

A FINE LIGHT OPERA: A NEW PARADIGM FOR A UNIFIED FIELD THEORY

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Abstract

All forces in the universe are electromagnetic in origin. They are differentiated only by their total energy content limited to multiples of c and 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 have inertial mass and when interacting, conserve their inertial mass by exchanging energy and emitting the net excess. The net excess or “rate of exchange” produces the force in multiples of h . All matter and energy are created not by chaotic random thermal collisions, but according to Huygens’s principle of wave interference under intense pressure at centers 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 particles, defined by Planck as electromagnetic cavity radiation. The vacuum density field of the Schwarzschild lattice solution is negative background energy field that provides the material field support for all atomic particle interactions.

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 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.

The “frozen” negative lattice energy vibrates and oscillates sound waves as its torques under the pressure of positively flowing energy of light and matter. It is the angular momentum of energy that produces temporary inertial density within the lattice radiated field. 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 to each other creating a singular arterial system of vibrating negative and positive energy.

This provides a new model for nuclear fusion. Atomic particles fuse through symmetry breaking under the immense energy superpositions of c^6 to c^8 which may be mathematically determined. The black hole model of the universe also provides that space and time are expanding exponentially at the speed of light from every point in the universe explaining many physical paradoxes observed in the present universe, including “non-local” interactions. Implicit also is the inevitable conclusion that organic life cycles are based on the speed of light evolving over time at the rate of Planck’s constant.

Introduction

A natural philosopher once said that a new paradigm may be needed to find a unified field theory. This is a philosophical paper in response to the call for a new paradigm. It proposes a new quantum reality where light and matter dance in and out of view based on Newtonian laws of energy conservation and the Schwarzschild vacuum solution.

1.1 A Fine Light Opera

If there is anything at all, it must be light. All forces in the universe are electromagnetic in origin. (EM) They are differentiated only by their total energy content limited to multiples of c and interactions limited to multiples of h . Light = c ; matter = c^2 and gravity defined as total energy content of the universe = c^3 . These energy states have inertial mass, including photons, and when interacting, conserve their inertial mass by exchanging energy and emitting the net excess. The net excess or “rate of exchange” produces the force in multiples of h .

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 $C8$. Thermal kinetic energy only appears chaotic due to the velocity and magnitude of the forces, i.e. rate of exchange. Matter is electromagnetic energy conserving its inertial mass through infinite angular momentum and is produced under intense energy pressure causing asymmetrical collapse of electromagnetic energy into a fused wave particles. Energy velocities of $C6$ and $C8$ occur at regions in the universe of dense energy accretion which are black hole horizons, stars and planetary cores.

This paper introduces 4 energy density fields: gravity, atomic (strong and weak), electromagnetic and the quantum vacuum density field. All are electromagnetic (EM) in origin. They differ only in their resting and quantum state (force) by proportional velocities.

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

Max Abraham (1875-1922) calculated the resting mass of an electron to be $4/3 c^2$,

Therefore, the approximate percentages for “resting” and “quantum” states of energy and forces are given in the following chart. CAVEAT: The following is offered not for mathematical certainty, but only for demonstrating the hypothesis that energy states are predictable based on proportional energy interactions. Others more qualified than I may find different proportional energy states. This caveat applies to all equations in this paper which are given for hypothetical demonstrative purposes only.

QUANTUM FIELDS –SPACE TIME

Resting Inertial Mass--Radiation	Quantum Inertial Mass--Force
Electromagnetic = c	Electromagnetic field = c
Atomic = $4/3 c^2$	Atomic field = c^2 Rate of flux (force) = h
Universe Gravity Field = $2.33\% c^3$	Universe Gravity Field = c^3 Rate of flux (force) = $3h$
Vacuum Density = $- C+33\%C$ (photon) = $0=2.33\% C$ Rate of flux = $- h$ Spacetime field	Quantum Vacuum Density = $-$ Rate of flux (force) = $1/2 hw$ Casmir Energy $\rho_0 = .046hc/(4\pi/3)R^4$
Photon linear momentum = c Rate of flux angular momentum = \hbar	Photon Electrostatic Quantum Energy Density $-1/2c = 0 = +1/2c$

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, it may be considered an oscillating field that produces “sound” waves when it interacts

with particles of C2 cavity radiation. When it converges with light and particles, the vacuum 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 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.

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

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 uncertainty 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 of mass 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 at 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 this respect, the phrase "we are all one" is not a metaphor but fundamental to physics.

1.2 The Black Hole Universe Model

This theory is based on the following assumptions.

1. Clausius equation $S_{universe} > 0$ provides the entropy of the universe is always greater than 0. This means the universe is a "closed" system.
2. 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.
3. According to the law of energy conservation, the energy in the closed system universe remains constant. In the universe, energy flows to lower energetic regions when possible. If not possible, the universe collapses quantumly over time to produce massive black holes and stars. 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.

4. Noether's theorem (also known as Noether's first theorem) states that any differentiable symmetry of the action of a physical system has a corresponding conservation law. The action of a physical system is an integral of a so-called Lagrangian function, from which the system's behavior can be determined by the principle of least action.

5. 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 supermassive 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 such pressure, the interior of the black hole universe must conserve energy by either expanding or collapsing by energy symmetry breaking. It is the interplay between expansion and contraction 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 surrounding 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.

6. Applying the above principles, the early black hole universe continued to absorb energy from the exterior event horizon producing increasing pressure. The early universe’s energy absorption was conserved by symmetry breaking of the unitary electromagnetic solid state universe into positive and negative lateral energy fissures vibrating in opposite direction at transPlanckian dimensions. The symmetry breaking of positive with opposing negative polarities created the vibrating architecture of the early isotropic universe. This oscillating energy composed the vacuum density field that is undetectable due to its monopolar “flat” wave magnitudes of frozen lattice energy. This splitting of fused electromagnetic energy resulted in a unitary rope of positive and negative opposing energy pulsing and contracting. This splitting of fused electromagnetic energy into linearly flat opposite monopolar vibrating energy fissures continued to expand and spiral outwardly throughout the universe at Planck’s dimension. 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 energy lattice does not “flow” but vibrates at trans-Planckian alternating pulses and contractions.

7. Overtime, these frozen fissures absorbed maximum energy and so converted and conserved excess energy through motion. The most efficient energy motion conservation in a closed system is circular and so energy lattices started to torque into flat spiraling motion. At some point the flat linear spiraling magnetic and electric vibrating waves could not hold their centers. They split into further smaller lattice cellular structures, torquing into frozen right angles forming Planck size electric perpendicular poles around which Planck size magnetic fields, creating Planck size cells of transversal and longitudinal polarities of opposing energy grids. This produced a quadrupolar energy lattice forming an interior “vacuum” into which electromagnetic positive energy may radiate or vibrate. Under more pressure, the interior vacuum of the lattice could not hold. Further symmetry breaking occurred where the interior walls stripped off like shedding wall paper collapsed into the electromagnetic bipolar waves that moved linearly through the lattice. The flow of the waves through the lattice produced more symmetry breaking into particles. These particles flowing in loose waves began to accrete at vibrating vertices of the lattice of negative energy. These particle accretions evolved into areas of intense negative energy pulling and fusing more electromagnetic energy into larger planetary and star like matter creation. Under increasing exterior pressure, further symmetry breaking through atomic fusion occurred centrally. Superpositions of immense energy at the cores of matter accretion disks evolved into present galactic stars and planets through fusion under electromagnetic symmetry breaking.

8. The above model of the lattice of rotating energy provides the torque that spins and moves everything in the universe through constant energy exchange as all energy is conserved into different states. The alternating pulse and contraction between the quadrupolar lattice vacuum energy density provides the energetic dynamical geometry of the universe based on angular spins of matter moving radially in a flat lattice structure of the universe. Kruskal-Szekeres coordinates provide the inward and outward flow of energy. This is the coordinate system for the Schwarzschild geometry for a black hole and precludes a singularity. These coordinates cover the entire spacetime manifold of the maximally extended Schwarzschild solution and produce a continuous flow of energy in space. The black hole is not a singularity but a unitary Euclidean two dimensional flat disk of fused electromagnetic energy. It is a two dimensional sphere with area but no volume. Also, matter and energy are not created by chaotic random thermal collisions, but according to Huygens's principle of wave interference under intense pressure at centers 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 under the pressure into point particles, defined by Bohr as electromagnetic cavity radiation moving uniformly in an envelope.

9. Atoms align their spins in a binary quadrupolar configuration around intersecting vertices of the perpendicular and longitudinal axis of the split electromagnetic lattice polarities. These atoms exchange energy at 90 degree angles to companion atoms on the vertices, cycling around eight 90- degree atomic angles for a total of 720 degrees. According to the Schwarzschild solution all concentric spheres are flat, including atoms. Atoms are produced from symmetry breaking where the nucleus collapses into a black hole of magnetic particle surrounded by the white energy hole of the electron shelf. Atoms align their spins pulsing radially around the vertices of the vacuum matrix. The lattice creates an interior vacuum negative where particles can pulse radially around an axis consistent with Dirac spinors. The three dimensional quality is produced by E8 lie manifolds of pulsing up and down particles. This mechanism is consistent with the Lagrangian for a Dirac Field and the Lagrangian Euler for cyclic time.

10. The above chart shows the "resting" energy content of the universe is C3, with the "quantum" state having a net negative vacuum torque of Casimir energy. This net negative energy at the quantum state universe provides the torquing and stability of the universe as it evolves over time and space through constant motion and interactions. This torque provides for the expanding white hole universe due to increasing interior collapsing of smaller black holes that causes the stripping energy away from the interior walls of the outer rim of the fused black hole universe. This universe is an infinite source of electromagnetic energy in a fused state at its outer rims.

11. Based on the 33% flux to 66% resting ratio of matter and light creation, there will always be a 25% matter to 75% "dark energy" ratio in the ever expanding universe. Boyles law that provides the constant of $PV=k$ for a closed system dictates that the black hole universe remains at a constant steady state of matter proportion to its vacuum.

12. From the black hole model one can derive Casimir energy density for a spherical shell. The Black hole model solves paradox of why we do not see any effect of the infinite zero point energy of the quantum vacuum. Unlike an open infinitely expanding universe where the vacuum cannot contribute to gravity, the Casimir type vacuum energy density arising from bounding the vacuum can contribute to gravity from the interior of the black hole universe. As later discussed the Casimir energy density for a spherical shell of radius equal to the present of the universe projected back to the Planck time universe is almost equal to the present day critical density.

13. The Schwarzschild vacuum solution also provides that the universe and atoms are two dimensional flat bounded spheres. The three dimensional volume of our visible reality is produced only as a result of the quadrupolar oppositional spins of atoms arranged at the vertices of the lattice cells. This is consistent with the holographic principle of two dimensional information projected inwardly that produces a three dimensional picture. The differentiation and increased complexity of light and matter evolving over time produced under the extreme pressure of the black hole model is due to the location and velocities in the geometry of the dynamical universe. This implies an "implicate order" or design

to the universe that moves in a forward direction through time, evolving from simple to more complex. Since the initial geometry of the universe mathematically determines the evolution of everything, the future of the universe already exists in the unseen lattice energy of the vacuum. It is this lattice that provides the “implicate order” of all that is.

The black hole model of the universe also provides that space and time are expanding exponentially at the speed of light from every point in the universe explaining many physical paradoxes observed in the present universe, including “non-local” interactions. Moving exponentially back in time, the galaxy was proportionally compact, affecting all time dependent interactions, including the life cycle of all systems based on the speed of light. Light dependent systems would include the life cycle of all organic matter. If every point in space is expanding exponentially, then the atoms of all body systems are expanding away from each other at every point to within the body system. The energy producing the coherence of atoms within a defined system is depleted producing “death” by evaporation into the quantum density field. If this is so, then life and death are based on the atoms of an organic system expanding to the point where the ability for a system to retain its atomic structure within a coherent system is diminished based on inverse relationship of energetic mass to distance. The inverse proportion may produce life cycles based on multiples of C and h .

The creation of all matter and light can now be seen as the interaction of electromagnetic energy velocities at multiples of C and h . It is the asymmetrical interaction of four fields, gravity, atomic (strong/weak), the electromagnetic and the quantum vacuum density field of “negative” energy that supplies all that is created and seen in the universe. 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 this respect, the phrase “we are all one” is not a metaphor but fundamental to physics.

1.3 And Let There be Light

Although appearing solid and particle like, all matter is composed of “light” energy with varying linear and angular momentum velocities. All energy fields above noted, and hereafter called the “asymmetric Quantum fields” have a “resting” inertial mass and “quantum” energy state. Every object within an inertial gravitational frame is the total sum of its energy content plus the energy content of the gravitational field in which it is located. This shows that the total energy content of a gravitational reference frame in General Relativity is always C^3 and is equivalent to the inertial reference frame of Special Relativity.

Both in Einstein’s Theory of Special (SRT) and General Relativity, (GRT), light, matter, and gravity always travel at a relative constant speed in a vacuum because all three are composed of different velocities limited by multiples of C and h . Light always travels at a constant linear speed relative to matter which is composed of proportionately more angular energy density than light. Matter conserves its inertial mass velocity at C^2 in angular momentum and therefore may absorb proportionally greater energy to light in angular momentum. The energy they both absorb as they move through space and gain angular velocity is the energy of the vacuum density field, also derived from electromagnetic energy. As such, their linear momentum is always constant to one another and the quantum vacuum density. Also, anything composed of atoms will fall at the same constant rate in a gravitational field due to all matter being composed of equal angular and linear momentum in a vacuum. Therefore, the inertial reference frame in SRT is equivalent to an inertial gravitational frame in GRT because light, matter and gravity have inertial masses that are limited to multiples of C and h .

According to energy density, Mach’s principle is valid. The entire universe is composed of its total energy content and produces one unitary gravitational field at c^3 . The reason that I can sit and type at my desk and not “feel” the crushing weight of the entire universe is that I have more net energy than the universe based on my mass. My mass is c (surrounding field) + $c^2 \times n$ kgms my mass = $C^3 n$ kgms—me. The universe’s total energy content is c (all its light) + (c^2)

all its matter = c^3 . My total energy content is my own mass plus the entire universe, c^3 for a total my energy content of $c^3 + me$. Therefore,

$$(c^3 + nkgms C^3 me) - (c^3 universe) = me (nkgms c^3)$$

Einstein showed that $E=mc^2$ or matter = c^2 . Therefore, the following is derived for all energy states with different velocities and momentums.

$$\text{Spacetime} = E = c$$

$$M = E = c^2$$

$$\text{Then } c + c^2 = c^3 = \text{Gravity}$$

1.4 Newton's Classical Physics Applies to Quantum Interactions in a Uniform Gravitational Field

In Principia, Newton defines mass in terms of inertia, or its total energy content in its resting state (i.e. "inertia is the state which it endeavors to persevere.") Inertia is a quantitative measure of an objects velocity. Hence the physical law that the greater the velocity of a body, the greater it's mass. Using Newton's words, "The quantity of matter is the measure of the same, arising from its density and bulk conjunctly. ... The quantity of motion is the measure of the same, arising from the velocity and quantity of matter conjunctly. The ***motion of the whole is the sum of the motions of all the parts***; and therefore in a body double in quantity, with equal velocity, the motion is double; with twice the velocity, it is quadruple. "

Stated another way, mass is the measure of the velocity, position, and direction of a body, or the momentum of all the quanta of energy (atoms) of an object. The object is composed of all of its atoms that are in constant motion which resists a change in its inertial, or "resting" state in balance with all other objects within it inertial reference frame. (... Force of matter, is a power of resisting, by which everybody, as much as in it lays, endeavors to persevere in its present state, whether it be of rest, or of moving uniformly forward in a right line.... But a body exerts this force only, when another force, impressed upon it, endeavors to change its condition")

The question is raised; how does my small body resist the "crush" of the entire weight of the universe? Applying Mach's principle, it is because my energy content is composed of and at equilibrium with the energy content of my gravitational inertial frame, which must also include the region on earth at sea level where I exist; on a planet zipping through its orbit around the sun; in a galaxy in a particular location in the universe. I do not feel the gravitational pull of the sun on the earth, or the earth's spin because my energy content includes the energy content of all things in my inertial gravitational field.

I maintain my coherent structure within my gravitational frame because my atoms are absorbing and emitting excess energy by spinning in angular momentum toward my core. As Newton observed all inertial mass maintains its "resting" state through centripetal angular momentum by constantly rotating the energy toward the center point. Otherwise, my atoms would fly apart. Newton's principle of centrifugal force or spin allows my atoms to maintain their coherent structure within the energy field known as me. Again stated by Newton, "A centripetal force is that by which bodies are drawn or impelled, or any way tend, towards a point as a centre. "

According to SRT and GRT, all matter, light and gravity has inertial mass. Photons are often termed to be "mass-less" due to equality of the charge. However, photons have "inertial mass" that resist changing their momentum. Otherwise, photons would not bend in a gravitational field as experimentally verified by Arthur Stanley Eddington's famous solar

eclipse experiment.

The earth and I form a gravitational inertial frame and it and I combine to form an inertial mass within an inertial (resting) gravitational frame. I would only “feel” the gravitational force of the universe if accelerated out of my “resting” inertial frame. For example, if I was suddenly zoomed to the bottom of the ocean, I would be crushed by the inertial energy content of the earth and the weight of the ocean. In order to be at equilibrium with the energy content of a gravitational field, one must be a native of it. In other words, just like fish are native to the ocean floor, I must “grow out of” an existing gravitation inertial reference frame through birth and not by being torn out of a distant galaxy and placed here. I can only absorb in an orderly fashion the entire energy of the universe by “evolving” over time and space through birth which took approximately 13.7 billion years of evolution.

As I sit quietly typing in my apartment, my present resting inertial reference frame includes all the inertial mass of the chair on which I sit, the apartment surrounding me, the city in which I am located, the inertial mass of the earth at sea level where the city is located. Going further, the earth is embedded and is at equilibrium with the energy content of the inertial mass of the solar system which is at equilibrium to the inertial mass of the galaxy, etc circling outward to the edges of the universe. Even through the earth is rotating and moving through space, I do not feel or sense the motion. In other words, I am at perfect equilibrium with all other forces in the universe. However, if a train veered off course and careened into my office, its energy would “explode” by state of equilibrium in my gravitational field and I would be history.

1.5 Moving Through Space One Atom at a Time

Newton defined motion of traveling from point A to point B as merely displacing the inertial mass of intervening space. Using the motion of a boat in water, an object moves forward by flowing its atoms, and displacing the atoms that were previously located there. Motion is the result of translating every part of you, (atoms) through a series of discrete actions of rotating your atoms into the space ahead and displacing the weaker energy fields in the direction of the motion. We literally “pulse” our atoms at Planck’s energy into a direction and space.

I walk to the store; I displace the less energetic atoms of the air by pulsing forward my denser, energetic coherent atomic structure and displacing the space in front. My inertial mass is greater than the inertial mass of the intervening air between me and the store. I appear to be flowing in a continuous, undivided motion, but just like a motion picture of succeeding flashing images producing the appearance of continuous motion, I displace the intervening atoms by quantum jumps into their space, displacing them.

My coherent energetic structure is based on both its directional force, (force that displaces distance between to objects) and rotational angular force which pulses by both absorbing the excess energy of the space and emitting it through respiration. In doing this, my atoms strain from external pressure and then overcome it by “snapping” atoms into the space ahead.

1.6 Gravity: The Strongest Force in the Universe based on multiples of Planck

It is often said that gravity is the “weakest” force in the universe. An example is that a magnet in free fall will attract metal shavings to it instead of gravity pulling downward the shavings and overcoming the power of the magnet. Another example is if a person jumps off a building, he will fall only to the surface of the earth and crash instead of being pulled to the center of the earth. The first example can be explained by Einstein’s GRT that states all objects in a uniformly moving gravitational field will act according to classical physics. This is not because the magnet is stronger in isolation but is only stronger because it is the sum of its own velocity and the velocity of the gravitational field. Just like my earlier example where I showed my velocity as I sit typing is the sum of me plus the universe so that I have a net positive

velocity to the entire universe. Velocity of all objects in the field is the sum of their own plus the gravitational field, so it cancels out.

The second example can be explained by the above discussion of Newton's Second Law of Motion that states all inertial energy mass resists any change to their "resting" inertia. The earth does not want to change its resting inertia by absorbing me if I fall off a building; it only wants to regain equilibrium which is to smash my energy apart before I enter its dark hearted interior.

Another misunderstanding is that gravity is "always" an attractive force and never repulsive like the electromagnetic force. Again, if this were true, then the moon would not orbit the earth being repelled at the nadir but would continue to fall and smash into the earth. It is the "rate" of change in inertial mass between earth and moon that produces the cosmic strength of the "repulsion" or the "equal and opposite reaction" of the two forces.

Gravity is the densest, strongest energy field in the universe because it is the sum total of all energy fields discussed: the quantum vacuum energy field; the electromagnetic, and the atomic particle field.

1.7 Supersymmetry; A Work In Action

If you look at the evolution of our planet from rock, to water, to organic life through the evolutionary chain to complex human form, you can see the universe is a super-symmetry machine with a definite direction. In order for me to exist in equilibrium with the entire system of the universe, the gravitational field where I exist had to be finely tuned. Through billions of years of quantum interactions and corrections of energy absorption and emission, I finally emerge 13.7 billion years in the process. The journey and evolution of the universe is not finished.

Every particle in every location in space has grown out of and is defined by the energy content of the space where it is located. I'm sitting here typing this paper. I believe that I am a very important part of this universe. However, if you talk to my brother, he will say I am just a place holder. Remove me and the universe has not had endured a substantive net energy loss. It will simply flow inward, filling space and continue on its way. However, remove the sun and my brother would definitely mourn the loss.

1.7 The Quantum In-between; More than Buddhist Philosophy

The atom is the fundamental building block of matter composed of a nucleus around which electrons orbit. When confined to an atom, the electron has two states defined as its "resting" state which is particle like and its "quantum" state which is energetic state that become foamy and wavelike. There is also a third state which David Bohm defined as the "in-between" state which is when the electron ruptures into a photon and disappears before it reemerges in a lower energy states on a lower orbital shelf.

An atom is 99.9 empty space or vacuum energy density confined within an electron shell. Atoms disappear and reappear within the mysterious vacuum of space. Because of their mutability, it is concluded that atoms do not behave according to classic physics. First, according to the Heisenberg Principle, one can never know both its location in space and its future direction. Atoms and other quantum particles obey "statistical" laws that changes each moment over time.

Much to the chagrin of Einstein, classical quantum physicists insisted in the "unreality" of the quantum world. In defining a quantum particle, Bohr warned that an atom as not a "thing" but only a "potential thing" that comes into being when it is measured. Only on measurement will the particle "collapse" into the reality of its solid particle like state. Bohr essentially proposed that an atom is simply a representation of pure math that has no physical meaning until it is measured. An atom is not a thing but a concept.

In the above statements, Bohr was referring to the concept known as the “wave collapse.” The act of measuring causes the “potentiality” of a particle to “collapse” into reality. Others have extended this to postulate the existence of parallel realities which offers sci-fi idea that a particle not only collapses into this reality, but also collapses into all possible particle states in parallel universes.

Hence the famous thought experiment of poor Schrödinger cat who when confined to lethal radioactive chamber is neither dead nor alive until one looks inside. It is only at the moment of measuring the respiration and brain activity that the cat “collapses” into his miserable untimely death. Until the measurement, the cat is both alive and dead in all its quantum potential states. Extending this to the “parallel universes- all possible world theory “while dead in our reality, Schrödinger’s cat is alive and in all states in between dead and alive in multiple parallel universes, which may include Schrödinger’s cat being confined to a sanitarium in radio-active quarantine in Switzerland. Taking this to the logical conclusion, the only thing that gives any organization to the universe is subjecting it to measurement. Otherwise it is just a chaotic scrambled mess.

Einstein rejected this nonphysical explanation of the quantum world, claiming famously, “God does not play dice with the universe”, and quantum physicists continue the search for a law that explains the randomness associated with quantum interactions.

The apparent contradictory behavior of quantum particles may be explained by the vacuum density field where all good electrons go before getting up in the morning.

1.8 Vacuum Density Field

Casimir identified an additional field of energy that exists when two objects interacted. Quantum field theory provides that all fundamental fields, such as the electromagnetic field, must be quantized at each and every point in space. A field in physics may be envisioned as if space were filled with interconnected vibrating oscillating points. The field at each point in space is a simple harmonic oscillator. Excitations of the field correspond to the elementary particles of particle physics. Thus even the vacuum has a vastly complex structure.

The vacuum density field implicitly has the same properties as a particle such as spin, or polarization. On average, all of these properties cancel out and are produce the “empty” quality to space, much the same as a photon is “massless.”: the vacuum is after all "empty" in this sense. The quantization of a simple harmonic oscillator states that the lowest possible energy or Casimir zero-point energy is:

$$E = \frac{1}{2}\hbar\omega .$$

Summing over all possible oscillators at all points in space gives an infinite quantity. To remove this infinity, one applies the concept of renormalization.

Vacuum energy produces virtual particles through quantum interactions that are created and destroyed out of the vacuum. These particles are always created out of the vacuum in particle-antiparticle pairs, which shortly annihilate the other and disappear. However, these particles and antiparticles may interact with others before disappearing, a process which can be mapped using Feynman diagrams.

Similarly, every electrical emission produces a magnetic field which produces a torquing or a quality of negative pressure dynamically in the vacuum density field. The oscillations of the quantum density field produce areas of inertial energy momentum density that interact with all other forces in the universe. The quantum vacuum density field is the field of negative torque where the flat light wave Schwarzschild lattice contributes to all motion in the universe. This

“squeezing” effect in the vacuum density has recently been documented by a researcher.

2.1 Matter is Cavity Electromagnetic Radiation with Infinite Angular Momentum

Max Von Laue (1879-1960) in Inertia and Energy emphasizes that Newton does **not equate gravity of mass with the acceleration** but with the rate of the change of momentum. Gravity has a linear momentum, “resting velocity,” and angular momentum of torque that produces a “flux” which is emission of excess energy that produces the accelerative force felt by opposing objects. This net excess energy is inversely proportional 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 produce the accelerative opposing force pushing the bodies apart the rate of Planck’s constant for quantum particles or Newton’s gravitational constant for cosmic interactions.

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 .

If both particles have a resting mass of approximately $66.6(\text{infinity})\%C + C^2$ after net energy emission according to Abraham, the release of energy will be approximately $33.3(\text{infinity})\%$ of both particles inertial energy density or $33.3(\text{infinity})\%$ of C^2 . Using the round number of 33%:66% ratios, the following is:

$$33\%C^2 + 33\%C^2 = \text{net sum total energy emission of } 66\% C \text{ for both particles which equals } 1.33C .$$

$$P1 \frac{2}{3}C^2 + P2 \frac{2}{3}C^2 - \text{energy release of } 1.33 c = \frac{4}{3}E/0 = 2.33\% C^3 + 1.33c = c^3$$

C^3 is the total quantum energy state before interaction and 66% the “resting” inertial mass of all energy states as described by Max Abraham. As with all charged particles, an electron must reside in a material support (field), otherwise it would fly apart.

$$M = \frac{4}{3} \times E/C^2$$

The formula for conservation of inertia is

$$M1 - M2 = E/C^2$$

$E = MC^2$ shows that $M = E/c^2$. Therefore the total energy density of two particles before interaction is:

$$C^2 + C^2 = \frac{4}{3}c^4 + c$$

These particles reside in a field with an energy density of c .

If both particles have a resting mass of approximately $66.6(\text{infinity})\%C + C^2$ after net energy emission according to Abraham, the release of energy will be approximately $33.3(\text{infinity})\%$ of both particles inertial energy density or $33.3(\text{infinity})\%$ of C^2 . Using the round number of 33%:66% ratios, the following is:

$$33\%C^2 + 33\%C^2 = \text{net sum total energy emission of } 66\%C \text{ for both particles.}$$

$$P1 \ 66\%C^2 + P2 \ 66\%C^2 + \text{energy release of } 66\%C^2 = 66\% C^3$$

C3 is the total quantum energy state before interaction and 66% the “resting” inertial mass of all energy states as described by Max Abraham.

2.2 The Quantum Vacuum Density Field: Lattice Flat Waved electromagnetic Energy

According to Von Laue, an electron’s resting inertial mass of 4/3 or 25% of energy conservation is ascribed to a **negative energy** which is the quantum vacuum density field of the Schwarzschild lattice vacuum solution. The resting state of the particle plus the energy supports of the electrons field density field is C3. The negative energy may be derived from the “quantum vacuum density” field.

The oscillations of the quantum density field produce areas of torque of negative and positive oscillating electromagnetic energy that interact at trans-Planckian levels. These trans-Planckian energy fields have been experimentally verified. An example is the detection of the neutrino whose wave is shorter than Planck so that it can travel through the center of the earth and never interact with any of the atoms composing the earth.

I will use the following equation previously identified:

$$E = \frac{1}{2} \hbar \omega .$$

The quantum vacuum field may be calculated as a flat energy wave that conserves its mass in angular momentum to a maximum of $\frac{1}{2} \hbar \omega$, emitting a virtual photon and reabsorbing it. If confined in an atom, the vacuum may recombine into actual particle mass of a lower energy electron within the atom is 33% net energy emission conserved into a lower energy particle through interaction between the nucleus, The nucleus acts as the catalyst to the interaction of the vacuum density and the excess electron energy forming a lower energetic electron. . The velocity and position of a particle is as follows:

$$E = E_0 / \sqrt{1 - (v/c)^2}$$

The vacuum density field is derived from Planck as stated here again:

$$E - \frac{1}{2} \hbar \omega . < 0$$

As with all charged particles, an electron must exist in a “field” or material support. Therefore, any particle of electromagnetic energy must be confined to a field or it would fall apart. The quantum vacuum density is the field. The quantum vacuum density produces “virtual” particles that are produced as a result of angular momentum in the vacuum which are reabsorb in an asymmetrical multiple of h.

This may be done by a quadrupolar energy field of C. Vacuum energy density has been calculated as $E = \frac{1}{2} \hbar \omega$. Then applying Schrödinger Equation shows a relationship to the vacuum density:

$$P_1 P_2 > \hbar/2$$

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

If Planck is 6.67×10^{-34} and a particle must have inertial mass flux of $\hbar \omega/2$ which is Casimir energy density, the measurement of flux is $E = 2 \hbar \omega$. Therefore, the quantum wave flux contributing to the electron conservation of inertial mass into light is $\frac{1}{2} \hbar \omega$.

$$\frac{1}{2} h\nu_j + 6.67 \cdot 10^{-34} j = 1 \times 10^{-34}$$

This shows the 33% to 66 % resting to quantum energy flux ration between electron and the quantum vacuum energy field. This approximate 33% emission ratio to the 66% resting energy states exists for all energy states, including gravity, atomic, electromagnetic and quantum vacuum electromagnetic energy. So the energy field of the quantum wave field to which the electron is attached and which drives its angular momentum is C3 and the flux of the quantum wave that conserves its inertial mass is $\frac{1}{2} h\nu_j$.

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 $\frac{1}{2} h$. The DeBroglie wave equations are as follows waves equals :

$$\begin{aligned} P &= e/c \\ E &= h\nu = hc/w \quad \text{so } p = h = hc/cw = h/w \quad w = h/p \\ E &= hc/w \quad \text{so } P = h/w \end{aligned}$$

The following can be derived from the quantum density

$$\begin{aligned} p_1(hc^2/c^2) + p_2(hc^2/c^2) + \frac{1}{2} hc/c^2 &= 2hc/c^2 \text{ for two particles } = e/c^2 \\ \text{Then } p &= h = hc/cw \end{aligned}$$

C equals speed of light, h = Planck and w = wave. As you can see, light and the vacuum density together equal 1, so both maintain their inertial mass. C is the maximum quantum velocity for electromagnetic wave energy. At the flux rate of the C, the electromagnetic wave and the quantum density conserve inertial mass by emitting photons. Photons emit at a constant rate of C based on Planck's constant energy emissions. Electromagnetic and quantum vacuum fields produce photons through conservation and emission process. Photons are the mirror particle to the lattice grid. Photons are "frozen" energy emissions of reflected light.

2.3 The Quantum Syncopated Dance of C and h

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=MC² 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 vacuum energy density field cannot be detected by our instruments because of its flat wavelength composed of "frozen" Schwarzschild energy lattice. Because of its net negative energy, it produces the counterbalance and architecture where all other energy fields interact. It interacts only weakly at its highest energy density. Applying the assumption that "radiation" energy fields are limited to multiples of C and "flux" or angular energy fields are limited to multiples of h, then -C may be assumed to be this non-interactive velocity of the vacuum density field. As such, several assumptions may be made based on experimental data.

The quantum density field derived from the 66% resting rate of the universe at C3 is the negative energy of -C with a quantum density of -33C or 1/2hwv.

66C=66%C² = 66% universe resting inertial mass. The net positive energy state is reduced by 25% negative torque in force. Therefore, the vacuum density may be calculated as follows:

$$-33\%C + -33C2 = -33\%C3 = -C$$

Applying the Black hole model of matter creation, the early universe is assumed to possess one superforce where all forces were unified into one fused electromagnetic energy state. Through increased pressure, fissures of energy split through the universe spreading in a lattice structure electromagnetic unipolar frozen energy. This was the quantum vacuum density lattice. Then through more energy absorption, unfrozen energy electromagnetic collapsed out of the lattice which has the lowest velocity. After that, through Huygens principle of wave interference between electromagnetic waves crossing the lattice, matter formed. Gravity is the sum total of all the energy content in the universe which is matter, light and the vacuum density field.

2.4 Energy Is Conserved by Fusion When the Atom's Nucleus Is in a High Energy State

Energy conservation was first observed in fusion or fission of an atom. This is law of nuclear relativistic dynamics. Briefly, when two protons are combined through fusion, there is a displacement of energy or emission to provide for the combined mass of the two fused protons.

The accuracy of the law of inertial $e=mc^2$ was found by W. Brumbeck who calculated a series of nuclear reactions. He found that the mass defect of .02462 units of mass in an isotope of lithium with mass number 6 plus a deuteron into two atoms of helium; this mass defect corresponds to 4.087×10^{-26} g. The loss of energy is 3.534×10^{-5} . This results in a velocity of light to be 2.94×10^{10} cm/sec, Over many difference transmutation of nuclei over time, W.Barunbeck obtained the value of 2.998×10^{10} . This is only .4% below the value of C or 2.94×10^{10} .

This inertial mass conservation is also seen in C.D. Anderson's discovery of positron; the electron with a positive charge observed in the in the Wilson chamber. As discussed above, it shows that in the proximity of an atomic nucleus, which serves only as a catalyst, a gamma ray radiation can be transformed into a pair of electrons, a negative and positive one. The gamma radiation has to be high enough to energize the resting state of two particles. The radiation γ must be greater than 1.64×10^{-6} erg. As the energy of an electron, positive or negative, the amounts to 9.1×10^{-28} g it has a rest energy of 8.2×10^{-7} . This means the γ (gamma) radiation quantum has to be large enough to supply two electrons with the rest energy; the excess emission is used to give electrons a certain velocity.

Law of conservation of electric charge is maintained. The electron pair has a total charge of zero. The reverse is also true that a negative electron and positive positron annihilates and the p (*particle*) emits γ ray radiation. This was experimentally measured by Jesse DuMone measured its wave length in 1949 with crystal spectrometer of 24×10^{-10} .

2.5 Jumping into the Abyss of the Quantum Vacuum Density

It may be extrapolated that an electron jumping to a lower orbit must obtain enough energy from the quantum vacuum confined within its boundary o recombine into a particle. The trace energy produced as the electron jumps its orbits is 33% of C. The electron which is reabsorbed into the linear momentum of the atom which is C2 and the newly produced photon which is the result of the "flux" or torsion momentum density of .33% of the atom. So if C2gq1 is opposed by the following:

$$1q/c2 - 2q/c2 = \text{net } 66\% \text{ q1 and net } 66\% \text{ q2}$$

So 33% net energy release of both particles and a rest density emission of 66% C or quantum density of C.

66%C field +33% net energy emission =1 Quantum field providing the inertial material support of the particles.

$$C^2 + C^2 = 2C^2$$

$$66\%C + C^2q1 - 33\%C + C^2 = 66\%C^2$$

So where C=1 in its quantum state and 66% of 1 in its rest state. However, the torque is always present in an electromagnetic wave due to the overlap of pulse and contraction between the two.

If the electromagnetic linear energy torques between 66% and 1C, then the quantum density also torques at $\frac{1}{2} h\omega$, or a negative energy ratio of 25%. The quantum vacuum field may be calculated as a flat energy wave that conserves its mass in angular momentum to a maximum of $\frac{1}{2} h\omega$ emitting and virtual photon and reabsorbing it or having it recombine into actual particle mass of a lower energy electron that has ruptured to produce a photon, leaving an emission of net energy of 33% M1. 33% m2 combines with 33% of quantum vacuum energy density to produce the angular torque for a new particle.

$$E = \frac{1}{2} \hbar \omega \cdot <0$$

$$(C^2 + C) + (C + C^2) = C^6 \text{ total energy density of two particles.}$$

If after the energy exchange and net release, both particles have a resting mass of 66% C + C^2. So the flux energy release is 33% C + C^2 or net C for both particles.

$$66\% (C + C^2q1) - 33\% (C + C^2) = 66\%C^2 \text{ net rest mass of a particle}$$

$$\text{Net} = 1.33\% \times C^2g$$

$$(1qC^2) \times .33\% \text{ and } 2qC^2 \times .33\% = .66\%q1C^2 = .66\%C^2 = C^3$$

C3 equals the energy density of each of the two particles before energy exchange which includes each of their internal angular velocity plus the absorption of the light energy in waves as it orbits in its material support field. At the initial moment of exchanging pulses (magnetic moment) there is a deformation of both particles followed by a torque or flux of the net energy needed to be released for each to conserve its inertial mass. If after the energy exchange and net release, both particles have a resting mass of 66% C^2. So the flux energy release is 33% for each particle, or approximately 66% C^2.

$$P1 \ 66\%C^2 + P2 \ 66\%C^2 + \text{energy release of } 66\%C^2 = C^3$$

The above is the energy state of the particle and surrounding energy wave density. This is the resting mass of $\frac{4}{3} C^2$ or 25% to account for the negative energy of counter-motion resulting from its pulse in the direction of its motion, and contraction in the opposite direction.

The resting state of the particle plus the energy supports of the quantum wave density field is C3.

$$C^4 \times 33\% = 81 \times 33\% = 2165$$

This 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

$$E = \frac{1}{2} h\omega$$

Schrödinger Equation shows a relationship to the vacuum density:

$$P1 + P2 > h/2$$

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 C2 inertial mass must be something less than $h\nu/2$. This is Casimir energy density equation that shows flux is $E=2h\nu_j$. Therefore, the quantum wave flux contributing to the electron conservation of inertial mass into light is $\frac{1}{2} h\nu$.

$$\frac{1}{2} h\nu_j + 6.67 \cdot 10^{-35} j = 1 \cdot 10^{-34}$$

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 C3 and the flux or negative energy of the quantum vacuum density wave that conserves its inertial mass is $\frac{1}{2} h\nu_j$ that contributes to its negative energy and contraction.

Based on this model the following energy conservation principle may be expressed.

All energy inertial mass states are delimited to multiples of C which is 6.67×10^{-34} : all force states are delimited to multiples of Planck energy 6.67×10^{-34} .

Derived from this is the formula for the constant rate of light in a vacuum. electromagnetic energy torques the vacuum density at a constant rate. Light speed is limited by the vacuum energy density of $\frac{1}{2}$ Planck. Light photons fire off at the constant repeated rate provided by the alternating syncopating rhythm as energy torques angularly, and the releases under the firing of the photon. The pulsing emission of the photon in the vacuum field occurs always at the content speed of light based on the relative inertial masses of electromagnetic and vacuum density fields. Photonic firing is the rupturing of the vacuum density and linear electromagnetic energy unto “visible” light.

This equation further explains why all light energy and matter (C2) are limited to the rate of the speed of light. Matter has a double the energy density and greater the absorption rate of light. However, it can never travel faster than light because it is limited to Planck rate for energy emission. As matter approaches the speed of light, it must either keep absorbing energy in angular momentum, hence gain infinite mass, or release its energy before exploding its inertial mass with all atoms flying apart at Planck energy flux.

This explains why light is always at a constant distance ahead when traveling in a vacuum. The light beam and the atoms of matter are one inertial frame of energy. If light exists in my inertial frame, its energy is absorbed equally into mine and I cannot move out of the inertial frame with the light without again, exploding my atomic structure. My inertial frame must be conserved with C and C2, and as above, with a total energy content of C3.

This basic principle can be used to understand all energy and forces in the universe if you strictly apply the SRT equation of $E=mc^2$ which means that all matter and energy in the universe are simply forms of light waves or electromagnetic waves containing different velocities.

Thought Experiment: Zeno’s Rabbit In A Speed Of Light Rocket

To bring this down to a visual level, the following thought experiment is devised. The Greek mathematician, Zeno, proposed the paradox that continuous motion does not exist because in order for the rabbit to overtake the turtle in Greek

fable, the rabbit must always cross a midpoint of the distance between it and turtle, which created another midpoint to cross ad infinitum.

So let's take Zeno's rabbit and attach him to a rocket speeding through space chasing a beam of light. As the f accelerates toward the beam, he discovers, consistent with SRT, he is unable to close the distance between. At some point, he sees a huge panel of glass directly in the path of the light beam. As the beam enters the glass, it appears to slow, spreading out in the glass. As he speeds up to the glass, he triumphs thinking he has caught up with the beam of glass. But he despairs when passing the pane of glass, he sees the light beam jump instantly out in front of him as if sucked into the distance and meeting an oncoming beam from the future. Once again, the race is on as he sees the beam a constant distance ahead. Is this a visual trick, or a physical principle of negative energy and advance waves from the future predicted by Maxwell?

The phenomenon of light appearing to travel faster than C through a medium has been observed in the laboratory. In order for light to maintain its constant distance through denser materials, it must draw energy from some energy source that appears to be undetected and drawn from the space in front of it. This is known as Čerenkov radiation) is electromagnetic radiation emitted when a charged particle (such as an electron) passes through an insulator at a speed greater than the speed of light in that medium. The characteristic "blue glow" of nuclear reactors is due to Čerenkov radiation. It is named after Russian scientist Pavel Alekseyevich Čerenkov, the 1958 Nobel Prize winner who was the first to characterize it rigorously Čerenkov radiation (also spelt Čerenkov or Cherenkov) is electromagnetic radiation emitted when a charged particle (such as an electron) passes through an insulator at a speed greater than the speed of light in that medium. The characteristic "blue glow" of nuclear reactors is due to Čerenkov radiation. It is named after Russian scientist Pavel Alekseyevich Čerenkov, the 1958 Nobel Prize winner who was the first to characterize it rigorously

Another thought experiment will demonstrate the energy needed to create a particle of mass such as the electron. For augment sake, let's imagine the rabbit violates SRT and finally achieves the velocity of light. At the point the rabbit and the beam of light basically become fused, motionless and timeless. But let's say the light has an internal velocity greater than its "resting" velocity because it has its own velocity as well as the velocity of the rabbit, or now it is C^2 . The linear momentum of the light and velocity is conserved by the angular momentum. So as the light continues to maintain its internal velocity, it starts to flatten into an angular motion like a beam of light bending around the interior of a cylinder. As it does it appears to be sucking the rabbit toward it. The light beam in attempting to conserve its linear momentum must draw energy from the surrounding space or vacuum. It draws it from the "quantum energy wave" crossing over it, so that it reaches a level of the cube of light so that it has the energy to throw off the rabbit by "collapsing it into an encapsulated cavity of radiation that bobs around as the light beam resumes its linear momentum or the resumption it former linear structure. The energy of the electron is a combination of pair production of the Quantum wave and light. That is the electron is created out of energy from the "advanced" quantum wave that is traveling backward in time, or traveling with a velocity of at least C^3 . These quantum waves are traveling so fast against the direction of time because time can only unfold with matter lighting up, and matter only "lights" up when there is a superposition of light traveling C and the quantum wave traveling the cube of C producing matter at the square of C .

Based on this model of angular conservation, the "quantum energy density" is linear momentum of C^3 and interacting with matter, light and the direction of time only at the moments of super-positions in waves of energy traveling C . These super-positions are the area of greatest energy disturbance which relative to the universe are static in the fabric and this super-positions are the areas of matter and light build up. The locations of these super-positions of denser energy fields are built into the peripheral structure of the universe and can be mathematically determined if one knows the geometric configuration of the boundary of the universe which will be addressed later.

This imagines the time-reversal equations of Maxwell and also Feynman's diagram of the positron going backward in time. So what is the light sucking from the vacuum in front of it; the energy of the quantum EM field. The reason for this phenomenon is also the reason that light always maintains its internal and external balanced velocity.

As the beam is trapped in the pane of glass, it continues to travel its own velocity, but there is a drag because the glass is made of compact atoms through which the light must traverse twice the distance than in a vacuum. In order to conserve its linear momentum, it must draw energy from the future, or from an advance wave. Light gains more inertial mass as it torques in angular momentum to travel through the glass.

To maintain its internal and external balance of O mass, it must suck additional energy from the future to balance its structure of having no mass. It is easy to picture what the light must do in traveling through glass. It has to travel in and around the heavier atoms of energy, crossing at greater speed so that it draws this additional speed from the future.

If light is trapped within material of compacted atoms of energy, in order to maintain its inertial linear velocity it must draw energy from the surrounding energy fields. It does this by pulling the energy from its own wave. But like the rabbit rocket being drawn toward the beam of light until the beam and the rabbit have only fused density. At the moment of flux, or c^3 there is fluxing inertial mass between the light and the rabbit. In folding up over itself in denser fields and occasionally producing virtual photon or electron pairs that are quickly reabsorbed, it must draw energy from the quantum wave so that it traverses the denser atomic structured material which has a greater length and hence distance because of its density. It is like traveling the plane of a folded according that requires one to travel the same distance as an expanded according, though the dimensions are vastly different depending on their state. This is why light always travels around the geodesics of the space around a dense object; It is skidding around a denser energy field of C^2 by giving off photonic emissions to conserve its linear inertial mass. The additional “emissions” of photons provides the additional energy to allow it to continue its journey, just as a sloping curve on a race track allows a countervailing add force to the race car to allow it to continue its linear direction without spinning out and rolling. .

So in order to conserve its linear velocity, light itself must draw energy out of the vacuum. This pulling of energy from the vacuum would appear to be traveling backward to meet the forward moving light because it is drawn from the future; i.e., the future is the immediate distance in front of the light since all time and space are delimited by light itself

So what happens when this light beam reaches the maximum of its speed or maximum energy density of C and is met up with another crossing energy beam which it cannot absorb? The colliding beams conserve their linear velocities by produce a net particle, a rotating field of EM, rolling in an EM wave like a round buoy in the sea.

Again, the equation is the following: 33% c^2 breaks off into the linear wave of C and 66% C folds into a rotating angular momentum of the electron which now has a mass energy density of c^2 or $4/3 c^2$ at its resting velocity. The rotating cavity radiation rotates in the opposite direction to the EM waves that produced it. This provides the negative energy, or suction energy, that allows the particle to maintain its spherical rolling structure. The intersection of two light waves at super-positions produced a tucking a rolling of a particle of energy, just like a just like a gymnast who tucks and rolls on a floor mat to avoid a neck crushing blow.

2.6 The Hydrogen Atom; The Simplest Form of electromagnetic Cavity Radiation that Operates as a Coordinated System in Light and Matter Creation

As an electron, an atom emits electromagnetic radiation and possess a wave-particle like existence depending on its resting or ground state and it highly energetic state. It like the electron may be viewed as electromagnetic cavity radiation moving uniformly in an envelope magnetic shell.

$$1/w_{mn} = R (1/m^2 - 1/n^2)$$

R is the Rydberg constant.

The atom’s spectrum is the result of the quantum field’s standing wave, which includes both the electric field standing wave and magnetic field standing wave. Accordingly, the equations we find out that the ratio of the magnetic charge and electric charge within both the north and south poles of a hydrogen atom has the same value but opposite sign.

Similar to the electron, assume the hydrogen atom characteristic impedance is the ratio of magnetic charge and electric charge for both north and south poles. The atoms electromagnet characteristic impedance follows:

$$Z=Z_0 (1/a)$$

Outside the atom is the vacuum. The vacuum impedance is +

$$Z_0 = U_0 / e_0$$

Therefore, the pulse between the magnetic and electric fields are perfectly balanced at 0 in the whole cavity of the atom, while local regions within the hydrogen atom are less or greater than 0. As Von Laue pointed out, where an electromagnetic field exists, there is always a dimension of torque. Also Faraday and Maxwell equations show the magnetic wave produces an electric wave to infinity if allowed. There is a constant “flux” happening at all times between the two waves. From this it is reasonable to conclude that within the confines of the hydrogen atom the torque and flux between magnetic and electric wave produces a constant redistribution of energy density within the atom. Where a local region has a negative energy state in the atom’s cavity, it produces a torquing as it pulses between its contraction and expansion to conserve energy at 0. This interior torquing produces the spin as it pulses forward and contracts back through the vacuum density field.

The Rydberg Constant is the net quantity of energy released from the vacuum cavity of the atom to maintain its resting inertial density. This interacts with the exterior linear wave of C, and acts as the opposite directional or anti-gravitational field in the material support of the exterior C field.

This produces the pulsing of the atom as it moves through space, or the material supports of the outside vacuum of space that is also exerting outside pressure. As the atom circulates it energy by redistributing through fluxing it toward its core from its outward boundary in a wave across its axis in a sine curve and then releasing it upward in an angular direction out the poles. This is the reason for its net negative shell that interacts with the net positive exterior vacuum in a constant wave/fluctuating motion. This maintains the integrative of the hydrogen structure of cavity radiation. Again as it pulls energy from one part of its internal cavity and it accumulates to another part it produces its pulsing of internal flux or torquing of the gyroscope to maintain its angular motion and spherical structure.

$$u_0 / e_0$$

The velocity has an inverse relationship with impedance, so the wave velocity inside the hydrogen atom has the relation with speed of light:

$$v/e = Z_0 / Z$$

Then we get the following;

$$v/c = a$$

Inside the hydrogen atom has a constant impedance and wave velocity. Outside exists a vacuum that has light speed as its wave velocity. Inside the atom, there are both outgoing and incoming wave along the radial direction, which forms a standing wave.

As this formula shows the internal wave velocity of the hydrogen atom is C2 embedded in a linear energy field of C, for a total energy content of C3.

Further, there is constant “flux” between magnetic and electric wave contained within the atom’s cavity.

What sets it apart is that unlike the electron, a hydrogen atom is a specialized cavity radiation in that it has specialized

sub-particle parts, nucleus and electrons that act as a coordinated system, producing light frequency, sound and motion. It may be reasonably concluded that the light, sound and motion are produced through inertial mass conservation produced by “pressure” from the exterior and interior of the atom, resulting in a dynamic system of atom and environment.

It has been shown, that when there is enough energy pressure, the nucleus and electron act in coordination to conserve its energy by torquing and fluxing under pressure will rupture and reproducing itself.

Further, under light energy velocities such as gamma rays, it has been observed that the nucleus will produce a new electron-positron pair. It is reasonable to assume that each part of the atom, the nucleus with a positively charged proton and a neutrally charged neutron, act in coordination with the electron in the absorption and emission of conserved energy.

3.1 Schwarzschild Lattice Energy is the background quantum wave field is in the shape of a lattice with vibrating points of spherical outward directed light (photons) at infinite acceleration which is at “rest” throughout the universe

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 the 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

$$dl^2 = dr^2 + r^2(d\theta^2 + \sin^2\theta df^2),$$

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:

$$1 - dt/ds = \gamma \text{ the Lorentz factor.}$$

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:

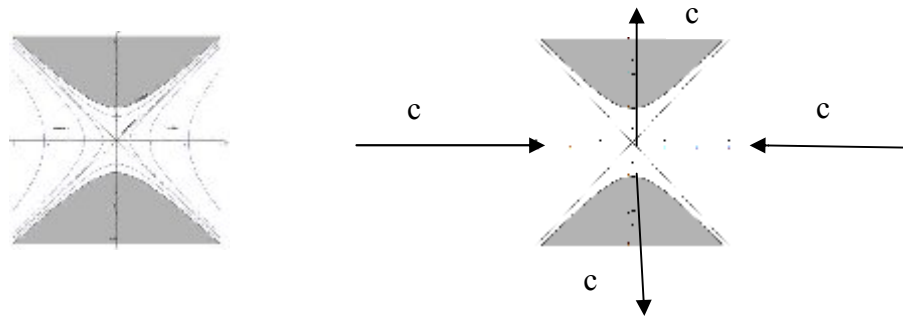
$$r_s = \frac{2GM}{c^2}$$

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:

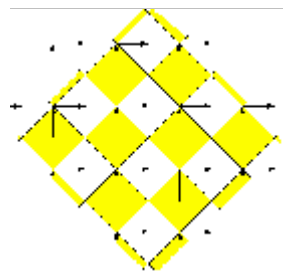
$$R^{abcd} R_{abcd} = \frac{12r_s^2}{r^6}$$

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.

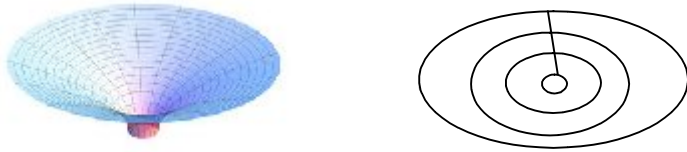
This equates to two quadrupolar rotating spheres along the lattice grid, producing an inward and outwardly directed energy of the lattice. This does not produce a singularity in the generally understood sense. The singularity is the moment of infinite magnetic inflow of energy to a point in space. As 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. It is diagrammed as follows:



Following diagram represents the D_n lattice for $n \geq 3$ as a checkerboard, or half of a hypercubic lattice. This is half of a $C_2 = B_2$ square lattice.



The spatial curvature of the Schwarzschild solution for $r > r_s$ can be visualized as follows.



This is a plot of Flamm's paraboloid. However, as we have discussed this is a three dimensional projection of a two dimensional Schwarzschild solution. The wormhole goes nowhere except twisting in on itself and going in an outward direction on a Euclidean plane of space.

The Schwarzschild lattice, whose metric is given by:

$$d^2 = dr^2(1 - 2m/r) + r^2(d\theta^2 + \sin^2\theta df^2)$$

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 Planks dimension flowing in Huygens wave interference lattice superpositions create 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.

This creates complex dynamical geometry to the energy in the universe and is consistent with the orthogonal Vector groups of Dirac spinors. Dirac used spinors as a mathematical description of the quantum state of the relativistic electron. They define as geometrical objects constructed from a quadratic form of vector space of an algebraic quantization procedure. A quadratic form supports various spinor configurations. The space of spinors thus carries a projective representation of the rotation group. One can remove this sign ambiguity by regarding the space of spinors as a (linear) group representation of the spin group spinors.

All energy waves spiral infinitely small to a point particle, intersecting through the atomic nucleus. At the boundary, the photon 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 perpendicular to its previous path. Planckian -size lengths of energy intersects through each atomic lattice point or atomic nucleus. The energy flows in the complex dynamics of the Penrose twistor formations looping infinitely over upon its self in a spiraling directions spreading outwardly based on Huygens wave interference patterns creating infinitely small to large vortices of flowing energy exchange throughout the universe.



FIGURE 1. A time slice (t = 0) of a Reissner-Nordström black hole.
 From: <http://www.scribd.com/doc/111111111/111111111>

3.2 Black Hole Entropy

Hawking radiation from a black hole also shows the vacuum density to be a field with a velocity approximately $c/3$. Hawking's original calculation required talking about quantum particles in which the wavelength becomes shorter than Planck's length near the black hole horizon. If tracked back in time, an outgoing Hawking radiated photon, has a frequency that requires the wavelength to "scrunch up" infinitely at the horizon of the black hole. This is consistent with the Schwarzschild solution.

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.

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:

$$T_H = \frac{1}{8\pi M}$$

Is in natural units with G , c , \hbar and k equal to 1, and where κ 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:

$$T = \frac{\hbar c^3}{8\pi G M k}$$

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:

$$dS = \frac{dQ}{T} = 8\pi M dQ$$

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. Supermassive 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.

Using the resting energy state of the quantum wave energy is:

$$66\%C^2 + C = 33\%C^3 = -C \text{ for vacuum energy density} = 0$$

The inertial mass state of the Gravity is”

$$E = E_0 / \sqrt{1 - (q/c)^2}$$

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.

$$B \propto (-) g \times \tilde{\omega}$$

3.3 Black Holes: Dense Magnetic Cavity Radiation Rotating Around a Perpendicular Positively Charged Axis.

The dynamics of a black hole universe is similar to the standing electromagnetic rotating spherical wave of the hydrogen atom, but reversed. A black hole universe is bounding an expanding white hole evolving centrally from both its core and interior bounded walls, spiraling inward and outward forming smaller black hole centered galaxies. However, as with the electron and atom, the black hole universe as a whole is a steady state wave alternating between C^3 and $-1/4C$. The universe as a whole may be seen as a steady state of zero, while regional locations are never Zero. As energy is increased in one region, it must decrease in another region. This provides the steady state, because as energy and matter is increased it expands from its interior bounded walls equally by releasing energy into the white hole cavity. Linear and angular momentum of the black hole universe may be characterized as having infinite angular moment. As frozen electromagnetic energy lattice grids, the universe lattice vacuum density is frozen in time and space. Its magnetic “frozen” linear field is formed around a “frozen” perpendicular electric pole.

Turning to local black holes, the escape velocity of a particle from a black hole will equal or even exceed the speed of light. When a particle approaches a black hole horizon, it may be torn apart, with its cavity electromagnetic wave being split into a positron, and an electron. Some may describe this phenomenon as space time stopping due to relativity. However, another conclusion is that the magnetic pull and electric push become equally powerful and freeze at the point of O, and presently splitting the quantum field into two flat frozen (non-dynamic or static) standing waves, each going in the opposite direction.

Formed under the collapsing of tremendous energy, a black hole may be characterized as the permanent splitting of a force into a frozen magnetic field, (the black hole) and the electric poles.

As an example, the *magnetic field* is a vector field that permeates space and which can exert a *magnetic force* on moving electric charges and on magnetic dipoles (such as permanent magnets). When placed in a magnetic field, magnetic dipoles tend to align their axes to be parallel with the magnetic field. Likewise, the electric charges tend to align perpendicularly. As Faraday observed when an electric field is shot perpendicularly causes a counterclockwise rotating magnetic field. This phenomenon is also seen in rotating black holes.

In flux freezing, the magnetic field is frozen into the plasma when the conductivity is so high that the electric field in the reference frame co-moving with the plasma vanishes. Then we have that the electric and magnetic fields are perpendicular and force free:

$$\mathbf{E} \cdot \mathbf{B} = 0$$

$$\rho_e \mathbf{E} + \frac{1}{c} \mathbf{j} \times \mathbf{B} = 0$$

where ρ_e is the electric charge density. Faraday's law applied to the surface and the boundary gives us

$$\frac{d}{dt} \int_A \mathbf{B} \cdot d\mathbf{\Lambda} = \oint_C \alpha \mathbf{E} \cdot d\mathbf{l}$$

Using the condition that the field is frozen to the plasma at the boundary

$$\mathbf{E} + \mathbf{v} \times \mathbf{B} = 0$$

This is where \mathbf{v} is the velocity of the plasma as measured by the observer far from the black hole.

This frozen field supports the quantum lattice model in which the vacuum density is the negative energy that is pulling the future toward it and the white hole energy of the electric field is the pushing quality that pushes all light and matter in the opposite direction to meet at the infinite center points on the lattice. Thus, again is the “torquing” and “flux of the entire universe of quantum particle and radiation undergoing torque, flux and spin.

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

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 outward energy 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 pulls energy from the walls of the interior of the black hole universe with produces more energy 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.

3.5 A Lattice of Visible Energy Is Detected In The Macro Universe And Mirrors The Quantum Energy Grid

The universe is said to be uniformly filled with hydrogen atoms approximately 1 cm apart and permeated with radio waves. On a macro level, this configurations can be pictured as a three dimensional "lattice." This provides a loose lattice structure of energy and matter over which the quantum energy may interact. Rindler notes that as a particle moves through space it not only orbits but spirals in a forward corkscrew direction. Cosmologist have detected energy flows in the universe also travel in a corkscrew spirals which they termed the Faraday Effect.

This loose lattice structure of the macro-energetic universe is correlated to the infrared-ultra violet connection. At the macro level, the universe has a very low energy density of simple hydrogen atoms and low frequency radio waves. At the quantum level where frequencies so high they are emitted at a trans-Planckian frozen flat energy wave.

The "frozen" trans-Planckian energy of the black hole having infinite density of fused electromagnetic energy in a unitary singularity may be understood with a thought experiment of Einstein's photon box. If one puts a photon in a mirrored interior of a box that is dimension of a photon, and then squeeze the boxer infinitely, the photon's energy would

increase while its wave magnitude became shorter. Finally, it would have infinite energy that it must fuse with the box itself which lowers its energy density. This infrared-ultraviolet connection is seen in the terms of a black hole event horizon. For example, as a photon approaches the black hole horizon, it gains energy by having to shorten its wave length because it is “squeezed” by the high energy density of the black hole. If it crosses the event horizon it becomes “fused” or spreads across the entire black hole surface losing its structure, much like an ice cube dropped into boiling water.

3.6 The Quantum Wave Polarity: The Wave that Determines the Movement of the Universe

David Bohm introduced the concept of an electron being attached or embedded in a “quantum polarity “wave that produced the wave interference movements of the electron. The electron cannot be thought of as being independent of its polarity wave and are two sides of the same coin, like electromagnetism. Electrons waded in and out from particle to wave in resonance with the wave. These waves intersect and fill the vacuum density and act according to predictable wave interference principles. Huygens’ Principle of wave interference states that when two positive waves overlap, they produce a superposition equal to the sum of both waves. The point of intersection creates a new point from which new outwardly spreading waves are created which again interfere at new points creating new superpositions spreading outward in a complex intricate circular lattice patterns. Positive waves produce super-positions, negative waves, create negative troughs and negative/positive wave interference cancels.

Huygens’s principle electron/wave polarity explains two quantum paradoxes. First, when single electrons are shot repeatedly through the same slit, they land not in the same location but in a wave interference pattern as would be expected if the electron is buffeted about by interfering quantum wave crossing its wave along its path to the plate. The distinct wave interference on the plate would reflect the indirect path of the electron produced by quantum wave interference on the electron and its own wave polarity according to David Bohm (1917-1992). A second anomaly is that a single electron particle appears to “interfere” with itself. Quantum wave interference would explain this also, since the electron’s own wave polarity would interfere alternating between particle and wave state on the trajectory to the plate.

After experimenting electron plasmas, David Bohm was struck by the organized pattern that emerged among quantum particle interactions. He proposed that particle attached to a polarity wave had not only predetermined paths, but the ability to self-correct anomalies in the patterned motions by encasing out of sync particles by encircling and corralling them into sync.

This self organizing principle of electrons has been recently confirmed by experiment. Brian Saam, a physicist at the University of Utah, zapped xenon atoms with a strong magnetic field, laser beam and radio-wave pulse so the nuclear spins were aligned in four different configurations in four samples of frozen Xenon, each containing about 100 billion twice of atoms. In the experiment, each sample of frozen xenon atoms was polarized so the spins were aligned up or down. Then the alignment was flipped by pulsing radio wave so they were perpendicular to the magnetic field instead of parallel which makes the atoms circle around the magnetic field axis like a spinning top. Although held in place in a crystal structure, the spins can interact and change the direction. After changing the spin alignment in a perpendicular fashion, the xenon started evolving in extremely complex ways, losing their “memory” of the initial perpendicular alignment. Over a millisecond of time of complex movement, the atoms displayed identical “long time behavior”, by regaining their original orientation .as measured with a nuclear magnetic resonance or NMR... The evolution of disorder into order by xenon atoms nuclear spins implies chaos theory that describes dynamic systems such as planetary orbits or chemical reaction or weather are over time highly sensitive to starting conditions.

Therefore, the most likely missing force that explains the quantum statistical interactions of the particle is the theory of the “quantum wave.” This quantum wave is integral to the electron’s momentum and determines its future journey of

all interacting electron over space and time. These quantum wave polarities in the vacuum interact based on Huygens's wave principle. These quantum undetectable wave energies intersect like a fine web of energy the entire universe spreading outward from every point in space.

This then explains the Newton's bucket experiment of gravity. The water in a bucket begins to spin and produce a convex shape when the bucket itself is spun around at the end of a rope. The spinning convex shaped water is produced by the quantum polarity waves in the vacuum density intersecting at a point in space at the center of the water field. This also shows experimental proof of the convex cones diagramed by Von Laue when tracing the paths of electrons. The intersecting waves rotate in a sine curve rolling oscillations producing a winding vortex leading to every point in space and twisting into itself and rotating in an opposite sine oscillating vortex out the other side. Imagine the entire universe of intersecting vortexes of undulating space increasing ever outward in the universe.

Given that the particle is always accompanied by its quantum wave polarity, we may say the combined system of the particle plus its wave is causally determined."As such, while the particle's motion appears random, much like Brownian random like fluctuations of water, a particles path was deterministic and predictable but depended on hidden variable in both the motion of the quantum wave background energy and the structure of the electron itself.

An electron cannot be understood independent of both its particle state and the quantum wave polarity to which it is embedded and attached. In this polarity wave and the structure of the electron are the "hidden" variables that determine the electrons journey.

An electron's randomness only appears random in a local frame shot. However, zoom outward to place in space far enough and you see the electron ultimately ultimate path. The destination of an electron occurs through a whole series of interactions that are determined while locally, the electron interaction only appears random. It is like tracking the path of a particle of pollen in an ocean during a hurricane. While we are limited by our instruments' capacity to track with certainty the path of the pollen, its path is still determined by classical physics of fluid wave dynamics.

This quantum wave polarity theory provides answers to some of the most confusing behaviors of an electron. For example, the EPR paradox where two related electrons with opposite spins can coordinate their spins faster than light. If one assumes both electrons inhabit opposite waves that are connected or intersected, then the movement of one wave instantaneously reverses the wave at the intersecting point. Imagine an electron fused into a solid string of electrons the width of which is one electron thick and its length the distance of the universe. The instantaneous flip of one particle in the fused "rope" of electrons, flips instantaneously all the particles fused in that electron thick rope of the wave, not at the speed of light through space, but the speed of light across the dimensions of the axis of the wave, which is the size atomic dimension of the particle. The wave and all particles must be considered "one" unit of matter with length but no width. Flip one electron, the entire wave flips at the rate of Planck.

It also solves the two slit experiment where the electron appears to pass through both slits at the same time. If an individual electron has a particle like quality that also radiates a field, and that both its radiation field and particle like quality are again embedded in a polarity wave, he proposed that the electron particle state passed through one slit simultaneous to the wave in which it is traveling passes through the second slit and produces some inertial angular momentum that produces a measurement as if the particle passed through both slits.

These quantum waves that carry elementary particles have been mathematically diagramed by Schrödinger, Heisenberg and Dirac and are called Quantum Probability Waves. These Quantum Probability Waves are not, simple mathematical abstractions but actual energy waves that "pilot" all matter and energy interactions. These quantum energy waves transverse our universes and permeate all matter and energy that is holding the internal structure of all matter, energy and the Universe itself together.

4.1 The Strong and Weak Force Are Produced from Energy Densities of C3 That Cause the Symmetry Breaking of electromagnetic Energy Into Nucleus and Electron Under the Pressure of the Entire Universe

The following is a discussion of the strong force being symmetry splitting of the electromagnetic spherical energy further into uniplolar spherical energy.

When confined to an atom, an electron **absorbed energy in continuous waves but emitted light energy in discrete photon quanta**. Stated another way, an electron absorbs and emits energy in continuous unbroken waves of light, sound and motion until reaching its maximum energy density, it emits quanta or static frozen wave, the photon.

The interior of the atom is circulating its electromagnetic wave, waving between positive and negative as its pulses and spins in space. When an atom reaches its maximum energy state, it too must conserve energy and release the energy through a “flux” or particle like emission.

Therefore, the Strong force which is simply the electromagnetic force created by the flux of C^+ C^2 must also emit a quanta of magnetism or a graviton. Again applying the following:

$$m1 - m2 = Bh / C^3$$

$$B = S / C^3$$

The conservation of the negative energy is drawn from the vacuum density of

$$E = 1/2hw$$

If a photon is released in quanta of h force, an equal magnetic deformation must occur in the atom. $E = hv$ then the strong force is this in reverse. A positive energy is released in Planck energy which must in turn provide the opposite negative/magnetic force within the nucleus.

The emission of photons provides the quanta of the strong force or magnetism which pulls the nucleus in a smaller stronger compact core. The proton and neutron, acting as a catalyst also act like universe torque of the photon emission to be regenerated and stable.

With the elementary particle of quarks composing the proton and neutron, the nucleus is the most complex part of the atom and contains most its mass. Both quarks and electrons have spin measured in units of the reduced Planck constant (\hbar), with electrons, protons and neutrons all having spin $1/2 \hbar$, or "spin- $1/2$ ". In an atom, electrons also possess angular momentum orbiting around the nucleus. The electron has potential energy that is inversely proportional to the distance from the nucleus must like Coulombs' law or electrostatics.

In Grand Unified Field theory, an electromagnetic connection between the strong, weak, and electromagnetic forces has been established. The strong force conforms to SU3 gauge, the weak to SU2 gauge and the electromagnetic to SU1 gauge symmetry. This results in SU3 x SU2 x SU1.

If all particles are cavity radiation, an atom can be seen as a sphere of cavity magnetism within sphere of cavity radiation. Unlike an electron of undifferentiated spherical electromagnetic cavity radiation, however, the atom is radiation of higher complexity. The positive nucleon may be seen as a quantum “black hole” where all the energy flows inward toward its center. The electron shelf encircling the hadron or nucleon may be seen as a white hole with all energy flowing outward. The two interact and exchange energy asymmetrically, providing the pulse and contraction of the electron orbit through the

spherical cavity of vacuum density captured when the atom formed. This interior lattice vacuum cavity radiation operates independent of the universe because it is “rapped” in a black hole white hole quantum universe.

The atom may be characterized as a highly complex system of coordinated parts that work to reproduce itself and other more highly complex organic and inorganic matter. It is the interaction and asymmetry between the nucleus and the electrons that provide the tiny engines for the entire universe.

The atom is a vibrating frozen Schwarzschild lattice of inward/outward over which less dense electromagnetic energy flows interweaving at the speed of C. At each pass of the point superposition of the lattice, a C4 energy level occurs. C3 and C both conserve their linear energy by angular momentum. Therefore, at maximum energy level of C4, the electron is emitted formed in a spherical energy particle, rolling out of the collision of C and C3 point energy producing C2.

Then the electron at C2 is passed over simultaneously by C, and C2 which produces a possible energy of C5. At C5, instead of collapsing the entire universe into a black hole, there is symmetry breaking further, and an atom emerges. The further collapse of space produces the atom composed of a nucleon of cavity radiation within a cavity radiation of the electron shell. The nucleus is a 1/2 step between C3 and a unitary black hole. The nucleus can be seen as the conservation of energy in a fractional state of a black hole at the center of the atom with a white hole outward shining light, a configuration similar to the Schwarzschild lattice solution. The nucleus is the magnetic core from which no light can escape and which acts as the magnetic switch that pulls excess energy out of the quantum energy density to recombine an electron on a lower energy shell after it ruptures into a photon upon reaching maximum energy.

The nucleus is the black hole center of the Schwarzschild lattice where the energy, as in a black hole loops continually into itself not letting light escape while the electron orbits in the quantum vacuum density. The atom's mass is centered mostly in its nucleus because as a black hole, it is drawing energy from its outer shell which is mostly empty space around which the electrons spin as if suspended in empty space.

The nucleon is constantly absorbing energy and rotating it outward until it hits its event horizon where it pulls it back again. Only energy that has a greater than the nucleon's escape velocity may be emitted which usually is processed through by a higher energy gamma radiation forming another electron that is captured into its shell. The nucleon also captures the net passively charged part of the gamma radiation and forms another proton neutron pair to equalize the new electron/positron pair collision forming the new electron.

According to the Schwarzschild solution, two concentric spheres of the nucleon and the outer electron shell do not feel the influence of the other until more energy is added where in another asymmetrical coupling occurs.

In the nucleon, quark pairs are asymmetrically formed when the C5 velocities “break” the symmetry of whole integer charges into asymmetrical fractional configuration of 2/3 and 1/3 positive and visa versa.

This is the symmetry breaking of positive and negative charges created by a super-massive superposition energy collision reaching velocities of C5 as follows:

$$33\% C + 33\% C2 + 33\% C3 = C2$$

The electromagnetic energy conserves its inertial mass by splitting its polarity and possessing an asymmetrical fractional charged spin. It produces a nucleon net positive and an electron net negative.

This 1/3 and 2/3 positive charged asymmetry of the nucleon is necessary to conserve its charge under the velocities of C5. The strong force is produced as a further collapse of space at a point location under pressures of intense velocities. The

atom cannot escape its own structure, because in order to do so, it must overcome the net energy excess of the content of the universe which is C3. The atom's total net energy content is C2. The strong force may be seen as an atom being "imprisoned" under the pressure of the entire universe. This produces the stable atom,

This super-collapse produces an inwardly flowing energy torn from the fields crossing at that point and creates at that point a small black hole that is powerful enough to capture the outwardly flowing electron and create a coherent structure of the atom. The net positive shell of the nucleon hold the inertial structure of its magnetic force and the net negative charged shell of the electron protects and encases it strong repulsive electric force.

Matter is therefore created from powerful velocities under such pressure, that it appears to be "blossoming" out of the dark fabric of space, light and sound creating the opera of the universe. Matter is being squeezed out of the "effulgent vacuum density. The photon "pops" into existence, splitting out of a parent atom under pressure of the entire universe energy at one point in the vacuum. Fully formed matter is the fusion of the atom with its unique photonic image. The evolutionary history of the entire universe is "implicate" or imprinted in every particle of matter and light. Out of the "empty" vacuum all space and time emerges.

4.2 Energy Conservation; The Strong Force and the Atom Produced Through electromagnetic Symmetry Breaking

Recalling SRT, a particle may be defined as the total content of its energy. If one assumes that the atom is a result of conserved angular momentum, then it is a small collapse into frozen particle energy under pressure from the entire universe. Therefore, the strong force is not only the force of C2 of the atom but also the energy of C which is visible light, and of C3 which is the energy of the universe. The atom is so stable because the strong force is a coordinated fluxing force between the entire universe's resting energy field and the resisting internal force of the atom which has been "squeezed" out of the compressed point in space to produce the spinning flat energy sphere.

The atom is confined to the uniform gravitation field produced and squeezed into existence under the entire electromagnetic energy of the Universe. Within its inertial gravitational field out which it sprang, classical physics apply and it "feels" no gravity or other forces in which it is in inertial balance. Only when impressed with an external energy force, causing the atom to deform and then torque to its maximum energy of C2, then it "ruptures" and reproduce itself.

The Schwarzschild radius = $2m$

The amount of energy needed to unbind the electron from the atom, and is usually given in units of electronvolts (eV). Like the electron, the magnetic field produced by an atom—its magnetic moment—is determined by these various forms of angular momentum and spin. They behave according to Pauli Exclusion Principle, in which no two electrons may be found in the same quantum state and bound electrons pair up with each other with opposite up and down spins. Thus these spins cancel each other out, reducing the total magnetic dipole moment to zero in some atoms.

This model of the atom follows laws of electromagnetic of magnetic and electric fields but takes the form of a looped sphere in a cavity that has both a ground state and a quantum state expresses the principle that all matter and energy are of electromagnetic origin. However, the atom itself is produced under greater temperature and pressure where light becomes fused into a solid coherent system of inward/outward flow of energy production to conserve the inertial mass of the universe.

Within the nucleon, protons and neutrons have spins and polarity which are highly synchronized and organized within the atom and within the structure of the energy field of the entire universe.

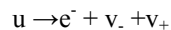
Within the atom, an electron transitions between two different states, it must absorb or emit a photon at an energy

matching the difference in the potential energy of those levels. The energy of an emitted photon is proportional to its frequency, so these specific energy levels appear as distinct bands in the electromagnetic spectrum. If a bound electron is in an excited state, an interacting photon with the proper energy can cause stimulated emission of a photon with a matching energy level. For this to occur, the electron must drop to a lower energy state that has an energy difference matching the energy of the interacting photon. The emitted photon and the interacting photon will then move off in parallel and with matching phases.

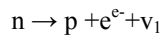
It has been observed that matter mutually annihilates when there is a positron-electron pairing that produces two photons which have the equal energy states but a positive/ negative charge that cancels. However, according to principles of information conservation of entropy, there is a production of light energy which is produced by the “flux”. The electron energy or “information” does not annihilate, but rolls into the vacuum density field contained in the atom and back out at a lower energy shelf. The electron does not make a quantum leap, but rather a quantum emergence from the vacuum field composing 99% of the dimension of the atom. It is this vacuum density field out which the lower energy electron emerges pulled out by the magnetic quantum “black hole” of the nucleon.

This model explains where the electron goes when it makes its quantum leap into an abyss and reappears at a lower orbit. The great “in-between” state of the disappearing electron occurs when it emits a photon with the excess energy being “suctioned” into the quantum density field composing most of the atom’s dimension. The excess electron enfolds itself into the quantum wave potential of implicate energy/matter in the interior of the atom. For a Planck’s instant the electron merges as into the “ghost” vacuum wave of the quantum energy permeating and confined in the sphere of the atom.

In the electroweak interactions a neutrino is produced. A negative muon decays into an electron, a neutrino and an anti-neutrino



There is one fermion present before the decay and one after, with opposite signs. A neutron decays into a proton and electron and a neutrino.



There is one fermion before the decay and net one after. Again $1 - 1 + 1 + (-1)$

Electron and positron annihilate to create a pair of photons the count of fermions is zero. For $e^- + e^+ \rightarrow 2\gamma$

$$1 + (-1) = 0.$$

Radioactive decay of a proton creates an electron and positive and negative neutrino.

The neutrino is the excess energy released on the decay of particles into lower energetic particles. The neutrino has the energy velocity and wavelength shorter than Planck scale. As previously observed, a neutrino must be the energy flux that is conserved from the quantum density vacuum of C3

So what energy and mechanism produces the proton and neutron. A reversal of the process of energy decay will disclose the nature of the hadron creation. It is believed that all elements heavier than hydrogen and helium are produced under the pressurized furnace at the core stars through thermal fusion. Thermal fusion may appear to be a chaotic random process but as chaos theory demonstrated, slow the process down, and one finds that what appears chaotic is highly

organized complexity. The theory of matter creation based on Huygens’s wave principle of producing huge velocities of energy in an organized form is an alternative and reasonable conclusion.

Based on this, a hadron may be seen as a “spontaneous broken symmetry” of energy conservation. Baryons are composed of three quarks (and anti-baryons from three anti-quarks.) Baryons carry an odd half quantum unit of angular momentum (spin) and, hence, **are fermions**, which mean that they obey the Pauli Exclusion Principle rules.

Sample Fermionic Hadrons					
Baryons (qqq) and Anti-baryon ($\bar{q}\bar{q}\bar{q}$)					
Symbol	Name	Quark Content	Electric Charge	Mass (GeV/c ²)	Spin
p	proton	uud	1	0.938	1/2
\bar{p}	anti-proton	$\bar{u}\bar{u}\bar{d}$	-1	0.938	1/2
n	neutron	udd	0	0.940	1/2
Λ	lambda	uds	0	1.116	1/2
Ω^-	omega	sss	-1	1.672	3/2

A proton has two up quarks with 2/3 positive charge and one down quark with a 1/3 opposite charge which equals a net **charge of 1**. A neutron has one up quark with 2/3 charge and two down quarks with 1 charge which equals net charge of 0.

As been observed, two like charges repel each other until they move within a certain range, and then the opposite occurs. They attract each other with the force of the universe C3, which is the “strong” nuclear force, fusing into one nucleon asymmetrical particles of quarks which do not have energy sufficient to escape the event horizon of the hadron. This is symmetry breaking producing the atom.

So let’s imagine two electrons coming within that range of strong nuclear attractions. As both reach their angular moment in which they will collapsed, instead of breaking up, the electron energy is so great it turns inside out and splits its charges asymmetrically so that it has a net positive and neutral charge. The positive charge is now repelling all the pressure of the

universe or creating a strong charge. The negative core of the inside out electron has produced a folding of point space or a small black hole that actually is so strong that it crushes to a singularity point particle. The positive shell of the hadrons is like the event horizon of a Schwarzschild black hole which spreads out from the singular point and whose force adds to the energy level of the entire universe. Again, this references and incorporates the Mach principle that all matter and energy in the universe influences every other part and region of the universe. In fact the space energy state of the nucleon at its horizon is similar to the highly electrified plasma state of an event horizon of a black hole. Its energy in its center is highly dense and thick gluon plasma energy.

The huge amount of energy produced in this fusion process is the “ripping” off the vacuum density out of a boundary of space creating another more highly energetic point particle that has collapsed to an equilibrium and is repelling the entire force of the universe. The energy required to pull this vacuum energy C3 creates such a thermal explosion it literally fuels the stars. At the atomic level, this energy is the advance energy particle seen in the Tachyon.

So the reverse of nuclear decay that produces the “ghostly” neutrino is the huge energy furnace contained in the less than Planck scale tachyon pulled literally from the advanced wave of the future.

So what are produced in nuclear fusion are two photons, an electron and a hadron composed of an electron and a tachyon. Two photons are C; one electron is C2; one hadron is C2 produced out of the excess energy of the electron collision and a tachyon where the electron collapses into itself producing an asymmetrical three particle configuration SU5 gauge symmetry. As quantum chromo-dynamics shows, the configurations are either asymmetrically positive or negative. This core asymmetry is the alternating piston like energy interacting asymmetrically with the 1/2 quantum vacuum density and the C2 density of the electron shell. The core is 3/4 C3, the electron is C2, the interior vacuum density shell is 1/2 C, and the net is the resting state of the atom which is a net 3/4 C2. The exterior pressure of the universe is the same: C2-C + 1/2 C equal 3/4 C2 or the resting state of the universe. Add 1/4 for the quantum state you get a total of C8, with C4 composing the interior and C4 composing the exterior. At this point new matter and energy is created by a collapsing of space into new point symmetries to conserve the interior and exterior equilibrium of the universe at a 4/3 C2.

$$C + C + C2 + C2 + C3 \quad (1)$$

$$C + C + C2 + C3 = C8 \quad (2)$$

The asymmetrical splitting occurs to conserve energy and structure of all particles and photons are produced.

$$C2 + C + C3 = C5 \text{ SU symmetry of the nucleon}$$

$$4/3 C2 + C = \text{preexisting atom's resting energy state.}$$

$$4/3 C2 + C = \text{new electron and photon emission.}$$

This equals the energy velocity of C8 of the atom at its quantum state for matter to be created.

Its “rest state is C6 or 4/3 of its quantum state that breaks into two C2+C2+C+C=C6 energy conservation state interactions. This is to conserve the entire energy at rest quantum state of the Universe which is C3. The following is derived:

$$\text{Matter and light} = C3 \text{ quantum state.}$$

$$-C + 66\% C3 = 0 = C + C2 = C3$$

The energy of C3 on each side of the equal sign for a net excess density of 0.

This is also the quantum and rest state of the entire universe. A particle of energy may be defined as its total energy content which includes its cavity radiation rotating in angular momentum and the field which is outside it that is being absorbed and rotated inward and then emitted outward through its polarity release valves. Another analogy is that the entire universe is defined as its total energy content, which is the result of all the energy of the atoms, electromagnetic free energy, and the vacuum density energy, as well as the energy of black holes, planets, etc.

The “rest state of an atom is the total energy within its sphere and outside. The nucleon contains C3 energy state, the electron shell contains C2 negative energy, the quantum density within the atom has a net energy content of C3 when one includes the electron, but a net energy state of C. So the atom's interior rest state energy is C6 and outward the Universe total rest energy is C6 or a net energy state of C3. The atom is a Planck black hole nucleon surrounded by a white hole of the electron shell.

The universe also has the same configuration. The Schwarzschild galactic black hole has a total rest energy of C3 and the rotating galaxy around it has a total net energy of C3 which is a white hole. So inside and outside, the atom and the universe are at equilibrium rest state. When both in and outward are energetically compressed to reach a quantum state of C8 when symmetry breaking occurs and new energy and matter is created, such as when a new atom is splitting and reproducing itself to conserve its inertial mass within a closed system universe.

4.3 Stars and Planets Formed From Accretions Disks of Energy in the Vacuum Density Field.

As previously discussed, matter is created when high velocity gamma rays collide or when a photon is absorbed (processed through pressure) into an atomic nucleus. When this happens an electron/positron pair is produced. The nucleus has the magnetic velocity of C2+ and C2- or a total of C4. This is the energy of a black hole unitary structure. The black hole magnetic velocity C3 plus the velocity of its surrounding field is C3. The black hole's nesting state is 66% of C3 and the entire outside energy content is 33% of C3 which is C.

A black hole is absorbing the energy density around in C waves. When a C wave hits the horizon, a quantum fluctuation occurs and photons are emitted in quanta, which is the emission of light quanta that exceed its absorption energy rate of C3. When a black hole is hit by when hit with energy greater than C or electron of C2, and then it emits two photons to conserve its energy density of C3.

Therefore the universe can be thought of as huge oceans of electromagnetic energy waves crossing each other, creating super positions and troughs, with the direction of C and the counter direction of C opposite and perpendicular from two directions collide at a point of interference and produce a velocity of C4 which then must produce a conservation of linear momentum by producing a particle of angular momentum rolling in a wave polarity. According to Huygens' principle of diffraction, every point of interference may create or uncreate matter through wave velocity interference that spreads outward from every point at Planck dimension.

When a high-energy photon interacts with an atomic nucleus it will produce an electron and a positron without violating conservation of momentum. Since the momentum of the initial photon must be absorbed by something, the nucleus is needed to conserve both momentum and energy.

Pair production also occurs during Hawking radiation near a black hole. It is observed that at short scales short-lived particle-pairs are constantly appearing and disappearing in the quantum foam. If a region of strong gravitational tidal forces, the two particles in a pair may sometimes be wrenched apart before they have a chance to mutually annihilate. When this happens in the region around a black hole, one particle may escape, with its antiparticle being captured by the

hole.

To create an electron-positron pair the total energy of the photons must be *at least* $2m_e c^2 = 2 \times 0.511 \text{ MeV} = 1.022 \text{ MeV}$ (m_e is the mass of one electron and c is the speed of light in vacuum), an energy value that corresponds to soft gamma ray photons. The creation of a much more massive pair, like a proton and antiproton, requires photons with energy of more than 1.88 GeV (hard gamma ray photons)

These knots of energy now create areas of static ripples of disturbance blocking the energy flow that begins to adhere or accrete more energy as the flows of energy must increase its angular momentum over the denser space time fabric. This produces an energy accretion disk in space that grows ever outward as linear energy rolls into particle cavity energy disks attached to the region of space.

These outwardly spherically growing energy disks form into new stars, planets, and other debris in the universe. So planets, such as the earth grows outward as the earth's atoms continue to absorb, rotate and recombines energy within its core through a constant system of energy absorption and emission as it conserves its inertial mass. As matter grows and achieves a critical density such as an atom, itself replicates to decompress its energy and conserve its structure. The atom continues to self-replicate until it forms molecules, then it conserves itself through chemical bonding.

However implicit in the model is that the electron, neutron and proton act as a system with coordinated parts that operate according to internal predetermined mechanical energy system designed to conserve its internal structure and momentum. This predetermined mechanical design is the consequence of the initial boundary geometry of the universe. As explained before, all matter is attached to an "inertial gravitation reference frame" or suspended with space by the gravitational equilibrium out of which it evolved and was produced. I am a result not only of my own gravitational field, but I am a product of the gravity of the earth from which I evolved, the earth is the result of the solar system, the solar system the result of galaxy and outward to the boundary of the universe.

Therefore, an atom can also be seen as pressure chamber with valves. The atom's code is contained in the internal pressure chamber of the nucleus of the proton, neutron and electron. When certain velocities of energy cross in negative positions, it either absorbs the energy or emits a photon of a color signature. Hydrogen with one electron has a color signature of blue. Also, before emitting a photon, it spins and absorbs the energy by emitting sound vibration.

Whether the hydrogen atom absorbs energy or emits a photon depends on the coordinated action of the electron, proton and neutron. The proton and neutrons determine energy absorption and emission. The atom will absorb as much energy that the proton can hold until the energy reaches maximum and the neutron is switched into play, allowing the electron to emit a photon. At the moment of photon emission, the electron appears to disappear into the "Quantum Wave" which it does, However, at that moment of the leap into the abyss of pure energy vacuum, the proton exerts enough positive charge to recombine the electron however at a lower and less energetic orbit,

If we assume the existence of the "quantum wave energy", then it can be seen through a thought how the mysterious advance waves can be visualized as being drawn from the "future" or out of the thus far undetected quantum wave permeating the universe.

Based on this model, it can be stated that matter is being created in one region. However, in order to do this, another region has a net decrease of energy. This net decrease in energy is seen in the uniformly permeating low frequency Microwave radiation that permeates our universe.

This model is also consistent with Quantum Chromo Dynamics. At the quantum level, two joining quarks within the

nucleus when energized start to divide, pulling apart creating an interior rift. However when this rift reaches it maximum, it recombines by producing more quark matter to glue it back together. This rift between quarks may be seen as the “moment of torsion” before the wave collapse into a particle.

Energy Conservation: Electro Weak Force Is The Release Of The Atom’s Energy Due To A Coordinated Increase Of Energy In Another Part Of The Universe

As you recall the principle of energy conservation of a closed system universe is that as energy increases in one region of the universe must be accompanied by a decrease in energy from another region.

$$\Delta S \text{ universe} \geq 0$$

Based on Huygens wave interference pattern of energy redistribution, all atoms are in a state of decay from energy transfers occurring in the universe at every moment. The atom will decay when the energy increases in another region that “releases” the pressure holding the atom together.

One obvious region of fabulous energy that is lighting up with both light and thermal energy, organic and inorganic matter is our planet. The increasing energy production through conversion occurring on our planet is evident everywhere. As organic life that continues to evolve, differentiate and grow into greater complexity, matter production in our region of space inhabited by our planet must necessarily draw energy from another location in the universe which simultaneously decreases. .

We can see heavier elements being created in Supernovae furnace, but another region of thermal, light, and chemical production is the core of our earth. While a star is considered a black body radiation with the chemical and thermal reactions occurring as the result of electric and magnetic fields on the surface, our earth may be seen as a star or a black hole inside out. The earth is a white hole whose content of its atoms which are cavity radiation of white hole spheres encapsulating black hole hadrons produced under pressure. The energy is so dense at the center due to the C3 energy content being “compressed” into our compact planet, more and more atomic fusions occur, producing atomic complexities of heavier elements to absorb the increasing energy density. . While black holes and stars emit thermal energy, the earth emits higher frequency light in conservation of thermal absorption from the atmosphere. The configuration of the earth, as a system composed of all its atoms, has both polarity, spin, a magnetic shell and emits electromagnetic radiation in the form of its gravitational field.

Chemical bonding of atoms under increasing pressure will eventually conserve inertial mass electro-chemical interactions that are the precursor to all life.

The pressure and thermal energy necessary for life is produced in the core of the earth. The furnace of the earth’s core produces greater energy pressure, and pushes the energy in new chemically bonded configurations to the earth’s mantle. Both inorganic and organic life is being created to conserve the inertial mass of the universe.

A simply analogy is me. I have not only duplicated, but tripli-cated by having two children. The atoms that constitute their bodies did not exist in their present coherent structure prior my energy system producing them through electro-chemical reproduction. By doing so, I had to draw energy from another part of the universe, mainly the planet, which draws its energy from the universe absorbs it into its core, produces a magnetic field that produces the production of water and plant growth. This energy the planet absorbs is both lights from the sun which is C energy, but also absorbs it from the “quantum waves” rolling over it producing its “material supports” in space. The energy is combined within its core and release through it poles. Likewise the cells of my body are a result of the constant recombining of energy, jittering back and forth faster than the speed of light, as Feynman has shown. Out of the earth, water, and sun, and other

plant and animal energy before me, their energy has been “conserved” and the “information” is never annihilated, but conserved as now is accepted in physics, to be recombined into my body arising from the infinite time line of the BB. As Lau states, the information of all inertial mass is always conserved when it is transformed.

Therefore if this photon conserves or retains all the information from the electron that produced it, it may be recombined through the nucleus to create a duplicate of itself.

The evidence supports the proposition that matter is constantly being produced, enfolded (never annihilated), transferred and exchanged, and recombined constantly within the universe.

String Theory and Branes: Mathematics that Prove the Schwarzschild Lattice Structure of the Universe Around which Closed Strings Coalesce at the Vertices.

In string theory there are two types of strings, open strings with ends and closed ones that loop around. Open strings are anchored to the surface of a brane, so the particles associated with them are also anchored to the brane. The brane is simply the electrostatic geometry of the dynamically torquing oscillating vacuum energy field that vibrates energy in and out of forward time (visible world) before being reabsorbed into the vacuum of trans-Planckian energy (invisible static world) . These vibrating energy strings are shimmering different harmonics and frequencies as the universe as a whole exchanges energy through conservations at every moment of time, or to be more precise at Planck’s rate of time.

The error of string theory is it presupposes that gravity is a closed string having no end, and there is no mechanism for confining it to a brane. Therefore it is concluded that gravity can spread out anywhere, is very weak and can leak into extra dimensions. This partly correct. Gravity is not confined to a brane, but is itself the architecture of the brane world. There are only three fundamental dimensions,: the light dimensions of linear momentum; the matter dimension of infinite angular momentum at a right angle vector; and the trans-Planckian dimension of the vacuum, the in-between where energy conservation occurs at intra Planckian time which is undetectable to atomic measurement. All mathematical dimensions seen in string theory are the intra-Planckian permutations of energy frequencies described more fully in the Dirac spinor quadratic equations and the E8 Li geometry.

4.4 Gravitons and Higgs Fields Are Not Particles But Quantum fields of Positive and Negative Inertial Mass Energy Producing the Torque Necessary to Produce the Angular Momentum of the Atom

Quantum mechanics predicts that the forces produced by particle interactions must also be exchanged through “force particles” like Higgs bosons. In observation, virtual particle appear and then disappear, leading to the belief that there must be yet undetected “gravitons” or particle of gravity that carry the force of gravity. However, this may be only evidence of the angular momentum of the local vacuum density field between the two particles. Von Laue explains that two particles exchanging pulses at a distance causes the intervening field to torque under the energy flow in localized areas while the field itself remains at a constant 0.

Two charged particles in a field do not “feel” or exchange pulses until they their fields collide and a resulting torque occurs. The pulse must cause a disturbance of increased or decreased energy within the direction of its momentum. Therefore the inertial “drag” detected when particles interact that seem to produce “virtual particle” because they disappear are more precisely characterized as a momentary warping in the direction of the linear and angular vector.

In the particle colliders, when a proton is hit with a huge energy, it breaks into multiple particles, called sparticles which produce greater energy mass than the original proton. Further these sparticles quickly disappear, like “virtual” particles. This is explained by the quantum density vacuum radiation theory. A proton is simply “cavity radiation” maintaining its inertial mass through angular momentum at the velocity of C2 under pressure of the universe energy of C3. It is rolling around, spinning to retain its coherent structure. However, when broken apart, the proton no longer a

cavity radiation envelope, or wave-particle. It breaks into linear formless light energy with transitory inertial mass that lasts only until the vacuum density field swallows them up. The excess mass of these sparticles are explain by the fact that the proton has less inertial mass because its internal charged quarks balance out negative and positive charges more that when it is split and all the energy is release with no balance to the charges.

Sparticles like neutrinos and gravitons only have temporary inertial mass when energy causes the angular momentum in the vacuum density field to increase momentarily before being reabsorbed into new light and matter creation or absorption. An analogy is ocean waves that gain in momentum and crest, before collapsing and rolling into itself.

Virtual particles such as “gluons” are pulses that rise and flow like a pulse traveling a standing wave... The pulse produces a temporary partial spherical inertial density squeezed around the spiral loop energy of the vacuum that collapses into the direction of the pulse. This pulse is not a particle because it does not have energy independent of the wave rope itself and does not have infinite angular momentum which is necessary to maintain an independent particle like structure. Force pulses have no spin or angular momentum or inertial mass independent of the fields through which they pulse. The pulses occur at less than Planck scale and in Huygens wave interference patterns spreading out form a point and crossing other pulsing energy at dimensions of less than Planck. It is energy flowing at cross currents and cross troughs, oceans of pulsing currents forming Planck size crests and currents torquing and twisting space.

Energy pulses through space are like ocean currents forming crests and rivulets of a three dimension point interference pattern of an intricate vibrating web of glittering energy. While the universe a whole is equal to 0, or uniform and isotropic, in total energy content, its local energy fields are twisting and undulating with greater or lesser energy densities

5.1 The Earth as an Inside Out Black Hole

All the physical characteristics of a black hold are identical to the earth, except inside out. At its core, like the event horizons are huge energies under enormous pressure producing a plasma soup, or molten core. Instead of an electric jet poles, the earth has magnetic poles which are the release pressure valves. At the event horizon, particle are seen being split and torn apart, in the core of the earth the reverse is true, particles are being frozen or fused together under pressure. Black holes accumulate mass from the outside in by absorbing magnetic energy; the earth is gaining more mass from the inside out. Black holes absorb all light; the earth reflects or refracts light. The atoms characteristic light and harmonics produce the colors and sounds of our planet. The analogies continue.

The black hole and our galaxies have the characteristics of an atom; the black hold is the nuclear and the sun is the electron that holds the galaxy and our solar system in balance.

So above, so below. The same may be about the atom; so below, so above. The universe is produced by the entire individual characteristics of each atom, in spin, frequency, and coordinated action in a point location to produce the universe out there. The atom is the unitary microcosm of the unitary macrocosmic space.

5.2 The Galactic Black Hole Rotating at the Center of the White Hole Galaxy

According to the standard model of the universe, the first atoms (complete with bound electrons) were theoretically created 380,000 years after the Big Bang—an epoch called recombination, when the expanding universe cooled enough to allow electrons to become attached to nuclei. Since then, atomic nuclei have been combined in stars through the process of nuclear fusion to produce elements up to iron. Heavier elements are produced this way and iron is considered to be produced through nuclear decay. Isotopes such as Lithium -6 may also be produced when high energy photons strike atomic nucleus. It is believe that all the elements of the earth existed from the beginning and did not evolve over time as the earth evolved into its present structure.

However, the model based on quantum wave energy shows the highly organized formation of matter due to energy accretion disks on the Schwarzschild lattice and Huygens principles of crossing energy currents.

Let's assume the earth started as an accretion of hydrogen atoms that were bound together tightly in a small region of space. Over billions of years, the pressure exerted on these regions of trillions of highly energetic waves of energy would produce asymmetrical breaking into new and highly more complex atoms. The pressure builds and continues until the spherical earth has reach its maximum of non thermal reproduction, so the core of the sphere must break further into hot thermal plasma where the negative poles are torn from the positive polarity, creating hot thermal plasma core. The plasma then moves upward and is emitted through the poles of the earth and then erupting and produce the harden shelves of the earth which become land mass. This land mass continues to grow as the plasma core must continually release its energy in eruptions rather than the smooth waves through its poles. Land masses then start to release its higher energy through chemical bonding into organic life, as has been seen in the ocean floors where hot plasma vents are found to be teaming with organisms. It is from these organisms that greater complexity of life evolves out of the plasma core of the earth.

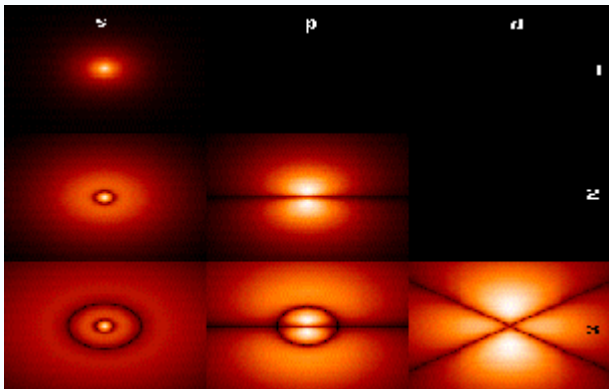
Plant life began as an interaction between photonic energy of hardened plasma and photosynthesis of photonic light caught not only from the sun, but also produced from the poles of the earth and the sea vents.

5.6 A Snapshot of the Lattice where Matter and Light are Created

The atom is defined as a conservation of electromagnetic energy by splitting the electromagnetic wave into the nuclear with a positive inward charge, and the election valence shell or net magnetic mantle confining the interior cavity of vacuum density field or a white hole. This is a torn off of the grid and the electron orbits in the grid wave polarity of the lattice spherical structure.

Atoms in space accrete and cohere to the intersection of the vertices of the lattice. All atoms have polarities spins which is a conservation of energy under pressure. Four hydrogen atoms found together coordinate their spins at 90 degree angles forming a quadrupolar spinning unit. This quadrupolar spin is due to being attached to lattice grid energy in the direction of the grid unipolar interactions transversally and longitudinally at a diagonal. The atoms, like spinning four balls on intersection grid spin in coordination to the energy polarity of the lattice. The lattice structure of the vacuum density field is seen when an atom vibrates from its rest state to its quantum state as seen below.

Visualizing the hydrogen electron orbitals



The caption to this photo reads: "The image shows the first few hydrogen atom orbitals. These are cross-sections of the probability density that are color-coded (black=zero density, white=highest density). The angular momentum (orbital) quantum number l is denoted in each column, using the usual spectroscopic letter code ("s" means $l = 0$; "p": $l = 1$; "d": $l =$

2). The main (principal) quantum number n ($= 1, 2, 3, \dots$) is marked to the right of each row. For all pictures the magnetic quantum number m has been set to 0, and the cross-sectional plane is the xz -plane (z is the vertical axis). The probability density in three-dimensional space is obtained by rotating the one shown here around the z -axis. The "ground state", i.e. the state of lowest energy, in which the electron is usually found, is the first one, the "1s" state (principal quantum level $n = 1$, $l = 0$)."

The above literally shows the lattice at the quantum excited state of the atom. First the longitudinal axis is revealed as the atom is excited and it forms a linear intersection. Then at its most quantum state, out pops the transversal axis. This is literally the lattice architecture of the quantum vacuum density field.

David Bohm said that physicists could explain the "resting" and "quantum wave" state of a particle, but not the "in-between" state where the electron disappeared. As earlier stated, this "in-between" + state is the unrolling into the quantum density vacuum and the rolling out at a lower energy. It is in the quantum vacuum where the "frozen" lattice of energy exists. The picture shows the configuration of the quantum state of a hydrogen atom. In its quantum state, you can clearly see the intersecting quadrupolar grid.

It appears as cell division of organic life. All life divides in quadratic numbers based on the lattice grid over which all life grows out of and is patterned by. The following is a picture of atoms arranged along both the longitudinal and transversal axis.

5.7 Black Holes, Complimentarity And Holographic Principle

The quadrupolar atomic configuration of 90 degree spinning atoms produces the holographic three dimensional qualities to our other flat universe composed of two dimensional flat atoms. David Bohm and others have postulated that the three dimensional quality of our universe is based on the light of a hologram projected from a two dimensional surface. In the last decade, the holographic principle has become generally accepted. Leonard Susskind in Black Holes, String Theory, and the Holographic Principle proposes that event horizons of the black hole have a stretched membrane with only 2 degree of freedom. Also, the maximum entropy of the black hole is proportional to the area of the horizon and the following is true:

$$S=A/4g.$$

This implies that a super-massive black holes are flat two dimensional disks in Euclidian space. Extrapolated from this, it may be postulated our universe is a Euclidean disk of the lattice. An atom, like a black hole, has only two degrees of freedom to deform under pressure. But the coordinated spins of four atoms produce a three dimensional spinning projection of three dimensional spaces and also provides three degrees of freedom of deforming under pressure.

Further it is theorized that in energy conservation, all information is retained. So when a photon falls into a black hole and fuses across the entire area of the black hole, it still retains all previous energy states or information. All the stored information of the proton will spread across the entire surface horizon. Using the S-Matrix, if one reverses the path of the proton, like in Bohm's example of reversing the glycerin to unfurl the preserved ink drop, the proton will emerge in complete form. This is consistent with the s-matrix and energy/information conservation.

Susskind and Fishler postulated the holographic principle where one can imagine the entire structure of the universe being encoded in flat pixels at the boundary of the universe where all information of the interior is stored and projected inward to produce a holographic image of our present universe.

The quadrupolar spinning light of four atoms on the lattice produces the three dimensions of visible universe and is a projection from a two dimensional boundary starting from the atom outward to the boundary of the universe looped back

moving toward the center of the universe.

In the holographic principle, Susskind propose the quality of gravity can be visualized as spinning atoms of light that are projected from the outer boundary of the universe toward nits center, through each successive boundary like Russian dolls. Every three dimensional object has its own boundary projecting structure within its interior down to the atom. In such a picture, there are vastly fewer degrees of freedom than what is predicted by quantum gravity that reduces all space to ever smaller points. In the holographic picture, Planck dimension is the limit. In counting the regions of space, the goal is to determine the dimensionality of that state-space. A lattice of discrete spins shows that the number of states is exponential to the volume, which is a three dimensional space quality of matter.

However, in a black hole, the degrees of freedom are only 2 states on its flat boundary. It is a flat boundary. The total bound states of a black hold is the entropy passing though a light sheet and does not exceed $\frac{1}{4} A$, or is proportional not to its volume but is flat area or disk. In other words the light speed has a positive expansion into futures, and a negative expansion into the past. The Penrose Brusso diagrams show that regions of space have both negative and positive expansion.

The boundary of the black hole, acts like the membrane of any inertial angular mass. It protects it coherent interior structure of pure magnetic standing cavity field. It stabilizes its own structure as well as the exterior structure of the vacuum field of space. It also may be extrapolated from this that the state of gravity produced by black hole negative energy has only two degrees of freedom which is the fusion of outward moving light and backward moving energy of the Schwarzschild lattice. The electric poles flowing unipolar outward in light-time, and magnetic poles flowing opposite in “frozen” or fused arteries and veins of energy flow configured and given dimensionality in the lattice configuration.

Again, it can be concluded, as stated by Brusso and Penrose, there are regions of negative and positive expansion. The holographic principle states that gravity has only two states of freedom or is linear and that the projection of the information stored on a flat Euclidian plan projected inward gives a dimensionality of a volume. This is consistent with Schwarzhield vacuum lattice solution the coordinated spins of atoms projecting light radiation as they move radially in the vacuum give dimensionality and variety to flat linear space. The atoms of light frequency of spinning in harmonics and syncopated beats produce the masterful beauty of our holographic universe. The atoms of light, sound and music are designed into geometry of the birth of the universe from a supermassive black hole.

5.7 Black Holes: Centers of Galaxies and The Engine Of Galactic Energy

It is accepted that black holes are somehow fundamental to galaxy formation. Two ways that has been theorized is that black holes are 1) fundamental to matter creation and 2) fundamental to energy creation producing the motion of everything in the universe.

The horizon produces electric fields where polarization occurs by emission from rotating body and magnetism arises in the vacuum. This shows that a black hole produces a self-generating “battery” that emits huge electric fields and electric interactions. The gravity is so strong that space is sharply curved and the particles becomes heavy plasma of compressed dense ions emitting radiation in form of radio waves, visible light and x-rays. Black holes may be seen as an electric generator power source of quasars which emit the light of an entire galaxy.

Black hole stores energy from its gravitational field and from its rotation. The plasma dynamics in the external region generates electric field gradients and these a current flow and induces intense magnetic fields across the ergosphere. The horizon is stretched and acts as a conduction sphere with resistivity or impedance of 377Ω . Magnetic lines of force pass across the sphere exciting surface with eddy currents producing drag on the sphere. The lines of force do not cross the

horizon but loop back into the hole.

The following equations show that the energy produced by intense compression of energy and space around the black hole horizon produce transitions at trans-Planckian dimensions emitting and absorbing energy at levels of C3.

$$T = \frac{\hbar c^3}{8\pi GM k_{\text{or}}} \quad T = \hbar^{-\text{bar}} c^3 / 8\pi i GM k_b$$

$$S = \frac{c^3 k A}{4\hbar G} \quad \text{or} \quad S = c^3 k A / 4\hbar^{-\text{bar}} G$$

5.8 The Black Hole Universe: Einstein's Photonic Mirrored Box of Infinite Density

Einstein theorized the conservation of light energy into a fused state when he proposed his thought experiment of the mirror interior box in which one photon is placed. As the box is squeezed from the exterior, the photon begins to accelerate and grow in energy density with a shorter wavelength to match the dimension of the box. If one squeezes the box beyond Planck energy the light could no longer move, and would have to transfer its energy into a lower state by fusing with the box. Again, it also can be presumed that energy of the photon was conserved by the release of thermal energy so that its energy density would match the atomic density of the box. This is the example of the black hole fused energy model.

The following equations support the black hole universe. The first, which is Hawking radiation shows that heat energy escapes the black hole at less than Planck and is proportional to light cubed. So, photon energy is absorbed into and thermal energy waves are emitted out of the black hole. This we can presume to be due to thermal energy escaping as a result of being changed into "light" frequency of sound and color under pressure within the black hole.

Nordstrom's geometry presupposes a cubed Euclidian configuration based on a 24 geometric curvature of space produced by light traveling from four directions.

$$R = 0, \quad C_{abcd} = 0$$

$$R = 24\pi T, \quad C_{abcd} = 0$$

Kruskal space equation also relies on Euclidian space.

$$R^{abcd} R_{abcd} = \frac{12r_s^2}{r^6}.$$

Nordstrom and Kruskal show the geometry of the universe is Euclidean but three dimensional based on quadratic polarities of the vacuum lattice, with local regions have either a positive (Minkowski) or negative (Gaussian) curvature. Nordstrom space does not predict the positive local space of our solar system, so it does not predict the advance perihelion of Mercury which is composed of photonic light energy. It does show the negative echo of the perihelion as predicted by the advance negative flow of wave energy.

Photonic light travels the positive curvature of space and matter travels the Gaussian negative curvature. For example, as I stand on the earth and look upward, I see a positively curved dome of sky. However, if I were on the curve inside dome of the sky, looking down at the earth, I would see a bulging negative curved horizon of the earth curving away from me. Matter, formed of infinite angular momentum curves in on itself, while light travels is loose forward moving waves.

Just like the atom is a mini black hole, our galaxy can be seen as a black hole center surrounded by a white hole space. And our galaxy is a microcosm for the early universe.

Our galaxy was formed around a huge collapse into a super-massive Schwarzschild black hole of 3000 meters radius into a frozen state of magnetic energy. The collapse of the black hole universe sucked all the energy density from its exterior, creating an exterior white hole.

However, this state of pure density could not be maintained because the black hole continues to absorb photonic energy from its white hole exterior creating too high energy density for the black hole maintain its fused state. Conserving its inertial mass by energy redistribution, it must transfer energy into either more compact smaller space and release it into either thermal or light frequency.

Outside photonic light is absorbed in quanta, and thermal energy is released through polarity through waves. Unequal pressure produces continual collapsing into the asymmetrical "atomic" micro black hole/white hole configurations.

The center begins to melt or loosen up by the process of centripetal spin flows energy core, producing in the early universe a molten plasma core, much like the earth's core is produced under the pressure of the entire universe.

Spiraling light begins also conserves energy through light and motion. The loosening of the interior would be a flat spiral as seen our flat galactic formations.

This provides the stability of the early universe and why it appears so isotropic and uniform.

Collapsing out of its fused divided state, the electromagnetic energy begins to act together in asymmetrical wave velocities.

The energy density of the early universe was uniformly C3 from 4 directions, or quadrupolar converging light. However to conserve its inertial mass, it began splitting of parts of its energy into the energy of C, linear energy, and then C2, a further collapse of C into a smaller space of C2.

All forces, the electroweak, the electro-strong, and gravity are the result only of the collapsing under pressure from all regions of the universe at once to form stable light or particles. These particles of "cavity" radiation will decay when there a release of pressure at the location of the particle resulting from energy flowing from that region into another region consistent with thermal and fluid dynamics.

Further, the entire universe is spinning energy in flows and currents which are produced by and the result of maintaining its optimum inertial mass and structure. All the spins of atoms are produced as a consequence of the geometry of the interior walls of the universe.

The interior walls provide the surface of energy flow in standing waves of light. The light waves are based on 8 major frequency waves. These are standing waves, flowing from the walls of the interior of the universe. Waves flow from four axis in four directions and producing at first, 28 major crossing waves in a cubed grid. As the universe evolved over time and space, the crossing grids of light became smaller in dimension. This produce as we see our light universe.

The fused black hole universe began its thaw with small “bubble” of phonic energy and heat, just as ice thaws first on the interior. Waves of light, Sound, and thermal energy began to form crosscurrent of flowing energy like cracks spider-webbing ice. The “thawing” universe evolved over time into a cube with intersecting vertices creating 24 intersecting cubes as in a three dimensional chess board, each of these containing 24 three dimensional chess board cubes and so on, with each vertices spinning as energy flowed over it and either stuck, through accretion disks of flowed over and off. However, at the points of maximum accretion such as the planets, it is seen that the planets evolve from the inside out, conserving the energy of the entire system of the universe into light, heat or matter. . If the energy of the universe could be seen, it would look like a three-dimensional vibrating metallic wire mesh of energy and matter. The entire vibration is the result of energy pulse flowing through the wire mesh lighting up certain areas permanently into a growing picture and flickering in and out in other regions of the lattice energy universe.

A Schwarzschild lattice similar to a vibrating, oscillating fine light reflecting form the intricate shapes and contours, creating three-dimensional space. All shapes, matter and light are “draped” over this vibrating lattice energy.

There is not only color due to light frequency pressured out of the magnetic field, but there is the beat and harmonies of 8 scales and a three and four beat sound, again indication the geometry of the universe based on ¾.

The beat and music of the universe is produced as the beat arising when energy torques or pulses of positive pressure and the contraction of negative pressure.

6.1 Gravitational Constant May Be Derived from Planck’s Constant.

The “force” of gravity which is a measure of the “rate of change” of inertial mass of two objects must be based on the mass composed of atoms and light, which is always multiples of h. Newton’s Gravitational Constant is :

$$G = (6.67428 \pm 0.00067) \times 10^{-11} \text{ m}^3 \text{ kg}^{-1} \text{ s}^{-2}.$$

Plancks Constant as follows: $h = 6.626068 \times 10^{-34} \text{ m}^2 \text{ kg} / \text{s}$

While they don’t appear equal there is a correlation. As explained earlier, 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 has the ability to absorb energy longitudinally and also transversally, so it have more ability to strain or torque before it emits a “flux” of energy. An atoms configure in a quadrupolar intersection of the vacuum density grid, or 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 quadratic 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 tan light in a vacuum. Therefore $G = h^3$.

Newton’s gravitational constant is the trace energy creating the net “flux” and production the accelerative force created by opposing energy pulses. Extrapolating this, it may be seen that the net force is the net energy expended between two accelerative objects which is a ratio of $M1 (C^2\text{kg}1) \times M2 (C^2\text{kg}2) \times G$ which is the trace energy of the “material supports” that the flux of G when the net asymmetric pulse expended with the two exchange energies in equilibrium of $C^2\text{kg}$. The energy which is the “flux” or angular moment of force that ruptures into a force that may be presumed to be quanta of gravity. Remember, energy is absorbed in waves and released in bursts or quanta of energy.

$$G = (6.67428 \pm 0.00067) \times 10^{-11} \text{ m}^3 \text{ kg}^{-1} \text{ s}^{-2} \cdot C^2 = h = 6.626068 \times 10^{-34} \text{ m}^2 \text{ kg} / \text{s}$$

Gravitation equation is as follows

$$F = G \frac{m_1 m_2}{r^2}$$

The density field equation of Poincare of $g=S / C^2$

$$F=G \times \frac{C^2 \text{kg}(m1) \times C^2 \text{kg}(m2)}{C^2 r^2}$$

S/ C^2 per unit volume where S denotes the magnitude of electromagnetic energy flux. Both of these vectors possess the same direction and are the momentum density of the static fields also gives energy flux. Only when electric and magnetic fields are always closed, so energy current leads back into it without being transferred into other forms of energy.

Impacting masses with equal velocities are perfectly elastic and simply exchange their velocities on impact. Masses after a perfectly elastic collision have the same values as before and the sum of the produces respectively masses m by square of associated velocities with q being velocity so that

$$M \times q^2$$

All matter and energy is the result of different velocities of C, and are based on the integer of linear velocity, or ground state of light. The Gravitational linear momentum is C^3 with the angular momentum being G.

The deformation caused by the G constant is the same proportion of deformation caused at the atomic level when energy is released by the constant h. G and h is constant or proportional torsion and flux produced by the exchange of energy between two objects defined as the total content of their mass atomic energy.

This is the same deformation that happens on the nuclear physics measured for an atom. However, an atom has 2 degrees of freedom to deform because it has only two dimensions; four and four atom configuration around a vertices of a lattice has 4 transversal deformation which gives cosmic matter the ability to absorb three times the energy and undergo greater degrees of torque or strain.

The previous equation shows that the Lattice Quantum wave has a maximum energetic wave of $\frac{1}{2}$ Planck + Planck = 1×10^{-34} , Using the resting energy state of the Quantum Energy Wave is

$$4/3 E_0/c^3$$

The inertial mass state of the Gravity is

$$E=E_0/\sqrt{1- (Q/c)^3}$$

In the vacuum a 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.

$$B \propto (-) g \times \tilde{\omega}$$

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

Wave Polarity of the Lattice Determines the Momentum of Light and Matter in the Universe

Integral to this mode based on black hole universe is that space-time is not a dimension independent of light. In fact light determines space time, and therefore could be termed as light-space-time.

Implicit in this theory is that “atomic fusion” will never achieve stability by random collisions of protons. In order to achieve a stable fusion process, one must achieve velocities of light produced according to the “superpositions” of crossing multiples of C6 to C8 at Planck’s scale to produce enough pressure to “collapse” into existence a particle of matter.

The black hole lattice universe also produces quantum polarity waves that conform to the architecture of the lattice vacuum density field. These polarity waves extend and span in a continuous energy loop throughout the entire universe... All particles have a wave polarity which cannot be thought of as “independent” but are two sides of the same phenomenon. The quantum wave polarity determines its individual path and interactions of all particles. This wave polarity travels either forward or backward in a pulse along a rotating Schwarzschild lattice composing the vacuum density field.

An electron cannot be seen to be independent of its “wave polarity” or “lattice” grid, just as an electric and magnetic fields are seen as two sides of the same phenomenon. These rotating waves may be seen as the flat $\frac{1}{2} h$ waves of the quantum density field that may be seen as “frozen” in time and space because their velocities are so high, and their wave magnitudes are less than h and so are undetectable. This forms the energy lattice across which our universe “lights” up and expands as more light and energy is created through complex interactions of wave interference starting from the boundary of our universe and spreading outward in crossing concentric wave interference patterns at the dimension of Planck. The electron’s polarity waves begins and end on the opposite interior wall, or vertices of the universe.

These intersecting velocities of electromagnetic energy rotating and crossing in intricate patterns of wave interference superpositions throughout the universe is proposed to have occurred, not in a Big Bang, but a “big crunch of a black hole universe. “As determined from Hawking radiation, the black hole universe is absorbing and emitting energy as it conserves its inertial mass over time through matter and light creation. The universe is not “cooling” down, but is “lighting” and “heating” up as it absorbs and loosens the fused energy from its core. As it absorbs outside energy, a black hole universe must “collapse” under pressure and the fused unitary magnetic field must conserve by transferring energy states to light and thermal energy.

When it collapsed, the Schwarzschild Black Hole universe emitted no light, but absorbed and drew energy to it in a unipolar wave. As seen in black holes of our visible universe, the shockwave of outward blast of energy coupled with an equal implosion of energy starts energy flowing in opposite directions and colliding on intersecting lattice points. The energy pulled toward the black hole is traveling backward in time in the form of the “advance” wave. With the collapse and corollary pull of negative unipolar energy in one direction from across the universe, the collision points causes initial stages of “accretion” disk that will eventually turn into new planets and galaxies.

This splits the electromagnetic energy into unipolar frozen energy lattice structure The magnetic dark energy flows backward in time and space toward the center of the Black Hole Universe (and galaxy) and the electric unipolar charged light flows outward producing a white hole around a black hole. This produces the back and forth torque of positive forward moving energy through space and time and backward negative energy traveling opposite space and time. Without electromagnetic energy “lighting up” fused and frozen space-time, there would be no space time. This is also supported by the following uncertainty equation.

$$\Delta + \Delta = h$$

T = time and E= energy. Therefore energy alternates with time at periods equal to h . Energy and Time are two different

aspects the same concept. Time must unfold only as energy flows, alternating between the ground state. Therefore, the space-time dimension should be called light-space-time.

The early black hole universe occurred when it conserved its unitary fused electromagnetic energy by splitting it so that magnetic and electric fields have been split and flow in opposite directions which created the flat energy lattice. The magnetic dark energy flows backward in time and space toward the center of the Black Hole.

6.2 Descartes Note Book: The Lattice Geometry of the Universe as a Unitary Quantum Wave

The emergence of the universe from a black hole universe by definitions provides that everything in the universe is a unitary whole with differentiated parts. As an undifferentiated acorn arises a highly complex system of an oak tree, so too the universe.

In Descartes' death, it is said Leibnitz discovered the following geometric graphed relationships in Descartes' note book.

	Tetrahedron	Cube	Octahedron	Dodecahedron	Icosahedrons
Faces	4	6	8	12	20
Vertices	4	8	6	30	12
Edges	6	12	12	30	30

For every volume described if you take faces plus vertices minus edges always equal two.

$$F+V-E=2$$

This works out for any three-dimensional polyhedron regular and irregular. It is the first topological invariant found.

The fact that the “ faces+vertices- edges = 2” is a property of space itself. Euler is credited with discovering this topological principle known as Euler's Formula. Descartes kept this secret and so is only credited with inventing analytic geometry, invention Cartesian coordinates and other things, but not with mathematical topology. Differential Calculus or the method of finding the slope-the instantaneous rate of change-of a mathematical function was developed by Leibnitz who found Descartes' secret notebook.

In 2001, August the WMAP satellite sent back data that showed that the universe may not have infinite flat geometry because 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 too the frequencies of the universe is limited by its size. Mathematical analysis shows that the frequencies of the data correspond with some of the platonic solids. Cosmologist and MacArthur fellow Jeffery Weeks published a paper in Notices of the American Mathematical Society showing the tetrahedral, octahedral and dodecahedral models of the geometry of space agree with the new data findings and solved the mysteries of the missing fluctuations.

For example, if the universe's interior structure is an octahedron formed out of linear space that appears folded in on itself at every direction in which the faces are identified with each other. This means a space ship may travel the entire universe by starting at the inside face of an octahedron and moves through all of space and return to his starting point and never trace the same face or vertices twice. Unravel it, and it is a huge flat linear plane. The same works for icosahedrons and

dodecahedron model of the universe.

The WMPA data support this view of the universe and of its closed structure and stable interior volume.

The Hexagram formation around the poles of Saturn also shows the Schwarzschild lattice architecture of the universe. Discovered in 1985 and believing it to be anomalous formation, it surprised astronomers to discover it unchanged in 2008. This is scientific evidence of the lattice vacuum density field permeating the entire universe and matter within it.

Dark Energy and the Empty Space of the Universe

The above chart shows the “resting” energy content is C3, with the “quantum” state having a negative vacuum torque; this negative factor is derived using the Casimir Energy Density of $\frac{1}{2} h\nu$. Based on the ratio of 66% “resting to 33% maximum quantum energy to resting, a factor of 25% is added vacuum density field to make the total combined quantum vacuum density at $\frac{1}{4} h\nu$. The negative energy produces the torque and flux of the entire universe at Planck energy. This torque provides for the expanding white hole universe which collapses under pressure at central point in the lattice and “strip’s” energy for the exterior walls crating the ever expanding outré rim of the universe. Based on the 33% flux to 66% resting ratio of matter and light creation, there will always be a 25% matter to 75% “dark energy” ratio in the ever expanding universe.

This ratio of “dark” energy to matter was discuss and verified in a paper Cosmic Coincidence or Double Solution to the Cosmological Dark Energy Problem by C. S. Unnikrishnan □ July 2002. 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. The author found the correspondence is too close to being ignored as a coincidence, especially since this solution fits the conceptual and numerical ideas about the dark energy, and also answers why this energy is starting to dominate at the present era in the evolution of the Universe. The Casimir equation is as follows:

$$\rho_0 = .046\hbar c/(4\pi/3)R^4$$

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.

The black hole model solves the cosmological constant problem directly of why we do not see any effect of the infinite zero point energy of the quantum vacuum. In a closed system universe of a bounded sphere, the Casimir type vacuum energy density arising from bounding the vacuum can contribute to gravity. in finite sized boundaries has any physical relevance. Casimir energy density that is equal to 2/3 the critical energy density at present, $(2/3) \rho_0 = 1.3 \times 10^{-29} \text{ g/cm}^3$, which is the estimated amount of dark energy in the Universe at present.

6.3 Organic Life Cycle is Based on Speed of Light Evolving Over Space Time at Multiples of *c* and *h*

The black hole model of the universe also provides that space and time is expanding exponentially at the speed of light from every point in the universe explaining many physical paradoxes observed in the present universe, including “non-local” interactions. This implies moving exponentially back in time, the galaxy was proportionally compact, affecting all time dependent interactions, including the life cycle of all systems based on the speed of light. Light dependent systems would include the life cycle of all organic matter. If every point in space is expanding exponentially, then the atoms of body are expanding away from each other at every point to the point within my body system. The energy producing the coherence of atoms within a defined system is depleted producing “death” by evaporation into the quantum density field. If this is so, then life and death are based on the atoms of an organic system expanding the distance between

each and every other atom in the system at multiples of Planck to the point of losing through distance, the ability to cohere energetically. The inverse proportion law may also operate to produce life cycles based on multiples of C and h.

6.4 Unified Field Principle of Electromagnetism

Unified Field Principle: All energy is electromagnetic in origin. All energy inertial mass states are delimited to multiples of C which is 6.67×10^{34} : all force states are delimited to multiples of Planck energy 6.67×10^{-34} .

The above shows that in both SRT and GRT, light and matter, and gravity always travel at a relative constant speed in a vacuum, because all three are composed of different velocities limited by multiples of C. Light always travels at a constant linear speed to matter which is composed of double the density, conserved in angular momentum to electromagnetic waves. It will always keep light and equal distance ahead of anything composed of atoms due to double the drag of angular momentum inherent in atomic mass.

Also, anything composed of atoms will fall at the same constant rate in a gravitational field, due to all matter being composed of equal angular and linear momentum in a vacuum.

The inertial reference frame in SRT is equivalent to an inertial gravitational frame in GRT. Both light and gravity interact in multiples of C and h.

Based on this a new model is proposed which is basically the Standard Model in reverse. Instead of a Big Bang, this model based on intersecting velocities of electromagnetic energy crossing in intricate patterns of wave interference is one arising from a big crunch, black hole universe. As determined from Hawking Radiation, the black hole universe is absorbing and emitting energy as it conserves its inertial mass over time through matter and light creation.

Fundamental to all energy conservation the universe is the role of quantum vacuum energy density and quantum polarity waves that carry and determine the paths and interactions of all quantum particles. The electron and its quantum polarity wave are two sides of the same phenomenon as the electromagnetic wave is two manifestations of one physical phenomenon.

All spherical energy fields are produced around a longitudinal linear momentum and a perpendicular momentum vector. The axis is produced through the perpendicular electric to magnetic unipoles of the lattice where energy flows in one direction. The Galaxy may be seen as rotating around a black hole with an electric pole crossing through it perpendicularly. The Galaxy and the electric unipole charged light flows outward producing a white hole around a black hole. This produces the back and forth torque of positive forward moving energy through space and time and backward negative energy traveling opposite space and time. Without electromagnetic energy “lighting up” fused and frozen space-time, there would be no space time. Therefore, the space-time dimension should be called light-space-time.

Implicit in this model is that “atomic fusion” cannot achieve stability by random collisions of protons. In order to achieve a stable atomic fusion process, velocities of light produced according to the Huygens’s wave interference principle of “superpositions must be achieved.” These crossing light waves individually limited to C can produce velocities of C^6 to C^8 causing the asymmetrical breaking of the electromagnetic wave producing a particle of matter.

This Black hole model of the universe explains many anomalies such as the “flatness” of the universe. The outer acceleration of galaxies at near the speed of light is due to the interior walls of the black hole being stripped and “melting” at the C^3 , as seen at the event horizon of local black holes. Also, the homogenous and isotropy of our present day universe is explainable by the black hole universe. Further, while the galaxies recede, their light will always reach the earth. Photons are the lit vertices of the lattice can be seen as semi-frozen particles in space. Once a light from

a star reaches earth, it remains constant unless its energy source is destroyed and the galaxy falls out of sight. Light from outer galaxies continues to reach earth now matter how far the distance between earth and the star due to its constant velocity.

Further, the microwave radiation saturating our universe is explained by the transfer of lower light energy that collapses when matter is created. This is the cosmic lattice of hydrogen atoms spread evenly 1 centimeter apart saturated in light energy. Also, the EPR paradox is explained. A two related particle have related wave polarities that span the entire universe but have only a plank dimension of distance between the two dimensional waves. Therefore, no matter how far you should the particles apart, it will take only Planck's time to flip the adjacent polarity wave and the attached electron. After experimenting electron plasmas,

The Black Hole Universe also explains the stability of the universe as a closed system bounded by walls of magnetic energy. All interactions are stable within fixed energy walls. Further, it explains infinities of quantum gravity and quantum particles. Just as Pi is infinity, so too is gravity, all atoms, and energy in the universe. All are attached to the quantum vacuum density of the infinite black hole energy.

Finally, the Black Hole Universe Model explains dark energy and the ratio of 25% matter to 75% empty space... This ratio of matter to energy will always be conserved based on the four energy velocities limited to multiples of C and h.

It however the Black Hole Universe precludes time travel, because time and space is "light" dependent and irreversible. There is no space time dimension until it is "lit" up by light and matter creation of the "thawing" interior of the black hole.

The above shows that in both SRT and GRT, light and matter, and gravity always travel at a relative constant speed in a vacuum, because all three are composed of different velocities limited by multiples of C. Light always travels at a constant linear speed to matter which is composed of double the density, conserved in angular momentum to electromagnetic waves. It will always keep light and equal distance ahead of anything composed of atoms due to double the drag of angular momentum inherent in atomic mass.

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Further, fundamental to all energy conservation that produces the universe is the role of quantum vacuum energy density and quantum polarity waves that carry and determine the paths and interactions of all quantum particles. The electron and its quantum polarity wave are two sides of the same phenomenon as the electromagnetic wave is two manifestations of one physical phenomenon.

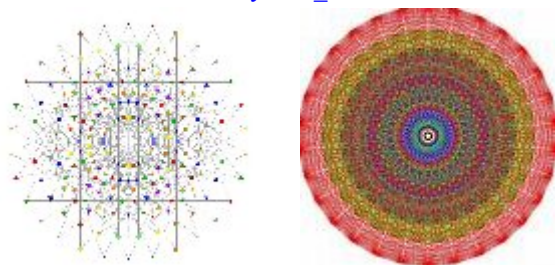
Integral to this mode based on Black Hole Universe is that space-time is not a dimension independent of light. In fact light determines space time, and therefore could be termed as light-space-time.

Finally, the important key here is that “atomic fusion” will never achieve stability by random collisions of protons. In order to achieve a stabile fusion process, one must achieve velocities of light produced according to the “superpositions” of crossing multiples of C6 to C8 to produce enough pressure to “collapse” into existence a particle of matter.

Conclusion: And God Created the Heavens and Said Let There Be Light

Perhaps the recent development connecting quantum particle interactions to the non-compact real form of the E8 Lie algebra shows that wave interference of the lattice may be geometrically mapped. This model drawn meticulously generations ago shows the wave interactions and the superposition achieved through the geometry contained therein.

http://www.youtube.com/watch?v=oycE0r_azP8



The quantum polarity waves creating superpositions in the vacuum density field can be visualized in the E8. The complex intersecting, looping geometry just decoded by a super computer technology over three years may reveal the map to the complexity of matter and light creation of the universe through wave interference energy. The universe as a unitary wave is unfolding in the direction of time the complexity of all that is and all that will be which includes higher energy and life forms.

The implications of the black hole model universe is that all space is expanding exponentially at the speed of light from every point in the universe. 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. 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 this respect, the phrase “we are all one” is not a metaphor but fundamental to physics.

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