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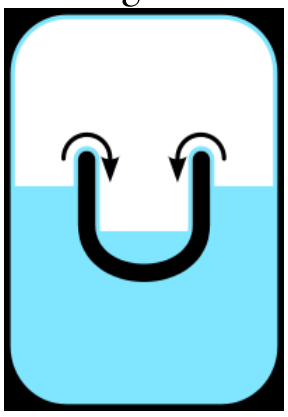
# Superfluids

## *explained by the*
## Charge Field



by Miles Mathis

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In a new paper at *Science*, researchers at MIT have published an announcement of a new mathematical method they are using to describe superfluid dynamics. A gloss of that announcement was widely distributed to mainstream sources, including ScienceDaily.com. In short,

Adams, Chesler and colleagues used holographic duality as a "dictionary" to translate the very well-characterized physics of black holes to the physics of superfluid turbulence.

In other words, to sell this "theory" of superfluid dynamics to the public, these researchers have tied the subject to the far sexier subject of black holes, using math borrowed from also-sexy holography. Although they admit the connection between superfluids and black holes is tenuous, and admit that none of this goes beyond mathematical modeling, they nonetheless sell it as bold new science.

While they are doing that, they continue to propagandize you regarding black holes. Notice they say, "the very well characterized physics of black holes." As if the physics of black holes is set in stone, and as if this holographic duality math is bedrock concerning black holes. Both extravagantly false, since *no* physics of black holes is "very well characterized." All black hole physics is speculative in the extreme.

But the greater problem is that once again, the "theory" isn't really a theory, and the dynamics isn't really dynamics. Since this is just free-floating math borrowed first from string theory, then from holography, and then from black hole theory, no mechanics is involved. It isn't a field theory, since they don't even try to explain what is happening with superfluids using real fields or particles (as I will below). All they do is tell us that this holographic duality gives them math that can be used to model

turbulence, and that,

their calculations showed that turbulent flows of a class of superfluids on a flat surface behave not like those of ordinary fluids in 2-D, but more like 3-D fluids, which morph from relatively uniform, large structures to smaller and smaller structures. . . . Physicists refer to this phenomenon as an "energy cascade."

Although one of the researchers Hong Liu admits immediately that, "For superfluids, whether such energy cascades exist is an open question," a greater problem exists than that. We can see the problem by looking closely at the last inset quote. They tell us the flows behave not like ordinary fluids in 2D, but like 3D fluids. What? Does that make any sense, as physics? No. Have you ever seen any fluid in 2D? Are the superfluids you have seen in real life or on youtube 2D? Can any possible fluid exist in 2D? No. Nothing can exist in 2D. All real things exist in 3D, by definition. Therefore, there can be no such thing as "ordinary fluids in 2D." As in string theory, these "theorists" don't know what a dimension is, apparently. If if they do, they don't mind trying to pass sloppy and false statements by you, the audience.

This isn't just a problem of semantics, either, although they will tell you it is. The problem is one of degrees of freedom. These mathematicians are trying to convince you that they can solve this problem by slipping new degrees of freedom into the field while you aren't looking, but by the rules of physics, they are required to assign any new degrees of freedom to some new kinematics or dynamics. If they can't do that, they are just inserting a mathematical fudge. They aren't doing physics, they are just pushing equations.

They pretty much admit they aren't doing physics, and they aren't even concerned about it. As usual, they seem entirely blasé about any requirements of physics or mechanics. After rigging the math to fit the turbulence, they don't take the first step in telling you how the math applies to the superfluid. We see how the math might give them more complexity in the field, but how does that complexity allow a superfluid to move against gravity, to ignore friction, and so on? No answer. All we get is mumbo-jumbo like this:

The theory can be described by envisioning a theoretical lake that's split into two layers: an overlying 2-D surface and a 3-D interior. Maldacena's theory posits that on the lake's surface, there is no gravity—an environment that can best be described by particle theory. On the other hand, the underlying interior is thought to consist of tiny strings that vibrate, fuse and break apart to create matter and gravity—an environment that can be mathematically explained by string theory. Maldacena's theory of holographic duality demonstrates that behaviors within the gravity-bound 3-D interior can be mathematically translated into behaviors on the zero-gravity 2-D surface.

Any highschool physics student could spot the cheat there. The superfluid is able to ignore gravity because it remains on the lake's surface? C'mon, that isn't physics, or anything like it. It is just ignoring the definitions of words. In any real field, a 2D surface is just a mathematical abstraction, and *it cannot exist*. As long as the superfluid exists, it cannot exist in or on a 2D surface. To do so, the superfluid would have to become a mathematical abstraction. Are these "theorists" suggesting that superfluids no longer exist in the real world, becoming mathematical abstractions only?

You now see why they had to prep you by telling you that "ordinary fluids exist in 2D." That was just a little dose of pre-hypnosis, because if you were reading too fast to trip over that, it may have lodged in your mind as true instead of false. In which case you will also believe that superfluids can exist in 2D. If you miss the first lie, the second lie will go in so much more easily.

Like the string theorists, these guys proceed by simply ignoring physics, logic, and all the rules of language and reality. They really do seem to be seriously proposing that physical objects can jettison the third dimension at will, existing in some mathematical fairyland. This is what has allowed Maldacena and others like him to propose that black holes, or even the entire universe, may be only a holograph cast in the void. And what led to this state of things is even older black-hole math: a little thing called the singularity. The singularity is of course another mathematical abstraction that physicists have decided to try to pass by you as physically real, contrary to all the definitions of words in the dictionary. Since the singularity is a mathematical point, it can exist only in the math, but physicists and mathematicians have decided to forget or ignore that. They forget it on purpose, as you see, because if they forget it—and hypnotize you into forgetting it—they can fudge these solutions so much more easily.

Liu says, "The power of this duality is that difficult questions on one side can become much easier on the other side." What he means is that if you allow him to split the field into a 3D interior and a 2D surface, giving him a manufactured "dual" field, he can use the pretend 2D sub-field to ignore gravity, inertia, friction, and anything else he wishes to conjure away. In a 2D field, gravity and all the rest just evaporate. They would, wouldn't they, since all the physical fields of the past required 3D to work. If you jettison 3D, you jettison all field theory and all fields.

But there is a remaining problem they hope you don't see. If the superfluid is avoiding gravity by existing in the 2D surface, how can the E/M field remain there? Remember, supercooling also gives us *super*conductivity, not zero conductivity. Shouldn't the E/M field also disappear in 2D? Why, specifically, would gravity disappear, but E/M become supercharged? No answer except more mumbo-jumbo. They tell us the zero-gravity 2D surface is "an environment best described by particle theory." By that, they want you to think that gravity is absent in the same way gravity is absent at the quantum level. "Particle theory" basically means quantum theory. But quantum theory defines the quantum field, which is of course an E/M or charge field. So if the 2D surface is a quantum environment, it should contain the E/M or charge field. Ignoring that also, they just tell you that the remaining qualities of the superfluid exist in the 3D interior, forgetting to explain how or why E/M exists in the 3D interior when the 2D surface is " an environment best described by particle theory." They count on the fact that few people will read closely enough to spot that major contradiction.

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Since mainstream physics has become embarrassing to any person with sense, let us move on and try to solve this problem of superfluids with real physics. I have already touched on this problem in my paper on superconductivity, but here we will look closer at the field mechanics. The first question we need to answer is why a superfluid would be able to ignore gravity. If we can answer that, we can probably answer all the other questions in a similar manner. Mainstream physicists haven't come anywhere near answering this question mechanically, and that is because they were looking in the wrong place, as usual. Being esoteric, superfluidity has been considered to be a quantum result—as it is in a way. But because it was considered to be a quantum problem, physicists have so far looked inside the fluid for an answer. They have looked at various fields inside the superfluid, including E/M and electroweak fields. But the answer lies outside the fluid itself. The answer is in the ambient field of the superfluid. Yes, the superfluid *reacts* differently to the unified field of the Earth, and this gives us an easy mechanical explanation.

I have proved that the field of the Earth is not gravity only. Anywhere this superfluid could exist in any

lab in the world, the field is unified and includes both gravity and charge. Since the Earth is recycling charge that comes in from the Sun, all locations on the Earth will be recycling charge. The Earth pulls in charge at the poles and emits it most heavily at the equator, in a defined channel. What this means as a matter of vectors on the surface of the Earth is that gravity is pointing down and charge is pointing up. The result is a differential. This is why the Lagrangian works as a differential, among many other things. From this alone, we see that with superfluids, it isn't that gravity is being turned off. You cannot turn off gravity. What is happening is that the charge field of the Earth is being maximized. We are told the superfluid is acting as a superconductor, but it really isn't. The ambient charge field coming up out of the Earth is already going up on its own, *so it doesn't have to be conducted*. The superfluid just needs to act as much like a vacuum as possible. In that case, the field of the Earth going up will be maximized. But since the superfluid is a substance instead of a vacuum, its nuclei are still present. And so the maximized ambient charge field of the Earth will drive them up most efficiently.

I have already explained this unified field phenomenon before, but because it was buried in my paper on the Allais Effect, only my best readers will be expected to make the connection. Which is why I am here giving the idea its own paper. There I showed that the Podkletnov Effect is basically the same effect as the one we are explaining here, except that there he used spin to increase the effect even more. He used superconducting disks that were also spinning. Without spin, the effect is only sub-electrical, since it relies on the summed linear motion of the photons moving up at the surface of the Earth. With spin, the effect is both sub-electrical and sub-magnetic. In that case, the spins of the photons can be made coherent, increasing the lift.

But in either case, the answer depends on knowing of the existence of this charge field moving up. The mainstream doesn't know of it. Or, it has done many experiments that have shown clear evidence of it, but physicists haven't yet read the data correctly. They know of the charge field, they just don't know they know it. They always find some way to dismiss it as heat, as effects from a core dynamo, or as some effect they can bury in perturbation or chaos theory. Because they have misread the Lagrangian for centuries, misread Newton's equations, misread Coulomb's equation, misread Maxwell's equations, and misread Bohr's equations, they think the photon is just a marginal player in quantum mechanics. And they think the photon is nothing more than a ghost in celestial mechanics. They haven't realized that the photon is the most important particle in both fields, quantum and celestial, so they can't possibly give you a mechanical answer for questions like superfluidity.

Let's look even closer. What exactly is happening at the quantum level to lift the atoms that couldn't be lifted before? Well, I am taking you right inside the superfluid atom, because I think you will be shocked at what is really happening. It is the opposite of what you think. A superfluid is very cold, but of course the surroundings of a superfluid are not. So how does the interior differ from the exterior? Outside, everything is normal. We have heat transfer, which is really charge transfer. Any atoms or molecules outside the superfluid will be channeling charge in normal ways. They will be conducting charge at their normal rates, as we have categorized them using things like the Periodic Table. But inside the superfluid, all or most of the heat has been removed. What does that mean? It means that the atoms or molecules in the superfluid have been mostly emptied of charge. The charge density has fallen dramatically, and very few photons are being channeled. In the first instance, this is because the spin of the nucleus has slowed. Without spin, the nucleus cannot pull in charge at the poles. The charge channels are very anemic. Since the nucleus isn't pulling charge in at the poles, any charge that arrives at the nuclear boundary from the normal ambient field won't be conducted through the nucleus. Instead, it will simply *hit* the nucleus and bounce off.

Let that sink in for a moment. The external charge isn't channeled, so it is just deflected. Well, if the

ambient field is mainly moving up, then of course the nucleus will be driven up by this deflected charge. In normal circumstances, the nucleus could channel the charge. Channeled charge moves through (which is the definition of conduction), so it doesn't hit the nucleus. Only unchanneled charge hits the nucleus and drives it up!

I hope you see that this means that superfluids aren't really superconductors in this case, they are nonconductors. The cold actually prevents them from conducting *charge*. The mainstream has had the entire problem upside down, as usual. The mainstream thinks that superfluids are superconducting, but as a matter of charge they aren't. They are super-nonconductors.

You will say, "I see your mechanics, and it makes sense, but it contradicts other experiments in which we know that supercold substances do act as superconductors. What gives?" What gives is that we have to be careful what field we are conducting, as theorists. In the problem above, I was showing how the substance fails to conduct *the Earth's charge*. But when we talk about supercold materials acting as superconductors, we are talking about them conducting an electric field applied in the lab. The electric field applied in the lab isn't the same as the Earth's charge field. For instance, if we want our superconductor to conduct an electric current, that current will not be equivalent in any way to the Earth's charge field. Yes, the current will be carried on a directionalized charge field, just as with the Earth's field, but the current contains many ions that are already channeling the charge field along given lines. Although the Earth's field also contains ions, it isn't these ions that are channeling the charge. The Earth itself already channeled them, and they would be moving up even if no atmosphere and no ions were present. That isn't true of the applied current. Its direction is (pre)determined by the ions in the introducing substance, and by the manufactured fields that created the initial current. Therefore, this current will have an amount of ionic charge focus the Earth's field does not have. Being focused, this charge can channel through nuclei even when those nuclei aren't spinning. We don't need the nuclear vortices to focus the charge, since it was already pre-focused by the ions in the current. Charge in the atmosphere will have a small amount of this focus from the ions present, but nothing like the focus in the created current.

Of course this begs the question of why superconductors act any differently than the vacuum. According to my theory, it would seem the vacuum would act as a superconductor, since it would have no resistance. Well, this is a question and problem for the mainstream as well, since the mainstream admits the vacuum has no resistance. In current theory, the vacuum is not a superconductor because it has no way to conduct at all. For conduction, you not only need no resistance, you need charge potentials. A vacuum doesn't have any. But in my theory, charge can move even without conduction, provided it was moving to start with. This is because charge exists even without charged particles. Charge is not a characteristic of matter, it is just photons, and photons exist with or without matter (matter simply being particles larger than photons, and moving less than c). Therefore, in some cases, a limited vacuum could act like a superconductor, but only provided the charge crossing it was already highly coherent, and provided a potential exists on the far side of the limited vacuum to draw charge to it. We will look more closely at that in upcoming papers.

But to answer the question asked, a superconductor *does* act like the vacuum in that both have zero resistance to moving charge. The difference being that when a current is applied to a superconductor, the superconductor contains *paths* even when it doesn't contain active vortices. Even with no spin, the nuclei still have the same paths they always had. The paths are created by the nuclear structure, not by the spin. This pole to pole path of the nucleus channels the charge to the far side of the substance, where it completes the circuit or the current path. The vacuum obviously wouldn't contain these paths.

Now that we have that under our belts, we can look at friction. Why can a superfluid seem to ignore friction? Once again, it is not *ignoring friction*, it is trumping it, as with gravity. The spinning superfluid simply has a source of energy to overcome friction, and physicists haven't pinpointed that source. Once again, it is the Earth's charge field. The superfluid is more transparent to the existing external field, so it can use that field more efficiently than normal substances. The spinning superfluid isn't drawing energy from the zero-point field, from the vacuum, from the Higgs field, from the Dirac field, or from any other mysterious field. It is drawing energy from the Earth's charge field, which has been hidden for centuries inside *g*.

I will vary my analysis in this section a bit, for good measure. Above, I reminded you that I have pulled apart the Lagrangian, showing how it is unified and contains charge. Well, the Lagrangian comes out of Newton's gravitational equation, and I have also proved that Newton's equation is unified. What we have labeled *g* is unified because G was unified in Newton's equation. Or, because G is a field transform between gravity and charge, *g* has always contained charge. But since mainstream physicists don't know that, they can't use the fact to solve this problem.

It solves this problem, because once we look at spin we have to include the sub-magnetic field in our solution. I have shown above that the sub-electrical field has a vector pointing straight up on the surface of the Earth, but due to the right hand rule, the submagnetic field is at a right angle to that, and moving around it. Therefore, you can see that this submagnetic field is in exactly the right plane to feed a constant energy into a spinning superfluid.

Depending on the experimental set-up, it should be possible to cause the same effect even without the sub-magnetic field. Say that you wanted to repeat this experiment on the surface of Venus, where the submagnetic field summed to zero. Or say that you happened to set up your experiment at some location on Earth where equal numbers of photons and antiphotons were coming up, canceling the field spin. You should still be able to create the same effect by drawing energy off the linear motion of the photons, using the sub-electrical energy. All you have to do in that case is divert energy to the side using some sort of torque, in which case you should be able to trump all or most of the friction from circular motion in a real field.

This also means that, depending on the radius of the centrifuge, a superfluid should follow the Coriolis effect, and fail if you reverse the spin direction. In other words, a superfluid spun the wrong way in such a situation shouldn't maintain motion indefinitely. To the contrary, the friction should seem to be increased.

For more on superconduction, you may consult my newest paper, where I show the mechanical cause of high-temperature superconduction, including a full nuclear diagram of the Copper-Oxide ceramic involved.