Quantum Spin Liquid

by Miles Mathis

First published December 27, 2020

A reader just sent me to a *SciTechDaily* article from May of this year, concerning high temperature superconductors. Researchers at the DOE's Argonne Lab put a Strontium-Iridium alloy [Sr_2IrO_4] under high pressure between diamond anvils at very cold temperatures, achieving superconduction and also claiming to achieve a quantum spin liquid.

That last word is our first red flag, since no liquid was really produced, of course. You can't create a liquid between diamond anvils. It would squirt right out, wouldn't it? They are just calling it a liquid because they are claiming it has some of the electronic properties of a liquid. So, once again, words have no real meaning. Physicists don't feel compelled to stick to the definitions of words, since that just slows them down theoretically. Also, if they call things liquids that aren't liquids, they can break your mind like it is between diamond anvils, and you will accept whatever else they tell you.

The DOE is our second red flag, since you should be suspicious of anything the government is telling you right now. You can be pretty sure it is part of some sales pitch, and sure enough they tie this to quantum computing, which they have long been using to bilk the treasury out of research dollars. We have been hearing about quantum computing for decades, but, like AI, it is mostly just a big bluff. Computers are already far faster than they need to be, and we can't make use of the speed they already have. So making them faster is not a priority. The problem with current physics isn't that the computer programs move too slowly, it is that the scientists programming the computers can't input any good information.

We have proof of that here, since I already solved this problem years ago, but these physicists haven't bothered to tell their computers that. I first offered a mechanical charge solution to superconductivity in 2010, and followed that up with an important extension in my 2014 paper on Solid Light. There I diagrammed Mercury/Copper Oxide doped with Barium and Calcium, showing the charge line through the nucleus. That proves that this quantum spin liquid theory is just a myth, but the mainstream can't let it go, since it butters a lot of people's bread. It also sits on Philip Anderson's Nobel Prize, and they can't let that go. So they are forced to continue to ignore me and to continue to sell their own increasing pathetic and desperate theories.

That is glaringly obvious at *SciTechDaily*, where the absurdity all but leaps off the page at us. It starts with the lack of a stated author. No one wanted to put their name on this, I guess. Understandable. The author is given as Argonne Lab, as if a lab has fingers and can type. The lab admits in sentence five that

the exact process by which high-temperature superconductors conduct electricity without resistance remains a quantum mechanical mystery.

But that too is a hedge, since it is not just the "exact" process that is a mystery, it is the process as a whole and all it parts that remains a mystery. They haven't got a clue.

We know that, because if they had a clue they wouldn't be caught saying stuff like this:

A quantum spin liquid is a superposition of spin states, fluctuating but entangled. It's fair to say that this process, should it create a quantum spin liquid with quantum superposition, will have made a qubit, the basic building block of a quantum computer." — Daniel Haskel, physicist and group leader, XSD

Yes, he really said that, and allowed himself to be quoted. If he had been smart, he would have let the lab say it. Are we really supposed to believe that this trained scientist believes qubits are being created between diamond anvils? OK. So all we have to do is squeeze something really hard and it becomes a quantum computer? Good to know.

The ghost of Phil Anderson is squirming once again, since they pull him into this travesty once more. As if he hasn't been through enough. Here is the way Wikipedia explains Anderson's spin liquid:

Quantum spin liquids offer a dramatic alternative to this typical [magnetic] behavior. One intuitive description of this state is as a "liquid" of disordered spins, in comparison to a ferromagnetic spin state,[6] much in the way liquid water is in a disordered state compared to crystalline ice. However, unlike other disordered states, a quantum spin liquid state preserves its disorder to very low temperatures.[7] A more modern characterization of quantum spin liquids involves their topological order,[8] long-range quantum entanglement properties,[1] and anyon excitations.[9]

Intuitive? You have to be kidding me. That's damage control if I have ever seen it. That explanation is the opposite of intuitive, since not only does it conflict with dozens of things we know about the quantum world, it isn't even logical. To be blunt, Anderson was a terrible theorist, with no ability to visualize or induce, but because he was from the right families and was a protégé of van Vleck, he didn't need to be any good. He was guaranteed to be promoted from the time he was in kneepants. I looked for his genealogy to see who his mother was, but it is scrubbed. Finally, I found her name at the Santa Fe Institute's obituary for Anderson, which took me to Findgrave, where we see she was an Osbourne, Parks, Insley and Montgomery. But it was on Anderson' paternal side where his most important modern links were: Gish/Gisch, Harshbarger, and the Hochs of Bavaria. This links him to actress Lillian Gish, and we know because both genealogies mention the Dunkard ministers. This confirms what we already intuited: Anderson was Jewish. Explaining his promotion more than any of his theories. The Harshbargers are also a prominent Jewish family, linked to the Lewises of show business. See for example Dema Harshbarger. Sorry, but if you want to understand the fame of someone like Philip Anderson, this is the only way to do it. You certainly won't ever understand it by studying his theories.

In short, because the mainstream never understood what was causing magnetism in the first place, they had no idea how to come up with a "dramatic alternative" to it. Wikipedia glosses "typical" magnetism as an alignment of spins. But notice that on that page, they don't assign the spins to anything. What is spinning? We assume electrons, since that is all they have in mainstream theory. But I have shown magnetism isn't caused by electron spins; it is caused by real photon spins, and the paths of those real photons through the nucleus. So this was never going to be solved by fooling with electrons. Van Vleck and Anderson never had the fundamental theory of magnetism right, so there is no way they could vary it to explain anything new. Having almost nothing to work with, Anderson was forced to invent these desperate and threadbare theories from the clouds.

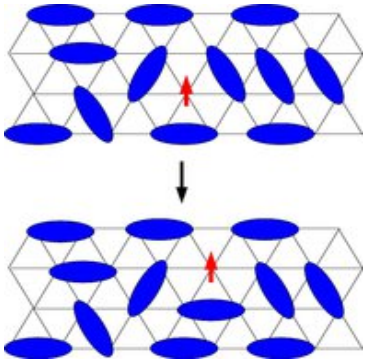
This failure was caused way back, starting with Maxwell, who—after his failure with vortices—buried the real charge field under quaternions and other formalisms. It was exacerbated by Bohr, who conflated the photon with the electron in his fudged equations, burying the photon even further. And it was cemented by Feynman, Gell-Mann, and that generation, who buried the photon even deeper under an ever-increasing pile of operators and renormalizations. Their inability to resolve the fine structure constant also doomed the understanding of the charge field, by making it look like just a useless residue of EM, seeming to confirm Maxwell's burying of it in the D-field. If we add to that the mainstream's inability to diagram the nucleus, we see what Anderson was up against as a theorist. The strong-force people had buried Hofstadter's indication the nucleus was channeling charge, in order to protect their own Nobel Prizes, so Anderson didn't have anything to work with there either. In short, he wasn't allowed to try to make sense of any of this stuff, so he didn't even try. Like everyone else in the mainstream in the past century, he just hammered together some nasty math and some nastier theory, and gave it to his even nastier cousins in the press to promote.

But back to the article. We are told the superconductive state between the diamond anvils is explained by electrons being in a "frustrated" state, where they cannot arrange themselves into an ordered pattern, hence the lack of magnetism. That is the opposite of intuitive, as I say, because intuitively you would expect the anvil to force them into alignment. They can't move laterally, so they should be forced to align spins in one plane, right? Not according to Anderson.

Localized spins are frustrated if there exist competing exchange interactions that can not all be satisfied at the same time, leading to a large degeneracy of the system's ground state. A triangle of Ising spins (meaning that the only possible orientation of the spins are either "up" or "down"), which interact antiferromagnetically, is a simple example for frustration. In the ground state, two of the spins can be antiparallel but the third one cannot. This leads to an increase of possible orientations (six in this case) of the spins in the ground state, enhancing fluctuations and thus suppressing magnetic ordering.

You have to laugh. I guess you can see what he did there? He created a triangle in order to get the number three, which guarantees a hanging spin. But who says spins order themselves in threes? Is that intuitive? No, it is just an obvious fudge. It is hamhanded in the extreme. There is no reason for electrons to group themselves in threes, and in fact there is every reason for them NOT TO.

Fearing that would be seen to be naive, not to say idiotic, Anderson later made us of RVB theory, which is just as stupid but slightly less transparent. Rather than try to figure out what is actually causing magnetism at the quantum level, Anderson instead invented a lattice of electron pairs spinning opposite, and so creating a neutral singlet. Don't ask why electrons don't exclude one another in these pairs, since there is no good answer. We are told they are entangled, but in this case entangled doesn't really mean entangled in the "entanglement" sense, it just means the electrons in the singlet influence only one another, but not the electrons in adjacent singlets. Why, nobody knows or apparently cares. Just accept it on faith. But though that could be tortured to explain magnetism, it couldn't explain loss of magnetism in superconduction, so Anderson suggested singlets in that case weren't entangled. They could interact with adjacent singlets, thereby turning and creating new alignments.

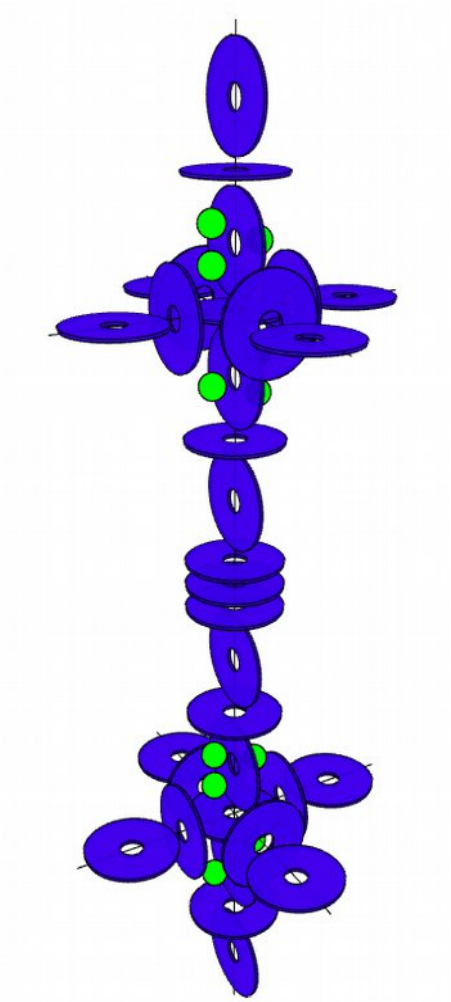


Yes, that is actually state of the art in explaining magnetism and loss of magnetism in superconduction. The moving cockroach egg diagram.

The basic problem is that we know electrons don't do that. We know a magnetic field isn't made up of lattices of electrons, anymore than it is made up of Ising triangles. Real fields are made up of atomic and molecular lattices, with free ions sometimes aligning, but not in that way. Notice that Anderson is forced to ignore all the real bodies we know are there, while inventing a lot of pseudo-bodies we know aren't there. So how can this be seen as a useful or successful theory? The nuclei are the major bodies in all these experiments. Where do they fit into these lattices? Nowhere. They are completely ignored, and you can computer-model these experiments without even knowing what elements are involved. They often don't even bother to tell you, since according to their theories it is beside the point. You could remove all the nuclei and nothing would change. The elements are only there to supply the daffy theorists with electrons they can force-fit into these fake lattices.

But of course they have to ignore the elements and atoms, because they can't model them. They also have to ignore the charge streams, because they can't model them. Their modelling abilities begin and end with these polarized roach eggs, and so we have to witness this horrible infestation with every new problem.

Compare their diagrams to mine. Here is a recent diagram of Cu_2O:



My disks are real alpha particles, and I treat every one of those disks as a charge fan, with male and female sockets, so I can diagram all the charge streams through the most complex molecules. This allows me to calculate bond angles straight from magnetic moments of protons and neutrons, or the reverse: magnetic moments from bond angles. So I am able to explain all quantum phenomena, including superconduction, by diagramming and calculating real entities like elements and photons. I don't need qubits, phonons, quasi-particles, virtual particles, electron holes, spinons, orbitons, or any of the rest of the detritus of mainstream theory. I don't borrow from the vacuum and I don't need time reversals. I don't need entanglement, and with my diagrams, superposition is easy to explain. There is nothing mysterious about it and we don't need sum-overs, spooky forces, twins, multiverses, reverse causality, or any other mystery. In my math and models, the quantum world is just as logical as the macro-world, and obeys the same laws.

So what is really happening in the Argonne experiment between the anvils? See my paper on superconduction, where I explain it more fully. In short, the cold and pressure is stopping the spin of the carousel level of the nucleus, short-circuiting the pole to equator channeling of charge. All charge channeling is then forced along the poles, which is the electrical vector. At the nuclear level, the pole to equator channel is the magnetic vector, since it is at right angles to the E vector, and spinning in a circle. Just like the righthand rule. This is why local magnetism disappears, as in the Meissner Effect. As I told you, it is a function of nuclear architecture and the charge channels through it. It has nothing

to do with lattices of electron singlets. And given my far more complex diagrams, we can explain not only the Meissner Effect, but all the other quantum effects of the past century. We don't have to jerry-rig a new explanation for each new problem, and so we can avoid the pasted-together *ad hoc* mess of the standard model.