole walls of the universe bounding the white hole interior of our universe. A closed system also shows why nuclear reactions are so stable and invariant. It explains why all energy interactions are based on inverse proportion due to the geometry of the expanding universe. This model shows why light and matter travel at constant speed proportional to each other in a vacuum. Matter composed of  $c^2$  has greater capacity for energy absorption and so has greater capacity to deform and torque across its transversal axis before emitting energy at a constant rate proportional rate to  $c$ .

Further, due to conservation of energy, the black hole model provides a steady state model which requires the universe to always remain at a constant density of 75% vacuum to 25% matter. It provides that the same percentages of 25% matter to 75% vacuum remain constant throughout the evolution of the universe. This ratio of “dark” energy to matter was observed in a paper published in July 2002 that verified the Casimir energy density calculated for a spherical shell of radius equal to the size of the Universe projected back to the Planck time is almost equal to the present day critical density.

$$\rho = .046 \frac{c^4}{(4\pi/3)R^4}$$

The author used Casimir energy of a conducting spherical shell bounding three dimensional spaces for the electromagnetic vacuum inside a shell of radius R is the scalar field, there is the possibility to get the Casimir energy from its quantum fluctuations with the required equation of state. Therefore, *the size of the Universe that contains a Casimir energy density equal to the critical density is in the same range as the present Hubble size of the Universe extrapolated back to the Planck time* if this number was less than 10.

Based on Heisenberg’s uncertainty principle and Boyles law of a closed system, When matter is created, an equal vacuum is created at the same time, or Schwarzschild lattice solution of concentric white hole (vacuum) surrounding a black hole sphere. It also predicts a 24 cosmic matrix of Kruskal geometry to the universe producing galaxies rotating radially around the Euclidean flat sphere of the universe. Further, it predicts that the universe is evolving at the same rate everywhere which would include the probability of similar planets like the earth of higher intelligent beings at the same state of scientific technological evolution as ours.

Based on this model the following energy conservation principle may be expressed. Flux or angular momentum is limited to multiples of Planck. Linear momentum or standing energy fields are limited to multiples of C. This basic principle can be used to understand all energy and forces in the universe. The universe is in a constant rate of torque and flux at Planck time. This is derived also from the strict interpretation of SRT.  $E=mc^2$  shows that all energy and matter are electromagnetic light waves. There is always a quality of torque in the presence of all electromagnetic wave energy, including the interior of a particle of matter.

The implications of the black hole model universe is that all space is expanding exponentially from every point in the universe is derived from the following equations.

$$\begin{aligned} &\text{Negative Schwarzschild lattice } r < R_s \\ &\text{Heisenberg Uncertainty Principle } \Delta x + \Delta p = h/2 \\ &\text{Robertson-Schrodinger Equation } t = e^{-h\bar{v}/2} \end{aligned}$$

These equations show that matter and time are created by light. It is the "lighting up:" of the universe that creates time and matter moving in a forward direction against the backward direction of the black hole universe’s fused electromagnetic energy.

Heisenberg uncertainly equation shows until a particle is created by having both a position and motion (spin) through space at the rate of h, no such particle exists and is absent until "lit up".

Schrodinger’s equation shows that time is dependent on the movement of energy at the rate of h.

The above shows that space-time is dependent on the speed of light, and may be better defined as “space-time - light.”

This leads to the inevitable conclusion that every particle in a body system is also expanding. Therefore, it can be seen that the life cycle of every living system is also dependent on the speed of light so that aging may be the

process of losing energy within a system due to inverse proportion to distance causing an inability to maintain a coherent energetic structure. Therefore it may be said the life cycle is based on an inverse proportion principle of mass and distance. Further, stable atomic fusion may only be achieved through wave interference velocities of multiples of  $c$ . Finally, as with a hologram, the black hole model of the universe also means that everything in the universe is a unitary wave simply interfering with itself in complex loops of energy flowing in positive and negative waves in a singular arterial system of energy. In this respect, the phrase “we are all one” is not a metaphor but fundamental to physics.

### **Experimental Proof**

In 2001, August the WMAP satellite sent back data that showed that universe may not have; infinite flat geometry by the absence of all the expected fluctuation frequencies is such infinite space existed. The frequencies of the microwave background radiation that permeates space are similar in their frequencies of sound. As the vibrations of a bell cannot be larger than itself, so to the frequencies of the universe is limited by its size. Mathematical analysis shows that the frequencies of the data correspond with the some of the platonic solids. Cosmologist and MacArthur fellow Jeffery Weeks published a paper in Notices of the American Mathematical Society showed the tetrahedral, octahedral and dodecahedral models of the geometry of space agree with the new data finding and solved the mysteries of the missing fluctuations. <http://www.ams.org/notices/200406/fea-weeks.pdf>

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### **Mathematical Proof.**

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