Relative Quantum Bridge over Entropy

Since ultimately the velocity vector, (random and/or observable) has a magnitude, (at any point x,y,z,t) that equals the speed of light, (i.e. a value of 1), any reduction in gradient reduces the ambient random gradient, as integrated across all of spacetime. The amount of ambient acceleration involved in one complete 720 of any toroid is reduced as the overall average curvature of spacetime is reduced. Like an accident downtown slowing traffic miles away, when the ambient acceleration is "cleaned up" by the synchronized structures of fermions, the average acceleration is reduced.

The natural pervasive fermion-to-boson pair production and photon creation and the "ripples" of randomization the 90 degree cancellation the photon introduces, represents a constant randomization mechanism, a mechanism that changes its tune as entropy evolves and composite structures are made when fermions join together. One big leap of curvature-reduction results when absolute-random can coalesce into electrons and positrons, then a steady non-linear evolution of entropy continuously changes the ambient "ripple" that modulates interactions in the universe, and continually alters the invariant speed of light in the universe as whole, (i.e. the average ambient relative velocity between Q, divided by the pure-angular velocity of the Q).

Time as we measure it in any inertial frame is based on the number of cycles of a periodic event. Ultimately these periodic cycles are cycles of toroid structures. The cycle of a toroid is based on the core rest-period for the primary and secondary axes. The vector timings that represent higher ambient gradient, (superpositions that result in timings destructive to acceleration-reducing symmetry) cause the physical path of the rest period to travel a longer total arc through spacetime to complete their symmetries.

If we imagine the vector arrow of a Q completing its circuit-loop, the greater the ambient acceleration, the more the Q will have to move along a textured path, while maintaining the lowest diffusion configuration, which it will continue to do since all the mutually-reinforcing phases of the toroid structure experience the same ambient randomization. The toroid geometry is specifically redundant to this kind of randomized superposition, but the true length of the path of diffusion , (the circuit through the spinor) will be increased for all particles in that ambient environment. There will be a total increase in magnitude of "time dividing space to lowest energy", (1-D vector of dark energy moving to seek the lowest acceleration trajectory, according to the structure).

Relativity is thoroughly relativistic. The reduced-gradient interactions, (i.e. “forces” that are responses to imbalances in lowest energy paths/geometries) are just basic linear maths. The pure-angular action of spacetime is the absolute maximal satisfaction of diffusion. Motion on a 2-D plane represents 100% diffusion. The universal presence his 2-D action of each Q is therefore an unchanging condition. The overlap of the planes of these maximum diffusion Q is also an unchanging condition. Only the degree to which those planes overlap changes, forming the fundamental mechanics behind relativity.

When the ambient acceleration is higher, the ratio of communication of acceleration over space dV/dx to communication of acceleration over time dV/dt is greater. More gradient per unit time exists ambiently Q-to-Q. When a toroid stucture, (which is a stable circuit-completion geometry through spacetime, regardless of ambient modulation) involves a greater “texture” of ambient that it must travel through, (i.e. be comprised of), it completes the circuit nonetheless but represents a longer total path of “altered accelerations” to get there, (again, since the relative ambient velocity and therefore acceleration Q-to-Q is higher on average, i.e. the pure angular action of spacetime must “overlap planes” more often).

The opposite is of course also true, that when the universe, (or a reference frame) cools-down its ambient acceleration, the ratio of spacial acceleration to angular is reduced. Structures formed would have complete circuits that get effectively shorter in total length, (less texture) and time would seem to speed up for the events they accomplish, per fermion revolution. Whether we want to consider this universe-wide relativity to be an invariant- change in the speed of light, (i.e. consistent for the whole universe) or a contraction of space, or a dilation of time, the relativistic phenomenon is at play on any reference frame where the ambient modulation comes to be effected in that frame.

The differential relationship between the gradient and the time derivative of the velocity vector results in large gradients meaning large accelerations. Although it is not immediately obvious by looking at a single component x,y or z, a greater “clash” in the timing between xy or z spatially, (I.e. a greater spacial gradient that equates to an acceleration in order to maintain lowest energy equilibrium), the greater the imposed period on the individual components, as they, as a group structure must “change more” as the fermion structure keeps the maximum diffusion form.

In the simplest terms, superpositions, (modulation) of greater random

acceleration will lengthen the period, (amount of action) required for the fermion to complete its cycle. A longer total period of diffusion structure means a shorter relative increment of time for that structure, as more diffusion action/interaction is taking place per cycle.

This applies to the addition of momentum when a particle is accelerated as well. The rate at which a particle structure can propagate itself across spacetime is relativistically tied to this consideration of "how long" its loop structure is, relatively speaking, whether because accelerated locally or in an ambient environment of greater or less acceleration. The time and distances measured by that particle are directly impacted. We will examine the specific implications of this more thoroughly in a later section.

The issue of predictability of the probability amplitude of the vector state, (being subject to the uncertainty principle) will ultimately be a matter of how thoroughly the ambient particle data is included in the phase considerations in the vector equations. As easy as this dismissal of the uncertainty principle is to say in words, the practical reality (at this immediate point in computing technology), dictates that the phase-shift element of the cos function can be predicted for very small volumes of spacetime, but must include a truncated "approximation" factor that is essentially a random number generator for the boson phase-shift element, beyond the limits of these so-far model-able inclusions of nearby particles and nearby particles systems. If it hasn't been said verbatim, the state equations for the universe as a reference frame, would theoretically contain an infinite number of phase-shift elements, for the entirety of bosons and fermions in the universe, out to include those particles with infinitely small intensity (infinitesimal exponential arguments).

The side effect, in the context of classical definitions of acceleration and velocity, is the change in perspective when we view the laws of spacetime through the acceleration-centric lens. We are again faced with the blurred existential definitions of a verb performing the function of a noun. Although as a simple concept, a thing is a thing and a thing changing in space is a velocity and its velocity changing is an acceleration. It is important to point out again that our perception exists at the end of that chain of changes and we have classically been learning our way backwards, up that chain, breaking the old noun-boundaries along the way, ultimately to arrive at only verb, (and the ghosts of geometry). Change, (or acceleration), is the verb that makes nouns by forming verb-relationships, (which could be described as the "true nouns", except they aren't the "substance" we measure. We measure change.

Euler Irrational

Returning to the exponential growth function aspect of the function, (the mathematical “roadway” of this propagation and rotation), we are reminded that the superposition of states of Q, the propagation of state from one Q to the next, the space and time differential between Q and all the ways momentum and energy evolve in a particle, must, in terms of evolution of the medium, all be represented by changes to an infinite series. Any of those observable changes to vector state are changes to an infinite stack of vector functions.

The differential relationship referred to in the Schrodinger/Klein-Gordon/Dirac method of particle modeling and ultimately the heat equation does not have the luxury of having a differential relationship with only the next dx over, (or the next dt over for that matter). Modeling spacetime at one space and one time is, (to lesser degrees of accuracy), the action of modeling space at all points in space and all points in time.

Euler’s exponential is therefore the mechanism where we can observe how the state data of any point in spacetime changes according to the texture of accelerations surrounding that point to a defined radius. The growth of vector geometry state data according to overlaps of states is the underlying basis of the growth of kinetic energy in classic acceleration of velocity and change of frequency of particles. The Dirac family of models take advantage of a shortcut in using the imaginary “i” with the exponential growth function, such that during the full 720 revolution of a particle, the phase range where the primary axis (z axis) would pass over the reference point, and the diffusion, (i.e. “potential”) of the periodic function has a component of “true zero” PA, (as opposed to observable zero potential), “over the donut hole”. In this range of the rotation, the fixed-period state is canceled via the symmetry, throughout the infinite stack of states thus meriting the sqrt(-1) device.

The use of i represents the action of time incrementing the path through spacetime which, due to its geometry) includes both "not particle" and "particle" (random and fixed-period) using the relationship cos+(i)sin) for a value at any point. The use of i and Euler’s exponential in the classical quantum oscillation function harnesses the derivative “texture” of actions in spacetime, and applies it to how periodics change, but the implications of what “i” and “e” are postcards for, are much greater. That texture when combined with a geometry that incorporates both dark and observable regions of spacetime exposes a rich underlying mathematics.

However, the use of the oscillating i in the classical quantum wave function doesn't fully acknowledge the fact that the exponential e does in fact also signify a growth in an absolute wavefunction quantity, not just as a differential texture (and convenient oscillation mechanism). This use in of e and i in the quantum is accompanied by the knowledge that kinetic energy is "accumulated" by the evolution of the wavefunction, (which happens to oscillate according to e and i) but the why the two are connected is important.

The infinite series with the irrational, alternates between accentuation of the observable and random amplitudes with (t), but in order to use the function for accurate differential steps in the complex number, the dark energy placeholder sqrt(−1) must constantly negate the quantity associated with the total growth, (the quantities are classically calculated straight from derivative magnitudes). But when we include the observation of the geometry involved, we can see that the exponential growth represents real changes in the composition of vector functions on the fabric of spacetime, in the transition between dark-random and ordered-observable potential.

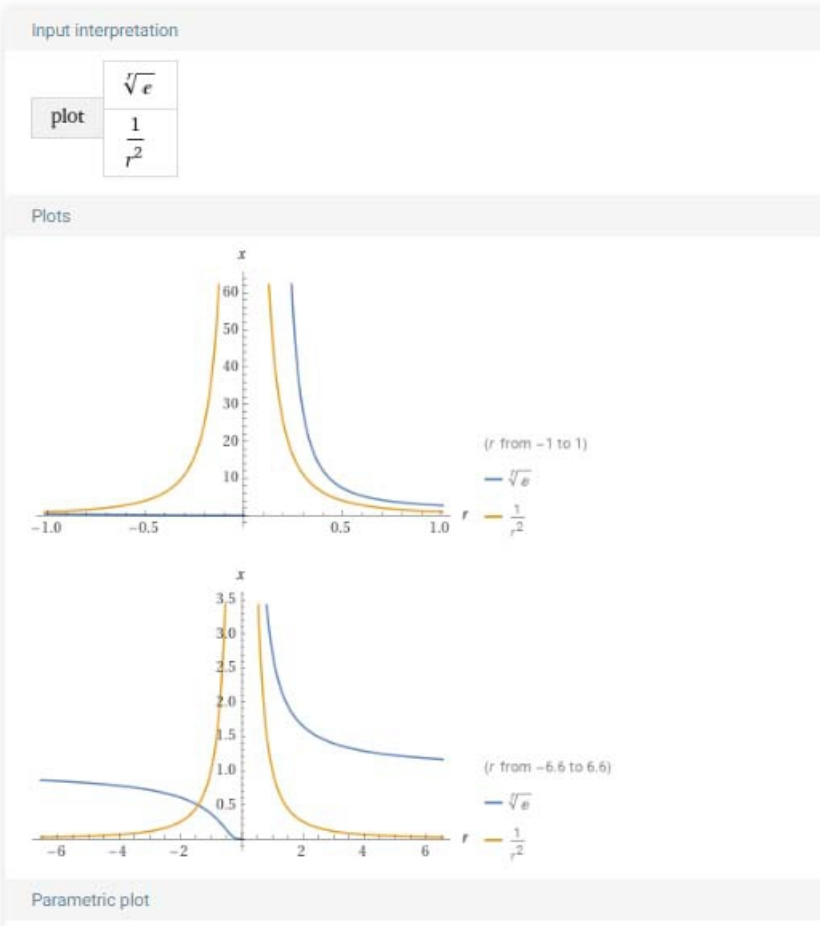
It is important to have an intuition for how (t) steps in the exponential function relate to the probability amplitude of F that is superimposed, (as F physically approaches R) and how that increased PA then translates to a greater step of rotation-toward-observable-structure that results from the superposition. If what is superposed contributes a low PA, (small component of toroid structure, because F is far away) it will only represent a small alteration of the random vector toward conforming to the direction of the fixed period structure and so will only affect a small rotation. If the PA is large, (F is close), the superposition maintained thorough each increment of t, will represent large phase shifts of R.

In attractive or repulsive interactions, this exponential magnitude-element will grow or shrink based on their proximities. In a no-longer-accelerated, pure momentum scenario, the exponential growth factor will be lost and only the growth factor based on proximity and the time variable remain. The secondary period scalar will be carried as momentum in the overall toroid function with the primary period, as scalars for time in the cos function.

Ultimately however, in the "unpacked" functions, we can see the 360 vs 720 dynamic, as well as the simple explanation for the seemingly ethereal "imaginary" part of the quantum wavefunction that is still "part of the function" but not potential and not classically "zero". The progress as this region of opposed z component of the potential is physically rotated in its orientation displays how

that irrational zone is the result of the particle's structure nullifying its particle-ness (potential) in spacetime.

We can also see the texture of Euler in the "quantum" falloff of intensity from a particle. At the secondary toroid axis, each Q is 60 degrees advanced in its phase in the z component, as we go around the primary axis, (the maximally diffused distribution). One Q step radially away from the secondary axis and we can note there is only 30 degrees phase difference between Q, as the superposition between the two Q renders a PA in the Q between them that only sees a maximum efficient path in its neighbor half the time. Two steps from the toroid and that becomes 15 degrees and maximum diffusion only ¼ of the time. The decrease in the slope of the tangent of the secondary axis results in a less and less potent region of greater efficiency of acceleration in spacetime. There is less and less curvature radially. It is worth noting the similarity between the graphs of $1/r^2$ and e^(1/r) when extra texture of mathematical interaction would be involved in the "surface area" of a spherical boundary.



Mass

At this point we can put the classical model, (which we have carefully disassembled), back together again and see what insight, if any, we have gained. We will begin with the concept of mass, which, from the everyday macro standpoint is a very cut-and-dried, measurable, tangible substance, perhaps the least questionable observable of all, from our vantage point in the universe. But when we consider mass from the standpoint of the quantum and subquantum, mass goes from most obvious to least obvious, instantly. This makes sense though, since the overarching theme we can notice in making rational sense of spacetime is the blatant contrast between fundamental properties and properties that are derived from the interactions between specific structures, (namely wave interactions).

Mass is the simplest, most fundamental interact-able, from the standpoint of wave structures like us, but the most composite, seemingly abstract property from the standpoint of fundamental random dark energy. It is subject to the uncertainty principle, forces, relativistic phenomena, it owes much of its substance to kinetic energy and it is ultimately reducible to simply energy at the speed of light.

The two perspectives are so incongruent, that two disparate, distinct models have arisen to deal with them. Fortunately with the missing puzzle piece, we can bridge the problem for only the cost of one more breach of classical assumption. We will do it for old time's sake.

All particles and forces are made of structured diffusion, or what might be called the "basic constituent of mass". Bosons and fermions both are built of structures of diffusion, it's just that massness in the spin ½ configuration interacts geometrically differently than its inverse counterpart, the spin 1 particle (among other partial variants). To be blunt, adding kinetic energy adds mass to a particle. All particles are made of patterned velocity, adding more velocity increases the energy of the particle.

The mass of a fermion at absolute rest is ultimately a measure of length, or more accurately, a measure of total period of phase shifts involved in minimizing the gradient, in the total vector description of spacetime. The rest energy of that fermion is a quantity of dark energy that has been "borrowed", by nature of its fixed-period structure. The quantity of mass of the rest fermion is the length

of the 1-d path that traces a 2-d circles through dark energy, which are phase-shifted based on the geometries that minimize groups of those circles. The 1-d path through the toroid symmetry of an electron or positron at absolute rest is comprised of 6 total Q circumferences acting in concert, each Q bearing a sustained periodic 2-d plane traced through spacetime.

The quantity of energy in an electron, then, is the circumference of the angular action of those rest Q, plus the circumference around the primary axis, plus the circumference of rotations from phase shifts induced by other particles superposed. In this way we can account for the structured angular path in the rest toroid as the scalar which we multiply times c^2 for our rest energy, (again whether we view the c^2 as accounting for opposing actions of dark energy, as a calculation for acceleration or as an area for the pure angular circle). The speed of light is squared because the constant c is the fundamental unit of action in 3-d, and the Q are formed of 2-d fixed-period loops in an otherwise random period of acceleration, (i.e. areas). The sustainable 2-d planar paths therefore represent a 2-d "structured-footprint" of that actions @c within the context of opposing random actions @c. When the structured period of the particle is increased (accelerated) by overlap with another fermion, this "mass" (total period) increases according to those phase shifts of the Q in the structure.

The toroid (spinor) structure of mass has a centralized symmetry but its periphery on all sides extends indefinitely. A structure in spacetime is accelerated due to being superposed with the periphery of another structure, thereby acquiring additional length of fixed-period path through spacetime within its loops, (manifested as rotation and propagation). "Within the Q" in this context meaning the path of c in the loops takes on additional non-random period due to the rotation of its sustainable geometry in a structured way. The added energy is classically described as "belonging to" the particle that has been accelerated, but is simply additional periodic behavior induced by the periphery of the other particle(s) in the state of the medium where the particle exists.

$$E_k = P_n c \qquad P_0 = \frac{mc}{\sqrt{1 - \frac{u^2}{c^2}}} \qquad P_1 = \frac{m_1 c}{\sqrt{1 - \frac{u^2}{c^2}}} \quad P_2 = \frac{m_2 c}{\sqrt{1 - \frac{u^2}{c^2}}} \quad P_3 = \frac{m_3 c}{\sqrt{1 - \frac{u^2}{c^2}}}$$

With knowledge of the intrinsic structure of particles, the observed momentum is the same if it is the mass that is Lorentz transformed, not time or dis

$$m_0 = \frac{m}{\sqrt{1 - \frac{u^2}{c^2}}} \quad m_1 = \frac{m}{\sqrt{1 - \frac{u_x^2}{c^2}}} \quad m_2 = \frac{m}{\sqrt{1 - \frac{u_y^2}{c^2}}} \quad m_3 = \frac{m}{\sqrt{1 - \frac{u_z^2}{c^2}}}$$

Leaving vectors of velocity of spacetime invariant, with only change of intrinsic geometry to account for temporal and spacial relativity.

Nonetheless the effective mass associated with the particle increases when accelerated, and it is more straight-forward to use this increased scalar in the math, than to transform everything else around it. The added (formatted) portion of the dark energy of spacetime which the particle now has effectively associated with it, increases the closer the overlapped particles get to one another. So then, what is the relationship between probability amplitude and mass?

This question is potentially a source of confusion. There are, again, the two perspectives we must keep in mind, 1. the measurement-particle-based observability-definitions and 2. the underlying structure in the medium "in between" the reactive boundaries. You don't look at a wooden 2x4 and say it is a "house". In the same way, there must be a distinction between massness in its constituent form, and the mass that constitutes the definition of a particle. The geometry of the action of c that is the "particle", causes a geometry of action of c that is the "force". However, the probability amplitude of a particle describes both.

A house in the middle of a remodel has a overlap problem with its terminology as well. It is both a partial house and a group of recently-nailed 2x4s at the same time. It is helpful although incomplete to say that probability amplitude is the percentage of the dark energy state that is conformed to be like a particle. PA

classically describes the likelihood of observing a large enough component of acceleration of velocity of c that it finally reacts with a control-particle in the detector, (a control particle which of course is known to have a fixed-period at the detector location). The location "a little to the left" also has a PA associated with the particle but not a large enough fixed-period component within the random to react.

The probability amplitude of particle n is a general measure of the component of fixed period attributable to particle n that we find at point x,y,z,t accompanied by a component of random direction. The PA of a particle applies to both the particle and the particle's force. Where there is PA below the threshold of being called particle, it can be considered to be talking about an aspect of the particle's force. So once again, what is the relationship between the mass and the PA?

The direct answer is, the total mass associated with a particle is the total magnitude of its phase elements, including those from other fermions that would accelerate it. The distance at which we can hope to measure the "true PA" of the particle is a relativistic one, based on the other phase shift elements ambient to the detection process, or theoretically specific to boson phase shifting locally, (particle to particle). So despite the presents state of entropy, (which a measurement cannot (currently) escape) the relationship between probability amplitude and mass of course corresponds to what is classically known: the randomized uncertainty in the system plus the amplitude of the fixed-period observable with respect to the random, renders a probability of detecting that particle with another particle at that radius.

Infinite Condensate

It is worth briefly examining the concept of a condensate of momentum, as a medium. Classically we think of force and energy in terms of actions that take place, (accelerations, reactions etc), the distances they achieve, and the time it takes to achieve them. When we look at the full ramifications of relativity, on the quantum level, we unavoidably encounter the fact that measurements of distance and time are not fixed fundamental properties of spacetime, only geometry is fundamental. Amount of energy reduces to amount of geometry.

The phenomenon that takes place in the condition of a local frame of reference, (such as velocity approaching c or near strong gravity) is also taking place universally in the action of entropy, (for the same fundamental reasons it takes place in classical examples). The entropic process that is taking place in

spacetime as the universe expands, directly influences what we mean by how much time and how much distance is involved in an action.

So when we say that spacetime can exhibit a 1d velocity at c to infinite resolution, in a 3d space, it would seem to imply "infinite energy". But the "infinite resolution" is more a statement about the relativity of the structures that exist, and what we call energy, than it is about the "stuff" that is dark energy, which would potentially continue-on to infinitely small distances. The relative measurement of time and distance depend on the conditions the finite objects are subject to, and thus the "scale" the geometrical structures which constitute energy relationships operate on.

So instead of saying "There is infinite distance, (and energy) that exists "smaller than" particles we can measure, we should say "The geometrical structures we observe as mass and energy can exist according to infinitely-variable definitions of distance and time". Again, it is the differential relationship that is "infinite". In a sense, asking how small the scale of the resolution of spacetime gets is like asking how small the resolution of the number 3 gets. It is just a structure that represents a relationship to other structures. "Numberness" is infinite. It is only the human perception that seeks definitions with quantities that have noun-boundaries.

Photons

Being able to consider the geometric interaction of two toroids at absolute rest simplifies the vector geometry and makes it easier to conceptualize the entirely more complex interactions of accelerated particles and when they are modulated by the random as we observe them in realtime. Lets look more closely at the boson geometry, which starts with our two ideal-fermions.

To reiterate the fermion-fermion (charged particle) interaction once again, in the over-simplest terms, the side of donut 1 that is facing donut 2 adds to the diffusion of donut 2, on the aft side (the pushing side) and is a net-neutral for its diffusion on its fore side (the direction of motion), making it's surrounding environment of diffusion off-balance in a twisting way, and so the pair move and spin, (either attracting or repelling). The diffusion off-balance is "twisting" because the handedness of the loop directions that are off-balanced boost the diffusion in two components but cancel it in the third, resulting in a rotation that is an overall increase or decrease in diffusion force but only on one side of the

donut.

In a freeze frame, we could say that this tiny slice of pulse of curvature-loss in one component, is the instantaneous essence of a photon. But when we consider that the overlap of the particles results in the rest toroids rotating together, we can see that component of cancellation rotate as well. The closer the particles get, the greater the intensity of the overlap and the faster they rotate. So from the outside of the pair, we will see a cancellation-wave that is polarized based on the pair's approach angle to one another, and with an oscillation seen from a fixed vantage point that flips the charge direction of the cancellation (left handed/right handed), on each 360 leg of the 720 that the toroid pair move-through, in their natural rest structure. What this state change does as it propagates out to nearby particles requires looking at what this rotating, "1-component cancellation" amounts to, and what shape of x,y,z phase relationship propagates off of it.

If a quick pulse of water flowed backwards out of a drain, negating the action of the vortex

There would be pulse of wave energy opposing the original wave pattern that travels backward according to a group velocity

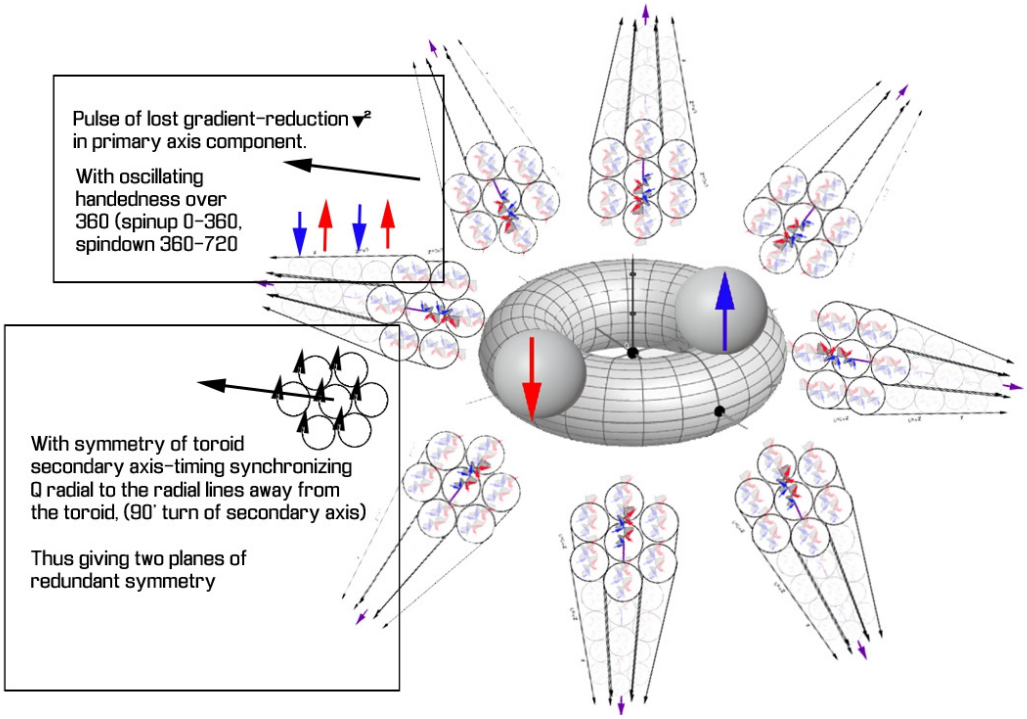
When the vortex structure is a reduction in dark energy gradient, the loss of structure due to a superposition will cause a feedback

We have alluded to fermions and bosons being partial-inverse geometries and a spinor geometry is difficult enough to visualize on its own, so its physical inverse might seem challenging. Instead of thinking form-first, we will consider function first. In this sense a toroid inverse is extremely simple; it is just the negation of the intrinsic structure-path of the toroid, as seen from the outside of the pair doing the negating of each other. We could jump to the next logical step and say that this negation would affect other nearby particles at a distance, but there is an intensity issue here.

How can what we classically call the "electromagnetic field" for a single electron, (that has a very rapid falloff in intensity), suddenly, (when it becomes canceled with an opposing fermion) result in a waveform that converts the weak intensity of the cancellation-pulse, and carry it radially, without falloff of intensity, to a seemingly infinite range? That is where the inverse geometry comes in and the conversion of the redundancy-symmetry geometry of the fermion to the boson symmetrical geometry.

The "infinite" range of maintained intensity of a photon is the same as the infinitely-maintained structural stability of the fermion. The common factor here is the re-cycled state propagation that happens by proximity we discussed. The synchronized propagation of state reinforces the structures of neighboring particles inside the toroid. The partially-inverted structure of the boson geometry turns that reinforcing symmetry outward, so that the proximity-redundancy of 60 degree-swept secondary axis configuration is rotated 90 degrees turning that helical symmetry outward.

Again, the boundary of the structural symmetry of the photon is essentially the entire universe, with a changing location of maximum amplitude. As mentioned, the boson exists as a kind of group velocity between fermions, wherein there overlaps have a 90 degree turned plane of symmetry, resulting in the re-cyclic reinforcement of probability amplitude to radiate at the full speed of communication Q-to-Q, (i.e. c).

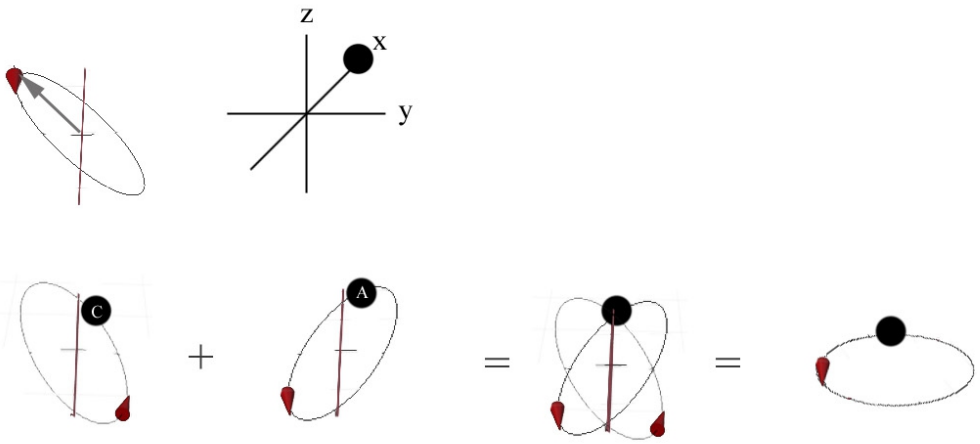


If we imagine for a moment that we are unaware of the propagated state coming from electron1, (such as what an electron2 nearby might experience... when bonded to a nucleus, for instance). Using the word "unaware" is only to highlight the fact that the bonded electron2 has formed its bond and is in its current state despite the state being contributed from nearby electron1. What is being propagated from electron1 is old news to electron2. If electron1 undergoes annihilation however, the conditions at electron2 will be disturbed. In this way, electron 2 does not "see" electron1 but does see the cancellation of gradient that propagates away from electron1. This is yet another property of this conversion from electromagnetic field-ness to photon particle-ness.

This strange conversion of field to particle happens by way of one little geometric tweak that results from that one component that cancels in a clash. Just as two right-angled complimentary vector components of diffusion are involved in all Q fermion structures, (the pure angular path of the Q and the radial vector of the second gradient the organized Q arrangement causes, due to the differential of spacetime), the cancellation wave has two components as well, the new plane of angular diffusion of the Q and the loss of gradient' the Q change resulted in in the other component.

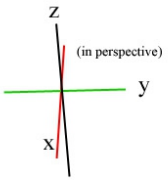
The opposite-rotation-direction gradient-cancellation event is itself a periodic

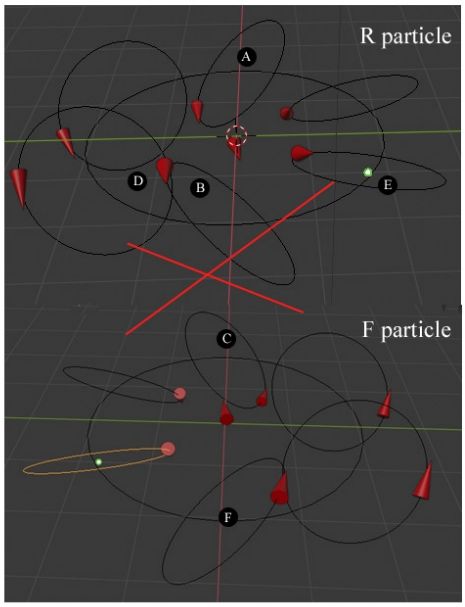
angular loop that traces the path of cancellation as R and F rotates, constantly canceling as they attract or repel which coincides with the radial loss of gradient'. In an oversimplified sense, the pulse of negative gradient' is made to have "particle durability", and is then able to travel through spacetime by the loop symmetry given to it by the fact that the cancellation emanates from the oscillating coherent toroid structure, which has phase synchronization around the primary axis and secondary axis, the neighbor-phase reinforcing neighbor-phase is just modified slightly.



Denotes background (in perspective)

Opposite Charge





Remembering our vector superpositions for opposite charged particles, if we start with the previous orientation convention, the aft-side Q of R is superposed with the fore-side Q of F. The z component (which starts out as the component parallel to the primary axis by convention), is +1 in both R and F thus "stacking/colliding" their velocity vectors and increasing the gradient through the z plane, canceling it, and so rotating the plane of symmetry to a new lower-acceleration direction. As the plane shifts, the differential equation will shift the entire structure. We only need to trace the primary axis of the structure around it rotations to get an intuition for the fact that the canceled curvature loop, like the rest-curvature loop, traces a path that propagates radially, like all other acceleration states.

We have learned from the toroid geometry that adjacent Q must have phase redundancy on 2 perpendicular planes in order to weather the storm of chaotic superpositions radially. The toroid fermion structure does this by the central axis and the secondary axis planes arrangement. The photon takes advantage of the synchronized timing of the vectors in the secondary axis. The wave of negation of toroid curvature-redundancy that the secondary axis provides, sends that pulse of negation outward on the vector relationships Q-to-Q radially, (according to the heat equation differential), with the regions "between-radial-spokes", (i.e. radial to the radial lines), being already synchronized from their

presence synchronized at 60 degrees in the toroid secondary axis.

In this way, the photon has the necessary two planes of redundant phase symmetry timing, the original primary axis symmetry and the secondary axis symmetry, (the secondary having been rotated by 90 degrees due to the geometry of the mutual cancellation superposition of the two toroids). This is because the "new plane of least energy" during superposition, is always going to be in the direction orthogonal to the "old plane". So whether "virtual" or quantitatively complete, the photon can convey this pulse of symmetry across endless distances, affecting other particles' interaction relationships along the way, only being red shifted by the ambient entropy as the universe evolves.

Although we only observe the 720 complete circuit of intrinsic motion in the fermion, in fact the 720' spinor circuit is still "resident" in the photon wavefunction, in a greatly converted geometry, having its secondary toroid axis stretched out, as the path of the photon, radially. As the inverse geometry of a fermion, the path of a photon radial to its source is itself part of the structure of a photon, technically with the entire universe as the boundaries of the structure, such is the nature of some inverses). It is only the fact that the fermion is relatively stationary, that we get the strange phenomenon of this truncated localized spinor dynamic. If we curled the universe back around in on itself, the 720' circuit of the fermion would obviously be just a bottled-up photon.

It is a somewhat abstract point, but worth noting that both fermion and boson particles, as mentioned are actually just structures of group velocity wave relationships taking place between the individual Q in groups and the structured wavefunctions formed by Q wavelengths in concert. The potentially confounding part is the fact that the fundamental wavelength is the Q and "distance between Q", (being a function of ambient photon activity, i.e. entropy) is also a group velocity phenominon, making not only the distinction between fermion and boson a matter of phase-geometry, but relative measurements of time and space as well.

So we can revisit our set of vector equations to include photon activity and we find that the randomness of spacetime is conceivably able to be modeled, and the uncertainty principle made less uncertain, although the volume within which this is possible reduces exponentially with radius. In essence the redundant symmetry of fermions is itself a form of naturally occurring "control" or hedge-against uncertainty, as are all higher atomic and molecular structures, as well as human technologies and information itself. The advancements, as one might imagine come in quantum steps.

To represent a photon from some annihilated/annihilating pair, at some proximity to fermion R ("outside" the annihilating pair), in our equation for our original R with F (positron electron pair), we must include the phase-shift element that has the appropriately rotated component. As always, the complimentary perpendicular vector is implicit, residing in the cancellation to the gradient' that this single component phase shift of 90 will accomplish. In other words since the differential state is a major mart of the existence of observability, the full landscape of curvature requires observing the effect that these phase configurations have on the magnitude of the gradients and/or time derivatives of the vector functions.

When we look at the exponential in the period for the phase shift, a usual, the argument is the proximity to another particle the phase shift represents, (again we might use a shortcut phase shift element to sum groups of phase shifts, using their average proximity to R, such as is in a mass greater than a single particle).

But the proximity between an annihilating pair becomes zero, at the event of the creation of the "origin-center" of the classical idea of a photon particle. The two opposite charges are completely overlapped, it is no longer a single (nearside) Q state of F that sums with all the Q in R, but the entire toroid is superimposed, imposing both sides of the full spinor symmetry on each other. (as in A+C and B+F in diagrams). Whereas at a distance, F only exposed R to its fore-side-z-state, causing the tipping of the gradient. Once both are completely overlapped the "tipping" of the gradient is occurring on both sides of the now-merged singular toroid and not only does that cause the gradient imbalance to be equalized but the rotation action will stop and consequently either the z periodic PA or the x,y PA will be entirely canceled, destroying the toroid differential geometry, having turned it inside out, into a photon.

We can see that since both particles are represented in the phase at point x,y,z,t both particles are also represented in the scalar for the cos amplitude (PA). Although compound, since the scalar for PA is based on the magnitude of the second order space derivative, the phase of both particles is still represented in the form of a sum, each contributing something to the determination for how large the gradient will be at x,y,z,t.

There is a crucial point in the variable of time that can be seen in the exponential growth that changes the phase, where the rest-period equals that imposed phase change, and the rotation that was induced stops. Such is the vector math

of the two particles being overlapped, as opposed to just affecting each other with their half-symmetries from a distance. Both particles lose the condition of continually-induced rotation the superposition caused.

So what happens when the states perfectly cancel? The important thing to notice is that they only completely cancel at the exact point of overlap, (location x,y,z and time t where the rest phase equals the induced phase). At that point the gradient' is canceled to zero in the scalar. At one step dx/dy/dz away from that location, there is still a gradient, (the strongest the particle interaction gets in fact). Yet again we are confronted with the duality of how we must view a spacetime that is an infinite texture of derivative relationships between distance and t, as we are looking at the tangible concrete reality of the heat equation.

What state will we find at that absolute-center cancellation point, when we increment the clock one more step dt? Since the differential equation tells us that the gradient equals the acceleration, this relationship applies to a change in gradient, and a change to the change in gradient etc. When the maximum gradient condition of particles at their greatest attraction, suddenly becomes a complete cancellation, what we can ask again is, what becomes of the gradient condition, one step away from that original fermion-fermion meeting place cancellation-point?

The basic answer is "peak amplitude of the created photon" but the detailed answer, according to the heat equation must be that since that still-existing max gradient was due to the even-greater gradient in its neighbor closest to the particle, the cancellation of that gradient' presents an opposite gradient' and opposite acceleration with respect to time, equal and opposite to the scalar value of the gradient at that now-canceled point. It is in this annihilation-condition that we see the most stark example of how the time derivative of a Q is the second space derivative between its neighboring Q.

When two opposing planes of pure angular diffusion superimpose, the path of fixed-period diffusion is canceled and the "observable" amplitude of the Q goes to zero on that plane, the phase rotates 90 degrees to represent the acceleration to the new lowest energy plane (the net result without the canceled planar component) and the second gradient is reversed, (a vector pointed away from the particle instead of toward). Throughout the transition, the spacial imbalance of velocity (the gradient') was perpendicular to the time derivative, (the action of time pointing toward most-equal division of space, i.e. lowest energy).

End of Section 10