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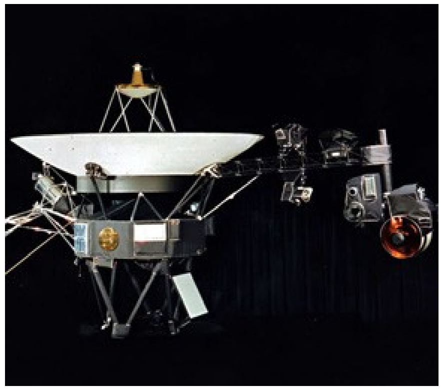
Voyager 1
and the Heliopause



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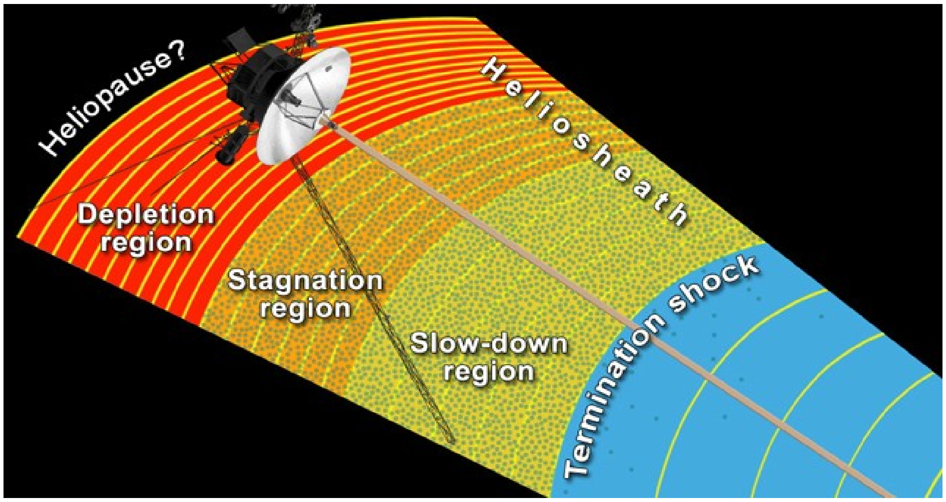
The big news this month from space was publication of Voyager's strange data from near the Heliopause. The Heliopause is where the influence of the Solar Wind ends. According to mainstream theory, in crossing the Heliopause, Voyager should encounter a sharp drop in the temperature of charged particles, a reverse of the magnetic field, and an increase in cosmic rays from all directions.

None of these things happened, so astronomers are in disarray once again. Before we get into this one, I remind you that astronomers and physicists are thrown into disarray about twice a month now. Just about every bit of new data we get from inside or outside the Solar System now fails to confirm current models. And that is to put it mildly. We have recently seen icecaps on Mercury, increasing winds on Venus, a burning upper atmosphere on Uranus, a brightness many times over unity on Enceladus, hexagons on Saturn, and dozens of other huge anomalies. If we add to that the recent PR disasters regarding the speed of neutrinos, the Higgs Boson fiasco, the Weinstein promotion, and several other high profile meltdowns, we would expect the mainstream to simply throw in the towel. If physics were an NFL team, they would have already fired all the coaches and administrators—down to the water boy—and put the team up for sale. If physics were like Congress, every theorist in every university and consortium in the country would have been voted out in the last election. If physics were a Fortune500 company, it would have been routed in a hostile takeover, gutted down to the floortiles and wiring, and sold for scrap. But since physics answers to no one but itself, it has just bailed itself out, took a sip of quantitative easing, and gone on as before.

According to NASA and JPL, although Voyager has exited the Heliosphere, the magnetic field has not reversed. Rather, it has *increased* and fluctuated, while maintaining its direction.



Charged particles at first increased exponentially, then disappeared altogether. They are represented above by green dots. Cosmic rays increased, but did not arrive randomly. Rather, they often arrived *parallel*.

If you go to NASA's pages, you will find theorists desperately trying to explain this data. Using the above diagram, they tell us that " the magnetic field lines generated by our sun (yellow arcs) are piling up and intensifying." But of course a diagram and statement of data is not an explanation. In the previous blue section of the diagram, the magnetic field lines were getting further apart, as we would expect. This was indicating a weakening Solar field, due to distance from the Sun. How can they start getting closer together, unless the region outside the Heliosphere is actually more charged than the region inside? And if that were the case, the magnetism should reverse, as they expected. The region outside cannot be moving *out* faster than the Solar Wind, for if it were, the Solar Wind wouldn't catch it. Using current theory, we have problems of logic and definition here. Paradoxes.

The charged particle distribution also makes no sense, and they pretty much admit that. Although they diagram increasingly close field lines as they go out from region to region, the charged particles don't follow the field lines. The field lines go up then up then up, while the particle density goes way up then down then way down. If the magnetic field isn't determining the particle densities, what is?

In a linked paper, NASA explains it as a magnetic highway:

In this region, the sun's magnetic field lines are connected to interstellar magnetic field lines, allowing particles from inside the heliosphere to zip away and particles from interstellar space to zoom in.

Beg pardon? Shouldn't particles be able to do that anyway, highway or no highway, connection or no connection? If the magnetic field is maintaining its original direction, there is nothing stopping ions from continuing in whatever direction they were originally traveling, and this "connection" of internal and external fields is meaningless. Unless they can provide some mechanics here, this connection and magnetic highway tell us nothing. In fact, if the magnetic field is *not* reversing direction, and is instead increasing its strength, then charged particles should be continuing to move *out*. Both positive and negative ions move out in the Solar Wind (another piece of longstanding data never explained by the mainstream). If the magnetic field is increasing and not reversing, then how are particles from interstellar space "zooming in"? By drawing the field lines closer together, NASA is admitting the field is increasing its strength. But an increased field should repel incoming ions, not allow them in. In the blue region, we are to understand that the Heliosphere excludes external ions. So if we increase that field, it should exclude more. It should not allow particles to zoom in. Following current definitions of the magnetic field, closer field lines should actually accelerate any particles *out*. So NASA's explanations actually contradict their own field definitions and diagrams.

The reason the mainstream can't explain this is the same reason they can't explain anything else in celestial mechanics or quantum mechanics: they have no mechanics. They have some partial math and partial theory which they have jerry-rigged for decades, but because it is woefully incomplete, it has no ability to predict new data or explain it. As with everything else now, the explanation is only a diagram and a few contradictory sentences posing as physics.

Specifically, the physicists trying to solve this problem are trying to solve it with half a wavefunction and half a charge field. They don't have enough degrees of freedom to explain it sensibly. For example, in my recent paper on quantum nonlocality, I showed the current wavefunction is only half a real wavefunction. One common form of the current wavefunction is

|Ψ,t\ = 1/√2|1,V\|2,V\ + 1/√2|1,H\|2,H\

That describes the wavefunction as a composition of vertical V and horizontal H polarization probabilities. But that is only half a wavefunction, even in the simplest case. The vertically polarized particle can be spinning either to the east or west, and the same applies to the horizontal spin. Since quantum mechanics demands symmetry, the old guys should have known that. They are trying to apply what we would now call incomplete gauges or partial matrices to these particles, so we should not be surprised to see the wavefunction equations failing to represent the real particles and fields.

I have shown that the simplest wavefunction is actually something like this:

|Ψ,t\ = 1/2|1,NV\|2,NV\ + 1/2|1,EH\|2,EH\ + 1/2|1,SV\|2,SV\ + 1/2|1,WH\|2,WH\

That represents all the possible particle orientations, and gives us a symmetrical field. Once we do that, we basically have a full matrix, and don't need to fill gauges with ghost fields and so on. That also solves superposition, as I have already proven.

All that is of paramount importance here, because the magnetic field is based on the charge field, and the charge field is what defines quantum mechanics. So if we fill out and correct the wavefunction, we have also filled out and corrected the magnetic field. What it means in the current problem is that we have a newly symmetical charge photon (real) that now has twice as many degrees of freedom as before. In short, we have photons and antiphotons.

I have shown in dozens of previous papers (see links in paragraph two above) how this solves problems in both celestial mechanics and quantum mechanics, and I will show it again here. We have seen that the mainstream has no way to explain the increasing magnetism in the boundary here, but that is only because they have no way to apply spin mechanics to the problem. Since I have real photons with real spins, and also have antiphotons spinning the other direction, I can solve this easily.

I have shown that magnetism is the result of an imbalanced charge field. In other words, if we have a field with the same amount of photons and antiphotons, we will have no magnetism. The spins will offset as a sum, and the field will be magnetically flat. This is what we see around Venus. But if photons outnumber antiphotons, or the reverse, we will have a leftover or resultant field spin and therefore magnetism. In most cases—and in *this* case—field detectors could not tell the difference between charge and anticharge. The mainstream doesn't even know the difference between photons and antiphotons, so you see it is impossible for NASA to directly detect any difference between charge and anticharge. Its machines can only measure field strength or density; they cannot measure field polarity of this sort.

It is true that we have detected this magnetic field polarity I am talking about, since it is what we are detecting in what we now call beta decay and other similar results. But so far we have only detected it indirectly. And we have not labeled it properly, regardless.

At any rate, NASA is detecting a field of increasing strength. This simply means the field is gaining spin imbalance. From this we can see that the data is telling us the external field is not balanced itself, for if it were, the Solar field would move toward that balance as it dissipated. Instead, we see that in this region where the Solar field meets the galactic field, anticharge dominates by some amount. So as soon as the external field becomes denser than the Solar field, the magnetism begins to climb. The external field is more magnetic than the fading Solar field, so that is what we see.

This result also should not have been unexpected, since I have pointed to other evidence that the Solar System must be passing through a patch of anticharge. In January of 2011, I explained the Sun's falling numbers as evidence of this patch of anticharge.

So why doesn't the magnetism reverse? Because this particular field reversal doesn't cause a magnetic reversal. I have shown you a magnetic field that has reversed its main source of spin, but that is not what we currently call a reversed magnetic field. Remember, the mainstream doesn't even *know* about antiphotons or anticharge, so it couldn't have defined a reversed magnetic field like that. When they say they expected a reversed magnetic field, they meant a field of reversed potentials. When we reverse a magnetic field here on Earth, it means the electrons are *spiraling* the other direction, not spinning the other direction.

So why aren't they detecting that? Wouldn't a reversed spin on the charge field reverse the spiral of the electron? Not in this case. To see why, we have to look at the difference between reversing a magnetic field here on Earth and reversing one at a boundary like this. If we want to reverse a magnetic field in the lab, we have to reverse the potential, and mechanically we do that by reversing the charge spin. So exactly the same thing is happening at the fundamental level as in this problem at the Heliopause, which is what is mystifying everyone. Everything is the same...*except for one thing*:

We can't manipulate photons into antiphotons in the lab. Well, we could, but we don't. To reverse a magnetic field, or to reverse a magnetic potential, what we do is reverse the *direction* of the charge field. In other words, we don't flip the photons over and send them in from the *same* direction. We don't create antiphotons and then send them in from the *same side* of the experiment. What we do—in effect—is send the same photons in *from the other side*. In this way, the particles in the field like electrons will read them as antiphotons. Any spin collisions will create opposite effects to those we measured before, so we have *reversed the field*.

But in the current problem at the Heliopause, we aren't seeing that. What we have there is a *doubly* reversed field, since we have antiphotons coming in from the opposite direction. Photons coming from the opposite direction would have reversed the field, but antiphotons coming in from the opposite direction reverses it back. So you see, the field at the Heliopause *has* reversed. But it has reversed twice, which reads as no reversal. The electrons *won't* spiral the opposite way.

Let me say it another way, to make sure it sinks in. When photons and antiphotons are moving the same direction, and they collide side to side, their spins cancel and this cancels the local magnetic field. But if they are moving in opposite directions, and they collide edge to edge, the spins actually augment. To a photon, an antiphoton coming from the opposite direction looks like another photon, as a matter of spin. I have used this simple spin mechanics to explain the magnetism of nuclei like Iron in a recent paper, and I recommend you read that paper as well. It is precisely this augmentation of spin through the axis of Iron that causes its augmented magnetic conduction.

Now let us look at the charged particles at the boundary. Charged particles are pushed from both sides into the boundary region, but that is due mostly to what we should call electrical considerations, not magnetic. In other words, it is a matter of linear motions of charge photons, not spins. In the Heliosphere, photons were moving out. Beyond the Heliopause, antiphotons are moving in. Therefore, we would expect the photons and antiphotons to drive other particles with them—and not just ions. Molecules will be driven as well by the main motion, if any are present. But ions will be driven most efficiently, since they are driven by both E and M. And all particles will be ionized in this region anyway, since nothing is to prevent them being spun by the photons and antiphotons. Anyway, since this region is a region of equal charge densities (that is the definition of the pause, or should be), it acts like a field low. Particles are driven *to* that boundary, but not through that boundary. Being a field low, the boundary has no through potential for ions, and so particles naturally collect there. That is all we are seeing in the NASA diagram. The dots don't follow the lines because the lines are magnetic field lines and the dots are following electrical (or sub-electrical, i.e charge) potentials.

You will say, "But the photons and antiphotons are not stopping or collecting at the boundary, so why would the ions? The charge has through potential, so why don't the ions?" Although the photons don't collide head-to-head, slowing one another below c, the ions *do* collide with photons. The ions go where the photons take them, by direct contact. But once in the boundary, the ions also have to respond to the antiphotons coming from the other direction. Since we have an area of equal charge densities coming from opposite directions, the ions are trapped. The photons aren't capable of trapping eachother, but they are easily capable of trapping the much larger ions. And so the ions naturally collect in this band of equal field density.

Now, what about the cosmic rays? Cosmic rays are really protons (usually), not light rays. They are normally very high energy protons. So once again we are looking at ions. They have enough energy that they can blow right through this boundary of equal charge density; but the question is, why aren't they coming from all directions? The reason has to do with the boundary. To start with, the Heliosphere isn't really a sphere. It is more like a disk. The greatest part of the Heliosphere—especially as a matter of charge, magnetism, and so on—is on the Solar equatorial plane. This is where all the planets are and it is where Voyager has spent its entire life. The galaxy is also not a sphere. It is a disk, as we know. Since both fields are semi-planar, there was never any reason to expect equal numbers of cosmic rays from all directions. Only if we expect most cosmic rays to come from other galaxies, and expect just as many from distant galaxies as near galaxies, would we expect a random sky distribution. But we don't. Although we may receive cosmic rays from other galaxies like Centaurus A, even this is not for certain. And by the laws of distance and spherical emission, we would be much more likely to receive these rays from nearer galaxies. In our own galaxy, we would be more likely to receive them from the direction of the Milky Way band, which is where the core resides as well as the bulk of the supernovae.

We see a more random distribution here on Earth only because we are so close to the Sun, in a strong magnetic field. The Sun can bend cosmic rays to us on a variety of paths. We are also *inside* the orbits of four very big planets, and those planets can also bend the paths of cosmic rays. So we see a lot of diverted cosmic rays, rays that were likely close to parallel to the galactic plane, but which were bent to us by the Sun or the Jovians. But at the Heliopause, that is no longer true. The Sun and Jovians are diverting very much less, so the direction of cosmic rays has not been randomized. Out there, we should expect cosmic rays to either be coming from the band of the Milky Way, from the core, or in some major line of diversion from that plane or spot. NASA isn't telling us the actual direction or plane of the rays, so I have no data to explain. But I would never predict a random distribution of cosmic rays. They have to be coming from where they are produced, and not from elsewhere. Since they can't possibly be produced in as great a numbers from perpendicular to the galactic plane, common sense tells us to look for most of them in the plane. And if they are either coming from the core or being diverted from there in some specific path, then of course they will arrive nearly parallel.