Curvature and Cancellation

Before we get deeper into spinor interaction, we will pause for a moment and reinforce the conceptual intuition about the properties at play here with another cheesy analogy.

The structured-accelerations in the observable-component of a spinor vector system is like a tornado with a consistent diameter, wrapped into a donut shape that also rotates like a hurricane. The secondary axis of the toroid is the tornado and conforms to least energy path, and is wrapped around the primary axis by the phase shifts that allow those least-energy paths to coincide with one another as direct neighbors, while maintaining minimum energy. This wrapped tornado makes the secondary axis flow directions that cause the reduced gradient turn clockwise on one side of the donut and counterclockwise on the other. When accelerated by another tornado-donut, the entire structure rotates about all three axes, like a tumbling-tornado-donut-hurricane.

When left handed and right handed looping directions of the particles interact, they cause an increased reduction-in-gradient on one side of the donuts and a slightly canceled reduction-in-gradient on the other. The donuts have group strength in their flow direction, so the overlaps don't annihilate each other at first, but they do increasingly partially-cancel and they cancel each other on either one side of the donut or the other disproportionately, causing them to rotate as they move. They do this simply by overlapping with vectors of loop direction and oppose the efficient flow direction on one side of the donut but contribute to it on the other.

From any one side of a particle, like in the tornado-donut analogy, we can only feel one of its two "tornado rotation" directions, plus the overall central rotation, (the "hurricane direction"), as it propagates that "footprint" on the surrounding space radially (I.e. "spin1"), whereas when particles interact, both sides of the donut play a part in the math at their cores, (i.e. spin 1/2). When interaction-cancellation is taking place between a pair, the spin1 state of the surrounding space changes in a specific way.

Since that spin 1 state is what overlaps with any other particles that may be on the outskirts of the pair, the relationship each of the pair had with those particles on the outskirts changes when they are in annihilation conditions, (e.g. the side effect of the pair's overlap loosens the bonds of by-standing particles). That disproportionate clash of one component at a time (z diminished but x,y, enhanced for example) as it partially-eliminates the gradient-reduction-action in the pair, affects the state of spacetime, radiated around it, (as seen from the outside of the pair), in a way that we call photons. We will delve into this relationship in great detail but it will help to have the intuition that the “path to maximum diffusion” is ultimately very similar to the satisfaction of pressure that things like tornadoes do and what goes on in the center of the pressure system also effects what is outside the system.

Spin-up, Spin-down

We should take a moment to notice that we have this dynamic of same-handed or opposite-handed toroid relationships, where each of their fixed-period (reduced total acceleration) Q states propagate to one another at a distance, and they repel or attract and also are caused to rotate, but there is an important orientation issue that we have eluded to. The rest structures of either positive or negative handed fermions can be flipped upside down or right side up, and they still maintain the relationship of attraction or repulsion with rotation. But the rotation direction switches when one of the structures is upside down. Strictly speaking, a perfect absolute-rest toroid could be called spin-down when sitting stationary next to another right side up particle, but we don’t find particles just laying around, they are always already accelerated and rotating in a net-relationship with surrounding particles in spacetime.

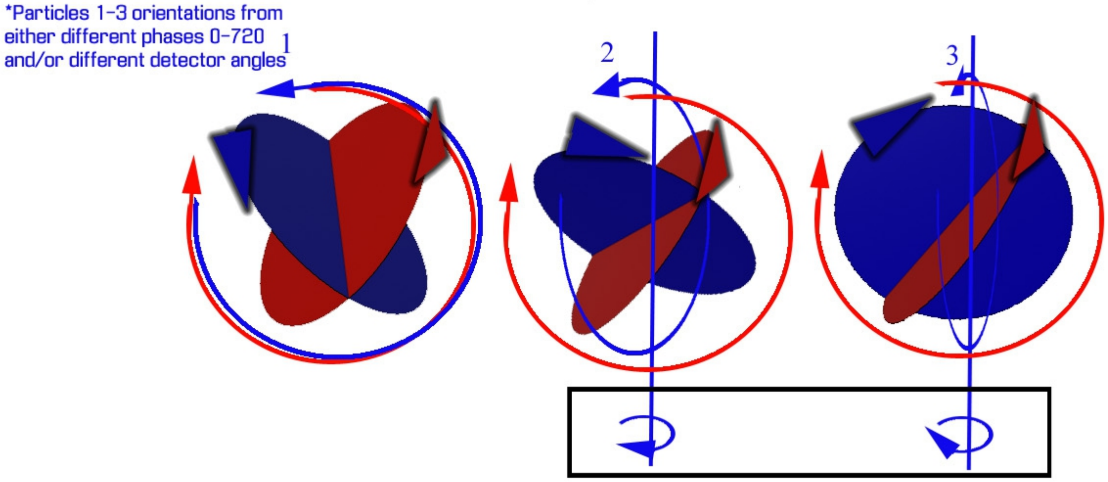
So spin-up and spin down pertains to where in the “tumbling” cycle of 720’ a particle is, -with respect to another particle-. If an acceleration relationship is established when one particle is past 360’ in -physical orientation- and the other is before 360’, one will be spin-up and the other spin down, and vice versa.

Again, when charged particles superpose, they automatically assume an oscillation-orientation around the axis of line of sight to each other. If one physically qualifies as “upside down”, it means that its plane of the lowest gradient loop, (the Q-loop) on its aft side is counterclockwise, compared to the other particle’s state being clockwise. If they are like charges, the superposition will make them both still oscillate and attract exactly the same, even if one is upside down, but they will oscillate the opposite direction about their line of sight.

As we have discussed, and will see in the differential equation, the rotation they cause to one another is based on what becomes of the whole sustainable toroid structure, when just the aft-side-Q in that structure have one component of its lowest-energy-path canceled by increased head-on conflict. Like the flow of traffic around an accident, the entire structure rotates to find the new lowest energy path that is sustainable for the whole structure. With a constant feed of superposition from another particle that is also constantly rotating, the location of “where the accident is”, (i.e. what plane has the clashing vector of acceleration), will also continuously rotate.

Now when an already-rotating, already-accelerated particle meets a new particle field, or a special held-fixed-phase “magnetic field”, a new secondary “aft Q” location experiences a new rotational force from and new propagation from the new secondary field. This might be compared to a bow-thruster in a boat. Both the old momentum and the new momentum, and rotations superpose to a resulting state. These states reside in the toroid structure as modulations to its wavefunction which remain “stored” and reciprocated in its durable proximity-reinforced Q structure.

“Aft” Q-loops in Toroid Structure

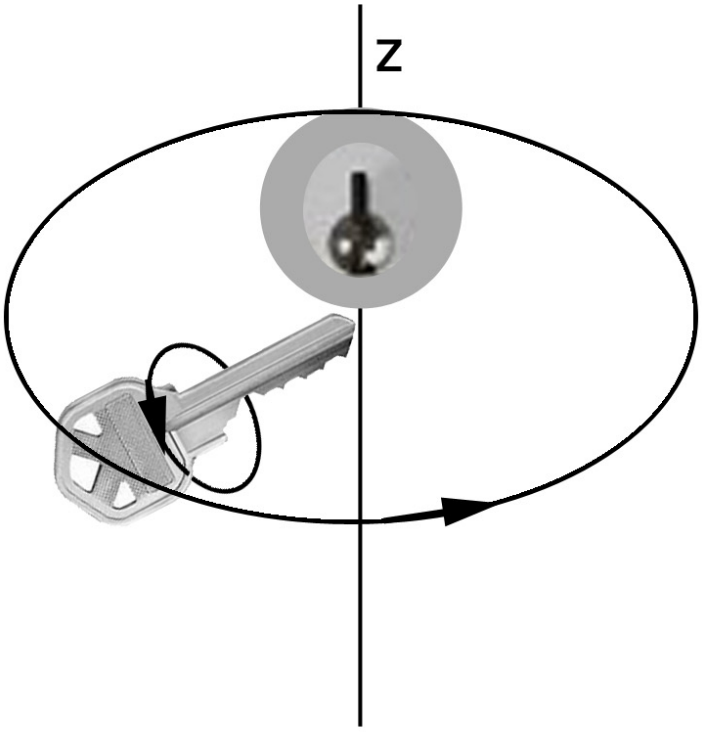


With a fixed-spin reference such as magnetic field or detector (in red), a measured particle (blue 1-3) is “caught” in whatever orientation its phase with other accelerating sources places it at the time.

So the Q of the free particle, (blue) must rotate, (black box) to assume the new lowest energy (superpositon), taking the whole structure with it to the new oscillation relationship orientation, and resume its oscillation at whatever new phase corresponds to that physical orientation with the new field.

When the new field encounters the already-accelerated toroid, it will find the toroid in any number of physical orientations, as it was oscillating through its 720 degree spinor wavefunction resulting from the existing field. This means the plane that its new lowest energy loop exists-on depends on the timing. The superposition math dictates that the “clockwise or counterclockwise” determination, (i.e. “which component has the clashing/increased gradient?” and “in which way does traffic need to detour?”). This means the spin-up or spin-down determination depends on where the particle was in its original oscillation phase, and what the new angle of relationship is with the new field. Hence, two different fields orientated to each other at some angle about the direction of motion of the particle can be expected to have a correlation between the angle between them about that axis and the likely hood of correlation to spin-up or down.

In regard to how this pertains to the local causality paradox in entangled particle spins, the "hidden variable" Einstein referred to has an extra dimension. The toroid geometry dictates that the particular angle between two detector fields applies to a phase shift of a vector path through two planes, not just one as is classically described. So each degree of phase difference in the physical 360 of two field orientations yields a probability where our clockwise/counterclockwise determination might involve an orientation where the detector angle is "within range" of a spin-up, but where the particle happens to be in it's oscillation puts it in a spin down, because of the second plane it moves through.



Like a keyhole that has its slot on the z axis and holding a key correctly with the teeth-down, to enter the keyhole, but then turning the key about the z axis, the key still corresponds to "teeth-down", like it should, but the likelyhood of entering the keyhole decreases as the key turns about the z axis, (even though it was "teeth-down"). The angle to "teeth-down" or "teeth-up" is like the classical detector angle, but the geometry involves the angle of rotation about the second axis (z just used here as an arbitrary variable).

Although most locks are less forgiving than this in reality, in a spin-up, spin-down scenario of a detector, the likelyhood of the key entering the lock would correspond to the angle you turn away from "teeth-down" and also the angle the key turns about the z axis, (depending on where the function is in its intrinsic cycle). In the spinor wavefunction, the angle the detector turns away from "teeth-down" can be counted on to also turn about the z axis, as the oscillation follows its physical rotation. The probability of entering the lock would be the square of the cos of the angle not just cos, as the classical "point particle" assumption would incorrectly predict. (As a side-note, we will discuss later why spacetime potential being a differential relationship which is inherently relativistic, (although the universe is a single reference frame where all Q have the same relativistic conditions), causes our observation of particles to be "point-like" although their differential structure has geometry.

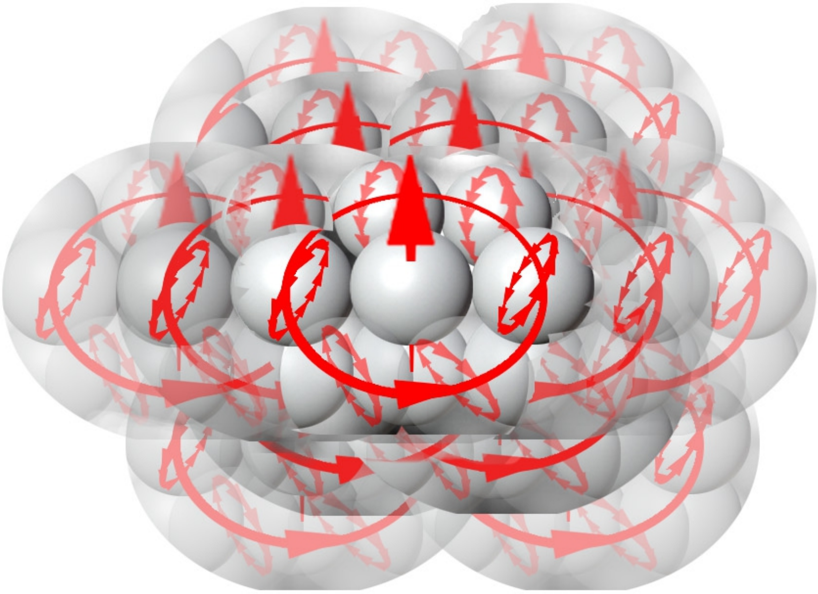
Inside the Tumble

As a recap before we move to some variations of the spinor interactions, we will look at the overview of the last few sections and fill in any missing detail. We know that the compound opposite "thread directions" we find in charged toroids result in a constant rotation path. On the fore-side of the toroids, the superimposed loops remain neutral, (in truth they mutually cancel from 0 through 360 and mutually add from 360 to 720, rendering a neutral effect. On the aft side, (the pushing side) one of the 2 planes, (either primary or secondary axis plane), is enhanced and the other plane is canceled.

Again, specifically, when one of the two plane loops is canceled on that aft side, while the other plane is enhanced, the twist in the differential relationship imbalance turns the whole structure, (i.e. the flow of lowest-energy vector loop that defines the structure is rotated in one Q of the structure and that rotation propagates to the entire structure according to the differential).

But since the fore-side is neutral and the aft side is rotated, the effect of the rotation doesn't just cause a rotation around one axis. If the one canceled plane and one enhanced plane causes a rotation around the x direction, the geometry of the toroid differential will also cause a rotation around the y axis. If someone's is hula-hooping and their body is the z axis and you gently tap the hula hoop in the down direction, it will cause a rotation of the hoop plane about the x axis, but since the hoop is a single unit, (connected by a differential relationship), it will translate that wobble about the y axis also. As we mentioned earlier, the loop-paths in the Q act like gyroscopes that all act as a group, satisfying a lowest head-on collision path as a single unit. When one gyroscope turns, they all follow and so the particle follows.

This may seem counter intuitive. How can the rotation of one least-energy loop possibly effect the kind of "torque" that would rotate the whole toroid?



But again we can notice that a periodic state in spacetime is periodic in its vector of motion because of diffusing to least-energy relative to where its neighbors are pointing and so-on according to equilibrium. So the Q neighboring the toroid structure are redundant duplicates with slightly increased exposure to acceleration states from the exterior and so have faded fixed-period PAs. Only the center of the toroid is exempt from propagating secondary axis states across it, (because the symmetrical distribution cancels at that point).

When a rotation of the plane of diffusion loop happens in one Q, the change simply alters the cloud of ready-made “new locations”. The Q that were in the cloud around the original position become the new lowest energy path and the new position and the whole structure is rotated or propagated. If we were to compare the lowest-energy path to a path of air to a vacuum source, it would be intuitively simple. The fact that the “polarity” of the diffusion force is just high-gradient to low gradient, (high vacuum to low vacuum) in a geometry should extend the analogy to the toroid.

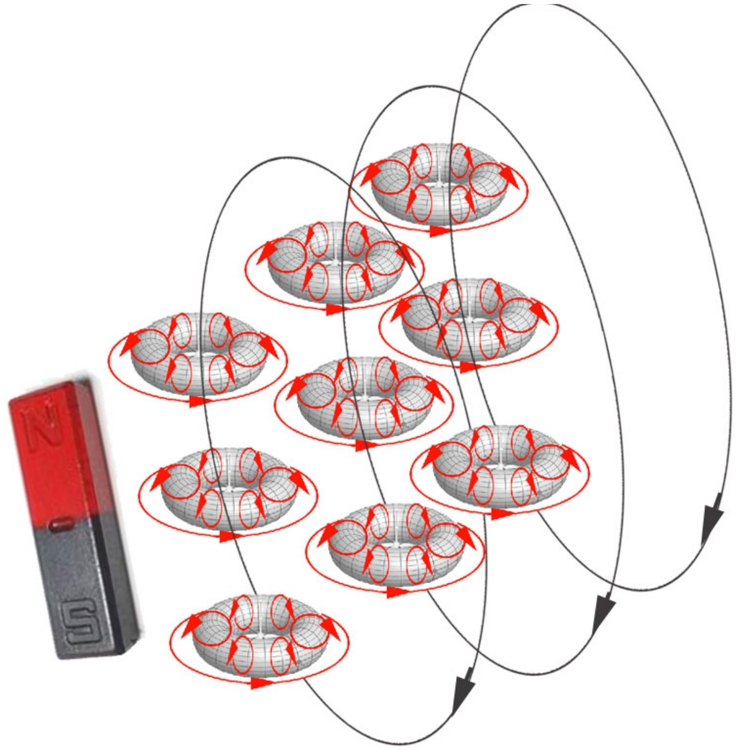
So the rotation on just the aft side causes a compound rotation like tapping the hula hoop and since the thing that tapped it was also a hula hoop that gets mutually tapped by the interaction, the vector of tapping continually changes with them as they both rotate. Our two charged particles move like mirror images, in the way they perform their compound rotation. So as particle F causes a rotation in particle R, particle F is simultaneously rotated by particle R. Like threads of a bolt across vast distances, their compound-handed diffusion propagations ripple as waves through spacetime. As each of them rotates, the rotation-relationship itself rotates. The interesting part is the fact that the toroid psuedo-spheroid shape makes it so that no matter how they rotate with respect to each other, it keeps the same spinor-on-spinor scissoring action vector orientation, (i.e. loop direction superposition). In other words, like the propeller analogy, the aft sides of both particles constantly maintain the same vector of gradient-disparity “pushing” the across the center and propagating the symmetry in space.

In the next section we will discuss what happens when the mirror-dance of particles rotating one another happens to have one particle held fixed in the spin-up or down phase relationship, as a group-reinforced phase relationship within the special alignment circumstances we see in a magnetic field. What happens to the free particle follows the same differential logic, when we observe the geometry.

Spin and Magnets

As we have begun to outline, the only true force action that occurs in spacetime is diffusion from high gradient of velocity to low gradient. We have seen how this results in motion in fermion pairs, as gradient imbalances are induced by toroids overlapping on their perimeters. But fixed-period structures can cause third gradients, (i.e. gradients applied to second gradient particles), in other geometrical configurations as well. We will discuss the details of bonding and other geometrical arrangements in a later section but first we will jump to electromagnetism. Although the means by which a magnet exists, (iron molecules or windings etc) requires the assemblage of structures using the bonding arrangements of fermions that we haven't covered yet, its pertinence to spinor anatomy makes it a good next topic just by its field behavior alone. We will temporarily assume that magnets exist, (via particular macro bonds of elements), for the purpose of showing how a magnetic field interacts with the simple matter antimatter pair we have been examining.

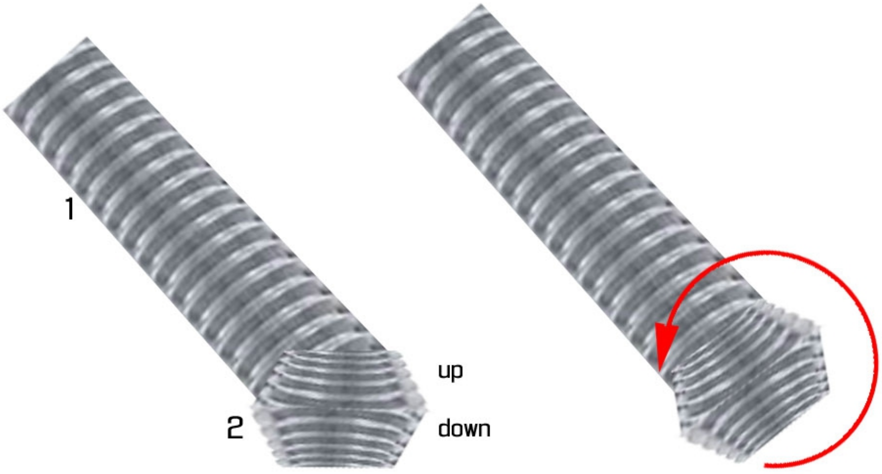
When certain metals or windings of current-carriers result in electrons being arrayed with their spins all aligned in the same direction, their diffusion satisfying pure-angular Q loops are all lined-up and we get the magnetic effect.



It should be reiterated that a spin-up or spin down orientation is not a fixed orientation but a phase relationship between particles, in the spinor cycle of 720 degrees. If two particles began with the same primary axis orientation and one particle is in the first 360 of its circuit, with the other in the 360-720 range of its circuit, they will have opposite spins.

Although the phase range does correspond to a geometric orientation of the structure, the up or down is only with respect to the other particle. The superposition/rotation interaction between particles that we have been describing, (whereby superposition results in rotation), will align the particles' relative orientation to be in either the pure spinup or pure spin down, if it was at some acute angle alignment.

This is the fundamental behavior of the superposition of a structure of Q states, (Q vectors are superposed, the new lowest energy trajectory results, and the heat equation relationship rotates the structure accordingly, where that lowest energy orientation is pure up, to its partner's pure down). The "pure up" "pure down" re-orientation phenomenon is just an artifact of the fact that superposition of Q is a linear addition of vectors. A sum is a sum and adding one toroid to another does not result in any in-betweens other than the sum of their geometries, hence a full up or full down relationship.



If smaller threaded spheroid object 2 is spinning, it will rotate itself to align to the thread pattern of the surface1 it contacts, (as a result of the vectors of thread contact), until threads are aligned and no further rotation with respect to 1 is induced

An analogy for this is the "screw threads on a sphere" example. When it contacts other screw threads, it will rotate to perfect thread alignment as a side effect of the rotation the handed "threads" cause, (effecting the lowest acceleration alignment of being lined-up with the other grooves i.e. vector addition). When the thread patterns line up, the thread-to-thread interaction will only rotate the sphere about the axis of the threads, (not cross-threads). In the case of a spinor's "threads", they are opposite handed on either hemisphere, so once the threads are aligned the sphere not only rotates about one thread axis but its compound configuration.

So the threaded sphere analogy, during its oscillation from upside down and rightside up, (if we took a snapshot), can be found in orientations that do have a periodic relationship to a fixed angle about an axis, (such as a detector), but for the probability of finding it up or down, (the chance of its "up" phase being within qualification of the detector's up) it will depend on where it is caught in the cycle of its wavefunction.

This property plus the fact that spin-up or down is a relative phase position results in what would be a bewildering dynamic that gives the appearance of pure chaos being somehow swayed by rational structure that can be observed, e.g. (angle of a detector or field). It makes the changing angle of the Stern-Gerlach detector similar to blowing on a pair of dice before rolling them in a craps game. But the reality is much more interesting.

Since spin-up or spin-down is a phase orientation that a toroid spinor wavefunction has with respect to a detector, and since the angular mechanics of the spinor can roughly be compared to the threaded sphere, a detector will "catch" the superposition/rotation relationship and record the phase orientation as whichever side of the line the orientation of falls on (up/down). But the important part here is that since the sphere has opposing thread directions, and is oscillating, the field or means of detection must catch the threads of the particle at a random place in the course of its oscillation between spin-up and spin down. If it is caught by a detector field oriented at 60 degrees and the particle is a quarter of the way through its cycle, the likelyhood of being spin-up, (with respect to the detector field) will be different than when it is 2/3. of the way through its cycle, with the same 60 degree detector angle.

Imagine someone has a string with a ball on it and they are spinning it around in a vertical plane on one side of them. Now imagine you randomly pick a time to open your eyes and check if it is moving up or down. But notice you can turn your head to see them upside down, right side up, or any angle in between. Now imagine the person is slowly turning with their feet around in a circle, rotating the plane of the string-ball as they turn. If your head is at an odd angle, (completely sideways for example), finding the ball appearing to go "up" from your altered perspective would depend on the position of the string-ball and also on where their feet had turned the whole setup. If the plane of the string ball was nearly horizontal to your eye, their foot rotation position could make the judgment of "up or down" go either way by a few degrees of foot movement.

Since the distribution of particle orientation angles at any given time is on two planes, the probability is as mentioned, not simply the cos function but $\cos^2$. The question is, what percentage of their effective 180’ ranges will yield a spin-up overlap with a detector that is physically turned 120 degrees, (about the direction of motion of the particle). The classical intuition would be to think that since the variables are up and down, and it is proven that rotating the detector yields the change in result from up to down, the angle of rotation causes the ranges of the two orientations to overlap. But although the toroid physical orientation is what gives us the handed potentials, it is the spot in the phase of the physical oscillation of the toroid geometry that is the key to the relationship

Additionally, since a new detector angle would mean a realignment to a new phase relationship, any information about spin-up or down with respect to the previous detector and arbitrary timing through its wavefunction cycle, would be “lost”, (if the only information is the fixed angle and the history of up or down). Knowledge of the wavefunction’s starting conditions and the geometry of the toroid intrinsic wavefunction shows us that the intrinsic “dice roll” is not so abstract and is truly more like just some tumbling cubes with defined parameters.

We have seen how the toroid charge interaction causes compound rotation. But something unique happens when the relationship between particles is dominated by the alignment found in a permanent magnet or electromagnet. In a permanent magnet, the group reinforcement comes from the atomic alignments in the metal. In an electromagnet, the spin phase-formatting comes from the dominant charge acceleration direction and therefore rotation direction relationship between the poles of a battery, conformed by configuration of the wire windings. To explore this, we will consider a charged particle moving in a magnetic field.

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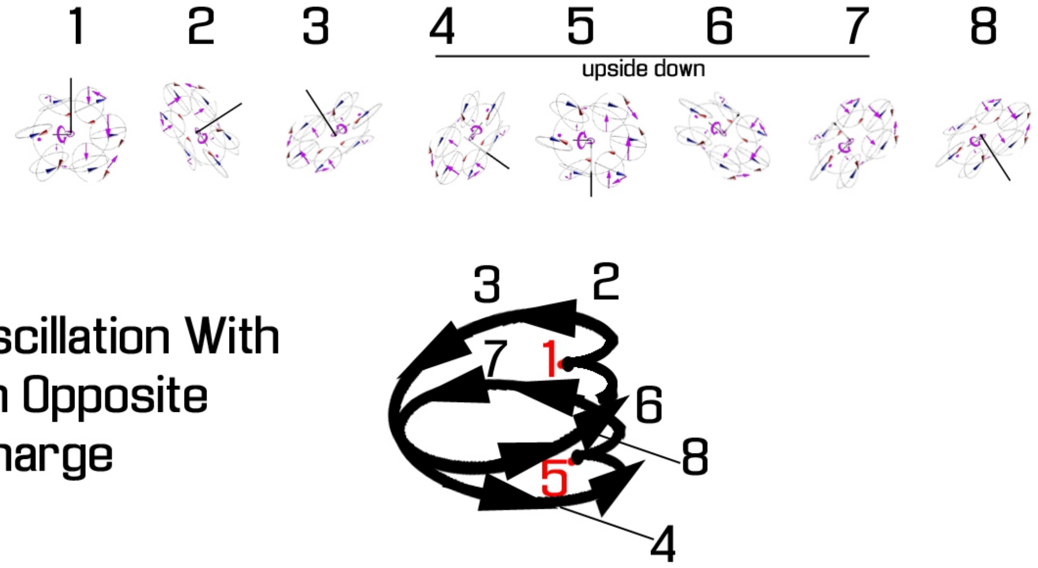
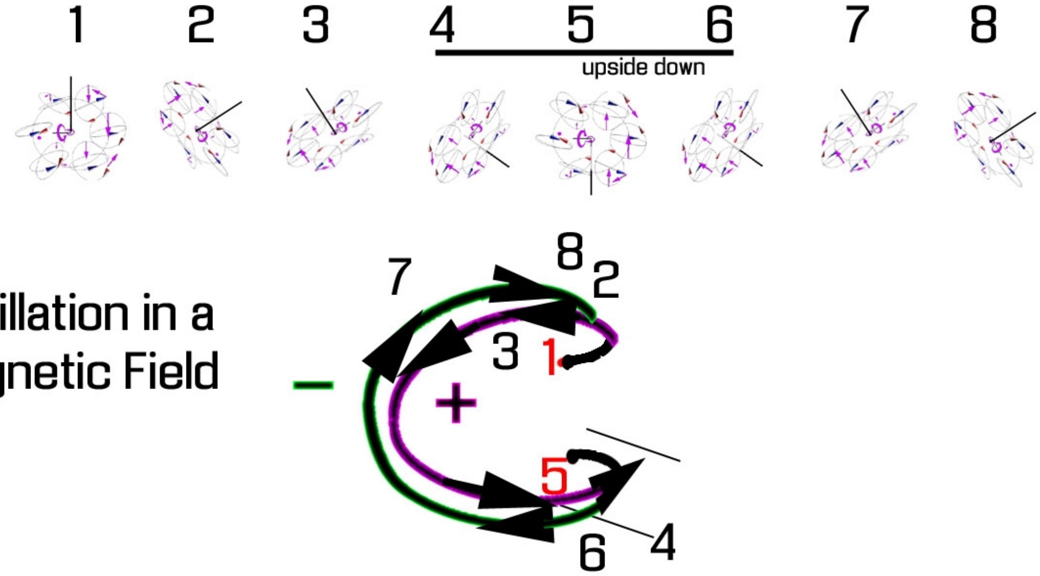
The phenomenon of a charged particle with a momentum traveling through a magnetic field has a geometrical perspective circumstance that is not unlike the view of a trumpet in a marching band from the standpoint of the band leader, (i.e. the positive pole of a battery or opposite charge in general, that would cause the motion) as opposed to the side-view, as seen from the audience, (the magnetic field). The band leader doesn't see that the trumpet loops around back and forth. From the perspective of the direction of motion, (the opposite charge destination), we can notice that the propeller-like handedness is the same through the full 720, since both positive and negative toroid structures oscillate through 720 together.

https://subspaceinstitute.com/images/0/10639641/positronelectronrotation.mp4

From the side perspective, (the direction of the interaction with the magnetic field of a moving charged particle or permanent magnet), we notice that the handedness keeps flipping, oscillating from right hand to left hand.



Oscillation With an Opposite Charge



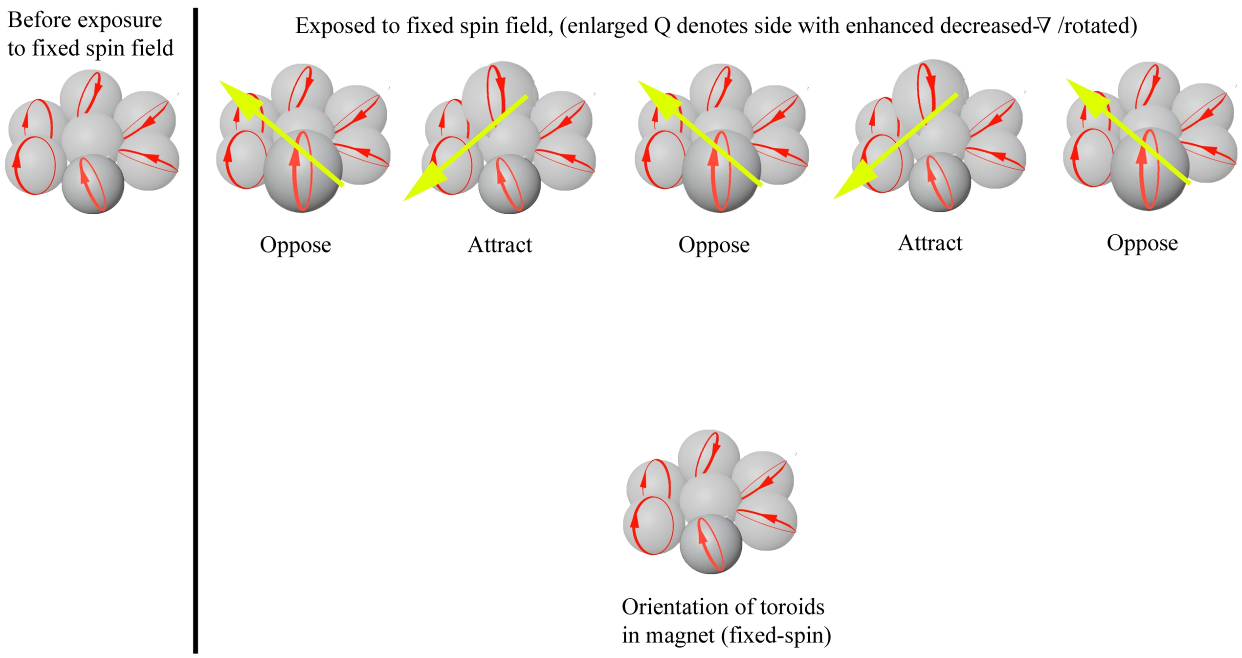
Oscillation in a Magnetic Field

When a particle that is locked in a spin phase relationship such as in a magnet, is viewed from the side, the state that propagates from it is "rectified" to present a + then − charge state cycle

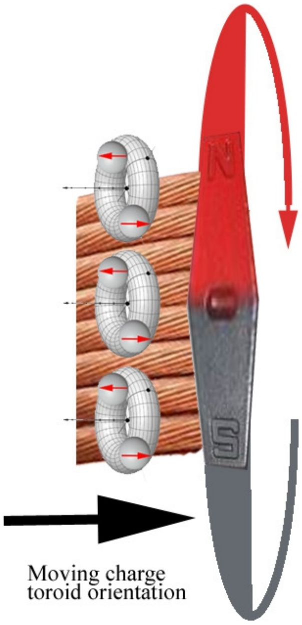
To a particle in a magnetic field, (which holds it spin orientation, i.e. wavefunction timing held dictated by reinforcement from the magnet structure), the interaction would be like the oscillation between interacting with a negative charge from 0-360, then a positive charge from 360-720. In normal charged pair interaction, they both rotate each other through their spin up and spin down orientations, but when one charge is held-fast in its spin orientation, it is exposed to what amounts to an oscillating charge, leaving only one component of the induced motion un-cancelled.

Specifically, we get the alignment of same state of loop direction that propagates off of the secondary toroid axis, (in all the applicable toroids in the magnet). When it comes to the way "like" or "opposite" charges behave when they overlap, this presents a problem, (or advantage). The bond strength in the metal of the magnet prevents those toroids from freely doing the mirrored rotation dance, since their spins are locked in one orientation relationship. In the next few sections we will be delving into the equations for the vector math, and we will see how that plays out in the phases for the planar Q during superpositions.

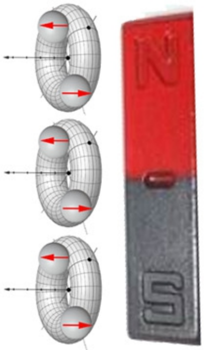
When one particle is held fixed in it's spin orientation, the superposition still, of course results in rotations in the free particle, (since the periodic vector loop directions will clash and cancel in one component direction, altering the lowest-energy path).



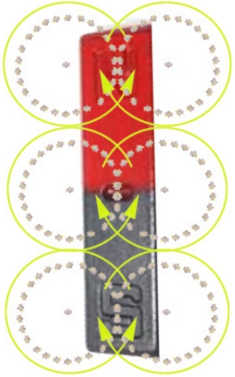
But since the other particle doesn't rotate with it, (being dominated by its relationship as magnet), the free particle will reach 180 of structure rotation and then the vector sum involved in the superposition will switch to render the opposite gradient effect, (the fore side will become the aft side).



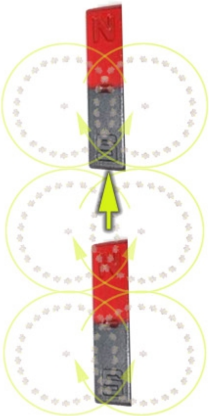
Moving charge
toroid orientation



Rigid magnetic ferrous
toroid orientation



Net propagation
vectors of toroids
with spin freedom



Net propagation
vectors of fixed
spin to fixed spin

With one fixed spin and the other flipped, the toroid spinor-overlap relationship switches upside-down, and the relationship acts like an electron positron relationship. That is until another 180 degrees passes and the orientation is flipped again, where electron-electron repulsion is again the relationship and so on as it oscillates. The vector component radial between the free particle and the particles in the magnet cancel to zero over a full 360, and the only component of gradient disparity left in the interaction is due to the compound effect of the rotation, (i.e. tapping the hula hoop). That surviving component propagates the free particle tangential to the magnet particles according to the right hand rule.

End of Section

8