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GALACTIC PROOF
of my
QUANTUM SPIN MODEL

by Miles Mathis

I became aware of something today that provided me with more proof—or perhaps I should say more *evidence*—for my spin model of the universe. The Sloan Digital Sky Survey*, as part of the Galaxy Zoo Project, confirmed that, within uncertainties, surveyed spiral galaxies were roughly 50/50 clockwise and counter-clockwise. This was a survey of 35,000 galaxies, so it is a pretty hefty sampling.

The mainstream uses this survey to bolster its belief that the universe is isotropic on large scales, and I wouldn't disagree with that. It is also proof of universal conservation of energy and universal spin parity. However, this survey also gives us an important hint in another direction, and this hint seems to have so far fallen on deaf ears. To hear this hint, it helps to go back to my Coriolis Effect paper, which I recently updated to answer a question from a reader. I had stated that the charge field in the Solar System was imbalanced in favor of photons over anti-photons. I have said this in several papers, since many facts point to it quite strongly. It explains the lack of magnetism of Venus and Mars, it explains the preponderance of matter over antimatter in the near environs, and it explains the lack of parity in beta decay. OK, said my reader, but what causes this imbalance? I said it is caused by imbalance in the input from the galactic core, as in my paper on the Ice Ages. OK, he said, why is the galaxy imbalanced? Because it is spinning one way and not the other. Why? Because that is how it happens to be positioned relative to nearby galaxies. The gears set up that way. That is, it is mainly an accident, and could be otherwise. Other galaxies spin the other way.

Of course, plugged into my theory as a whole, this naturally leads us to the hint. Are the reverse spinning galaxies composed mainly of anti-matter? I would say so. This would be the easiest way to answer the question, wouldn't it? If we expect isotropy regarding macro-spins, we should expect it regarding micro-spins.

Do we have any other evidence from galaxies, pro or con? Not really. So far astrophysicists have been looking for anti-matter in some rather curious ways, I would say. Mainly they have been looking for gamma rays from annihilation boundaries. But we wouldn't really expect annihilation boundaries between distant galaxies. Galaxies mainly communicate via photons, not via matter, and photons don't create annihilation boundaries. They don't annihilate at all, not according to current theory or to my theory. Current theory is pretty thin here, but my theory is that photons and anti-photons just damp eachother's spins, damping the magnetic field carried. They don't annihilate; they don't even damp c, in most cases.

They are also looking toward our galactic core, which is not the thing to do either. I think that, yes, they may find higher concentrations there, and they may find them for the reasons they think, but that still won't help us. They are only on the right track when they begin looking for evidence in colliding superclusters. That is a step in the right direction, and my guess is they will find what they are looking for.

But the best thing they could do is study the light arriving from nearby opposite galaxies. The light itself should be anti-photonic, or spinning the opposite way. In other words, it should be anti-magnetic. If they can isolate the light and run it through a magnetic field, then measure the change in the field, they should be able to tell if the light is photonic or anti-photonic. If the isolated light from a galaxy damps a magnetic field, we would have direct proof of an anti-matter galaxy. I don't know how feasible such an experiment would be, I simply suggest it as a theorist. I realize that the effect, even if measurable, would be tiny, since a few photons from a distant galaxy could not damp any terrestrial field by much, but it is an idea.

However, even without that direct evidence, the Sky Survey is strong indication that spin is isotropic, all the way down to the size of the photon. As I implied above, it is illogical to propose a "law" of isotropism that applies at the macro-level and not the micro-level. In fact, it is precisely because we expected isotropism at the micro or quantum level that we expected parity in beta decay. But if we expect parity in quantum reactions, why would we not expect parity in photon spin?

I will be told it is because we don't have any evidence or interest in photon spin. The photon has always had only a linear velocity. We don't normally give it a spin in either direction. Beyond that, a point particle can have no real spin, and we currently believe in the photon as point particle.

But of course none of that is *evidence* against photon spin. That the photon is a point or that the photon isn't spinning is based only on theory, not on evidence. It isn't even based on theory, since we have precious little theory in that regard. Mostly it is based on choice of math. The choice of gauge math has forced physicists to assume several things about photons, when trying to fit them in the matrices. Despite that, I have shown in many papers that we have a lot of evidence the photon *is* spinning and that it has size. The existence of magnetism is itself indication of photon spin. I have assigned magnetism to photon spin, but the current model has no physical assignment of magnetism. According to the current model, there is no photon spin and no physical assignment of magnetism.

Beta decay is more direct evidence of photon spin, as I have shown. As it is now, the non-parity in the field can only be "explained" with symmetry breaking, which is non-mechanical and frankly farcical. But if we give the ambient charge field spin, the non-parity in beta decay is easy to explain mechanically.

This is why galaxy spin acts as evidence for my quantum spin theory. Evidence of spin parity at any level of size is evidence for spin and spin parity at all levels of size, since the law must apply both large and small (or we must be presented with some theory as to why it doesn't). Like modern physicists, I believe in both parity and isotropy. I just don't believe in the legality of symmetry breaking. And I don't believe in forbidding photon size or spin for no reason. If you can show me some physical or mechanical reason the photon cannot have spin, I will be glad to hear it. But "because it doesn't fit our gauge math" is not a physical reason.

Some will answer me that we know that light has no magnetic properties, but they should know that is false. Just as a quick run-down, I will give them several:

The Faraday Effect. We have known about this one since 1845. Circular birefringence is normally explained via circular polarization, but it is more easily explained as spinning photons. For some reason, the characteristics of light have always been given to light planes or fronts, causing many of the longstanding mysteries like superposition. But if we give the photons themselves spin, many of these mysteries evaporate, including the mechanics of the Faraday Effect.

The MOKE, or Magneto-optic Kerr Effect. At Wiki we are told that this is due to the "off-diagonal components of the dielectric tensor," but that is clear misdirection. Notice that they are telling you a physical effect is being caused by a piece of math. A tensor is a mathematical object, not a physical object. A tensor cannot *cause* anything. A tensor is like a vector, and must be assigned to something. If you press them, you are told the dielectric tensor is assigned to a motion in the field, but again, that isn't a physical statement, it is a mathematical statement. For you still don't have any assignment of the motion. What is moving and why? The simplest answer here is that the photon is spinning.

If you press them harder for an explanation from the standard model, it really gets bad. You get something like this:

Relativistic quantum mechanics tells us that photons are constantly splitting into pairs of oppositely-charged particles (usually e+e- pairs) which re-annihilate back into the orignal photons. This process violates energy and momentum conservation, but Heisenberg's uncertainty principle tells us that's okay as long as the time and distance scales are small (uncertainty in momentum*uncertainty in position > Planck's constant, and uncertainty in energy*uncertainty in time > Planck's constant). The charged pair of particles is called "virtual".

Very high-energy photons which propagate through materials interact electromagnetically with the charged components of the materials (nuclei and electrons). The photons can split into e+e- pairs, and if an external photon (from a nucleus, say) knocks into the e+ or the e-, these particles can lead real existences. This process is called "photon conversion" into an e+e- pair. It is most often observed where electric fields are strong (near heavy nuclei), but presumably can be induced by static magnetic fields which change rapidly in space as well.‡

I don't know why anyone lets them get away with that kind of magic answer, but there it is. You can go with that answer or my answer, which is that the photon is spinning. It is your choice.

The Zeeman Effect. The STATIC magnetic field splits a spectral line into components. If the photons are not spinning, how is that achieved? It can't have anything to do with the linear velocity of the photons, since that would be the Stark Effect, and we know the two effects are separate. The photon has to have several characteristics to explain all these separable effects, and the current non-spinning photon simply doesn't have enough characteristics to do so. The current photon only has velocity and wavelength, and that isn't enough to explain all we see. We also don't have a way to explain that wavelength. Since we know it isn't a field wave**, it is unassignable. I have assigned the wavelength to the spin.

The Voigt Effect and Cotton-Mouton Effect. Like the Faraday Effect but quadratic.

The QMR, or Quadratic Magnetic Rotation Effect. Like the two previous, but with crystals instead of vapors or liquids. We are told, "QMR is described by fourth-order c-tensor which is antisymmetrical as to the first two indices." Again, that is a mathematical not a physical answer. As physicists, we don't just want a "description," we want a mechanics.

So despite what we are told by the mainstream, light must have both mass and magnetism. They deny it to this day, see here, but as we have just seen, they should know better. As an overview of these effects, you may ask yourself how light could be called an electromagnetic phenomenon if it *didn't* have a magnetic component itself. The only way light can interact with any magnetic field is if the photon has a magnetic component. That is straight logic. If photons do not spin, then you tell me what the magnetic component of light is. And I don't want to hear about unassigned tensors. I am asking you what real quality of the light the tensor is assigned to. How is it possible to assign all these tensors to a point particle? It ISN'T possible. The current photon doesn't have enough real characteristics (or degrees of freedom) to carry all these tensors.

The quadratic nature of the last three effects is also a big clue to the structure of the light itself. I showed in my superposition paper that the photon needed to have at least two stacked spins to show a wave and to explain superposition, and these quadratic effects are telling us that the light involved has at least three spins (four degrees of freedom, including c). We should also notice that in these quadratic effects, the magnetic field is applied at right angles to c. This supports my quantum spin theory, which you can read about here.

The quadratic character of these effects shows up the inadequacies of current photon theory even more. As you can see, we have even more phenomena to explain, and of course the current theorists will give us more tensors taken from bigger matrices. But my question remains: what are you assigning all these tensors to? How can a point particle carry so many tensors? Are we doing physics here, or are we just assigning tensors willy-nilly to the void?

The only question I really have to answer is "Why doesn't light *necessarily* interact with a magnetic field? You have shown the ways it does, but we know it doesn't when light (not a spectral line) moves through a static magnetic field. How does it do that?"

The answer is, "It *does* interact with the magnetic field, we just don't always measure or see the interaction. The effects above are instances where the interaction becomes obvious, since it causes changes that we or our machines pick up. But not all interactions will be seen, since we won't be in a position to see them. For instance, in most cases we will not be aware of spin changes to photons, since we aren't even aware that the photons are spinning. We aren't aware that photons *are* spinning, or that there is a difference between photons and anti-photons, so how could we expect to measure spin changes? To measure a spin change, you have to have an experiment *set up* to measure a spin change, and in most cases we aren't set up to measure it. The effects above are just a few of the accidents that have happened when our machines picked up things we *weren't* looking for. But most of the time we won't be looking and our machines won't be looking either." Just look at the Zeeman Effect, which uses a static magnetic field. We see the effect because we have a *way* to see the effect. In other experiments, the physicists just aren't looking in the right place. The spin effect is hidden because neither our eyes nor our machines are set up to see it.

The perfect example is the experiment I suggested above. We haven't thought to do the experiment, so of course we haven't seen the effect. That doesn't mean there is no effect, it just means we weren't looking in the right place at the right time. We normally don't look in the right place, either. When physicists say, “There is no effect on the light when it passes through a static magnetic field,” my response is, “But is there an effect on the magnetic field?” Instead of monitoring the light, they should monitor the field. Are we sure that strong light doesn't boost or diminish a magnetic field under any circumstances? I don't think so.

In fact, we have lots of indication it does. For a start, we have seen this year [4/4/2011] that an external magnetic field can increase the EL of an electroluminescent cell by 400%.† By the equal and opposite rule, we may assume that the light is also affecting the field.

Also in April of this year, we heard about solar cells driven only by the magnetic field of light.[1] Of course that light was 10 million watts, but physicists were forced to admit that “they've inadvertently overturned a century-old principle of physics” and that “the light field can generate magnetic effects that are 100 million times stronger than previously expected”.

Of course my reader may say, “Yes, that does look like strong evidence for you, but why does it take such wattage to produce this phenomenon? Why is the effect normally swallowed up?” Well, my field explains it very simply. Photons are not normally the *direct* cause of what we call the E/M field. As I have stated from the beginning, photons are the charge field, and the charge field is the *foundational* E/M field. That is, charge underlies and causes E/M, but it isn't E/M itself. Charge is photons, E/M is ions. In other words, spinning photons in huge numbers cause ions to spin. But when we measure the E/M field, we are measuring the spin of the ions, not the photons. The photons are too small for our machines to measure directly, and we only infer the spin of the photons based on the spin of the ions. Since photons are about G times smaller than ions, it takes a lot of photons to affect ions. Normal light levels don't change the ambient charge field that much, since the ambient charge field, though invisible to us, is so strong. We happen to be living on a largish planet which recycles a staggering amount of charge, and we are near a Sun that recycles even more. We are in the vicinity of lots of matter, in other words. In the vicinity of matter, the ambient charge field actually outweighs the matter field by 19 to 1. That's right, the full E/M spectrum outweighs baryonic matter by 19 to 1. That is where we get the so-called “dark matter” fraction. It isn't dark matter, it is photonic matter. And we have had this information hiding in our equations for over a century. I have begun inserting them in almost all my new papers:

$e = 1.602 \times 10^{-19}$ C
1C = 2×10^{-7} kg/s (see definition of Ampere to find this number in the mainstream)
$e = 3.204 \times 10^{-26}$ kg/s

Those first two equations I took straight out of the old books. You can find the equations at Wikipedia. They aren't any inventions of mine. I simply combined them to get the third equation. The third equation doesn't look too revolutionary, until you remember that it means that the electron is emitting about 35,000 times its own mass every second, as charge. It also means the proton is emitting about 19 times its own mass every second. If we give this charge to real photons instead of to virtual photons, we have a simple way to estimate the total mass/energy of the photon field. It is 19 times the atomic field, or 95% of the total mass/energy of the universe.

Anyway, any light being emitted by a laser is being emitted into a sea of charge that is already quite strong, and both the charge field and the matter field will act to absorb any spin the emitted light may have, partially demagnetizing it. So, under normal circumstances, it is far more likely the external magnetic field will affect the light than that the light will affect the magnetic field. This is why I said above that isolating light from galaxies may not be feasible. The effect would just be too small, even if we were looking for it.

But if the emitted light is powerful enough, the photons start to act more like ions, and the emitted light field can start to trump the affect of the ambient charge field. We then get the effects seen at the University of Michigan in April.

My reader will say, "If that is true, I don't see why static magnetic fields don't change the color of the light, in normal circumstances. It seems like the effect would be very easy to see, if it existed. Isn't this what you are claiming happens during diffraction?" I will answer the second part first. In diffraction, the light must go through a small gap, or be forced close to matter by some other mechanism. And even then, only the edge light is color-changed. But when we send light through a static magnetic field, we aren't forcing the light to go near matter. The magnetic field is commonly not dense at all, and may contain almost no matter except passing ions (it is not a solid or liquid, in other words). If the magnetic field *is* solid, then we *do* often get color changes—see the Michel-Levy chart—and it is precisely the spins that is causing them. But when passing through a static magnetic field in air or space, several factors make any change difficult to detect. One, the emitted light is dodging most ions. This will color change only a few individual photons, not enough to cause a color change in a field sample. Two, the emitted light *is* being partially demagnetized or overmagnetized by the ambient charge field, but we aren't measuring the spin on the photons, so how would we know that? Three, this change in spin won't show itself as color change, because a color change or Doppler shift takes a lot of energy. It takes very big fields to Doppler shift light, because light is moving so fast. Light can be shifted by magnetic fields, but they must be very strong or very large. Normal sized lab fields won't do it.

Another way to see this is to remember that a color change can happen either by one close pass by a ion, or billions of close passes by other photons. Again, photons are tiny. So even a strong charge field won't affect emitted photons passing through very much. Photons are interpenetrable to themselves to a large degree. Ions are about 10 billion times larger than photons, so the charge field is about ten billion times more likely to interact with the ions than with the free photons passing through. Even though the charge field outweighs the matter field, it is less dense, some 12,000 times less dense even inside the Bohr radius. Only extremely close to matter (much closer than the Bohr radius) does the charge field get really dense. What this means is that when a photon passes very close to an ion, we don't know and it doesn't really matter whether it is impacting the ion itself or its charge field: the density of both is about the same and either one will cause a strong effect on the photon.

I will answer one last question in closing, though I have answered it several times elsewhere. I have these light photons being affected by the charge field, but then the charge field is made up photons, too. What gives? Well, I have shown that we have many different photons, not just one. And the wavelength is not the only difference. I talked about stacked spins above, and that is the key. Below the level of the electron, we have many levels of photons, and I haven't even begun to categorize, name, or pinpoint them in the field equations. I have only shown you how they might be built. The best thing to do would be to give a different name to each level, but so far I have just let the given name photon fit them all. I have put the charge photon at an energy level about G below the proton, assuming that G is a scaling constant in Newton's equation. But we can have photons both above and below that energy level. Each level is made up of the four possible spins—axial, *x*, *y*, and *z*. And we can stack those spins as well as stack levels. Beyond each *z* spin is another *a* spin of a bigger particle, like Matryoshka dolls. In this way, even an electron can be thought of as a larger photon. Add two levels to a charge photon and you get an electron. Add a level to an electron and you get a proton. Subject one spin from a proton and you get a meson. Add several levels to a proton and you get a Z-particle. So when we have visible light photons interacting with the charge field in my theory, we have photons at different levels, bigger and smaller photons, if you will. I have suggested recently that we don't have charge below the level of the charge photons, so we may be able to replace the Planck level by the charge level, making that the baseline of the unified field. But there is no theoretical reason we can't have photon levels below the charge level.

*http://curious.astro.cornell.edu/question.php?number=744

**It doesn't act like one, according to Einstein's equations and all experiment for the past century.

†http://onlinelibrary.wiley.com/resolve/doi?DOI=10.1002/adma.201100193

‡http://van.physics.illinois.edu/qa/listing.php?id=409

[1] http://www.physorg.com/news/2011-04-solar-power-cells-hidden-magnetic.html