# Fermi Pasta and the Soliton
also the Kerr Effect

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[I first hit this problem 3.5 years ago](#) and I am now back for more. As with most of my other papers, I will show you the charge field is the answer here, specifically the charge field as it is channeled through the nucleus. [My discovery of charge channeling by the nucleus](#), including diagrams of the nucleus, has—as you would expect—far reaching effects, and this is just another one of them.
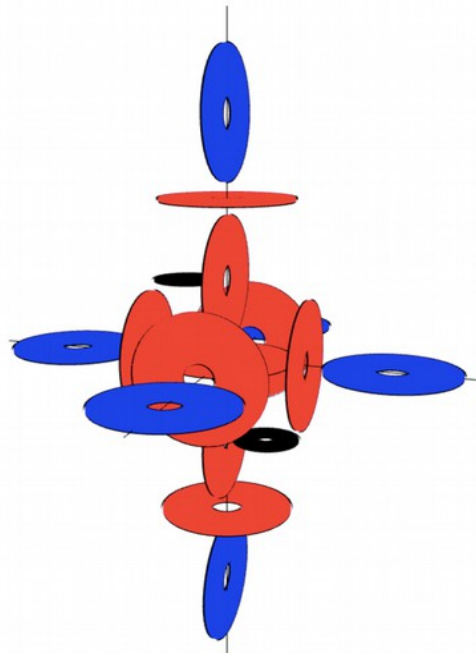
I was pulled back into this problem today by this young woman at Youtube, who is being pushed hard on me by the invisible men there. They caught me looking at one of Sabine Hossenfelder's videos and decided I was just the right flavor of stupid to go for this younger one. She is Dr. Angela Collier, above, apparently a postdoc working at the University of Colorado in astronomy. Her promotion by youtube and her (fake) large numbers indicate she is some sort of propagandist, and this video tends to confirm that guess. I may hit her harder later, but for now I want to stick to the problem at hand.

In this video on why physics *didn't* stall 70 years ago, in passing she mentions the Fermi Pasta problem, claiming it was solved by solitons [min. 3:20] back in 1956. So I looked that up. I haven't come across solitons before. It turns out the soliton solution wasn't really a solution, as I predicted to myself going in: it is just a naming. They called this phenomenon a soliton, pretending it was some sort of particle, and claimed a solution. If you press them, they tell you the soliton is created when the non-linear effect balances the dispersion effect in a medium. Yes, that is sort of true, and may be *the result* in some of these experiments, but even when it is true it isn't a solution. Why? Because a solution would be telling you *why* one effect balances the other. Something in the field is causing this periodicity or balance, and I could find nothing approaching a mechanical explanation. All very squishy, as we have come to expect.

To give this "solution" a bit more ballast, the mainstream links it to the Kerr Effect, which is a change in the refractive index of a material in response to an applied EM field. So what causes that? If you are with me so far, you would guess they have no idea, and that is what we find. Go to the page at Wikipedia for Kerr Effect, and you find a section called **Theory**. But you will find the section contains not a jot of theory. As usual, it dives directly into the math, which is a *description* of the effect, not a physical explanation of it. This is just what I expected, since there is no way they can give you the cause here without my charge field theory. The mainstream has no real charge field to work with here, much less a field channeled by the nucleus, they have only uncaused potentials.

$$\mathbf{P} = \varepsilon_0 \chi^{(1)} \mathbf{E} + \varepsilon_0 \chi^{(2)} \mathbf{E}\mathbf{E} + \varepsilon_0 \chi^{(3)} \mathbf{E}\mathbf{E}\mathbf{E} + \cdots$$

We see perfect evidence of that in the very first equation, which uses the vacuum permittivity ε_0. My readers know that constant is one of my keys to unification. I use it to unify Gauss' electrical law with his gravity law. In fact, I have proved that constant is misnamed, since it has nothing to do with the vacuum or free space. Free space can have no permittivity by definition. If it has permittivity other than 100%, it isn't either free or a vacuum. Seems like that would go without saying. So it has to be expressing some part of a unified field equation. Somewhat surprisingly perhaps, it is hiding gravity at the quantum level. They always thought it was an EM artifact, since that is where the mainstream first saw it. But that is only because they didn't realize all their field equations were unified to start with. Newton's and Coulomb's equations were unified from the beginning, but because that wasn't seen, this hole in the early EM equations was thought to be an EM artifact. It wasn't, it was hiding gravity at that level.

Anyway, it is very suggestive that we find that constant here in the first line of the Kerr Effect math, since it indicates the mainstream is trying desperately to express my fields without knowing what they are. Because they don't have a real channeling charge field with periodicities built in from the nucleus, the only way they can begin to write equations for this effect is to fit it into the vacuum somehow, as if it is a result of Brownian motion or something, by some mysterious effect. They then make up an Electric Susceptibility constant χ to stand for the degree of polarization in response to an E field and write it as a quantized sum.

At first that seems like a strange way to begin to write the field, and they admit that if the field is linear only the first term is important. But in a non-linear field, the equation becomes quantized or periodic, allowing them to fit it to waves. So, as usual, it is the math *causing* the physics, rather than simply expressing it. There is no physics or mechanics here, but they knew they needed a wave or a quantization, so they simply chose a math that gave them that. Just like Einstein's Riemann Field of tensors that gave him curvature from the start. No mechanics: the math IS the only physics.

But let's return to that equation, to do more damage. Funny that no one but me ever asks the questions begged when the mainstream does "physics" like this. They are supposed to be writing an equation for the Kerr Effect, right, which is an effect of E on some field of matter. But what in that equation represents the field of matter? How can an equation describe the effect of E on a field when that field isn't even in the equation? E is the applied electric field and ε_0 is the vacuum permittivity. Are they claiming the vacuum has a periodicity? No. Are they claiming E does? No. And it can't come from the matter in the field, since the matter in the field is not in the equation. So, as I just showed you, the only place it can be coming from is the equation itself. The equation is pulsed from the get-go.

OK, I have now permanently embarrassed all those people and they can go fall on their swords. So what is the right answer here? Well, there IS a link to the Kerr Effect, since that and the soliton *are* caused by the same thing. But the answer isn't the vacuum or another loopy mainstream equation. Nor does it have anything to do with non-linear equations. The field would be pulsed even in linear situations, in which case their equation would fail, wouldn't it? That is because the field is the charge field, which is recycled through the nucleus. This channeling actually creates MANY pulses, waves, or periodicities, and although some of them may be stirred out at larger levels, it would appear some of them aren't. Here are some of the pulses or waves caused by charge channeling.

1) As we saw in my paper on period six, charge naturally gets pulsed going through the nucleus because as it moves down the axis, it passes through a different number of alphas, of differing configurations. Each element therefore creates its own pulsed charge field, with its own signature. I don't think that is what we are seeing here, because it is probably too small to show up in these kinds of experiments. It would be stirred out at higher levels. And even if it persisted, it still would not show up as macro-waves.
2) The spacing of atoms in a molecule will cause a larger periodicity in the charge field, both the spacing between atoms linked by an EM field, and the natural spacing sideways (equator to equator). The polar spacing will cause a pulse like the previous pulse, but larger, because the resistance outside the nucleus is different than inside. The equatorial spacing of the material will naturally create an interior grid that the ambient (unchanneled) charge field must pass through. So every material will create a wave in this way.
3) The spacing of molecules will do the same thing on a larger scale, sometimes tamping down the atomic spacing, sometimes reinforcing it, depending on the specific molecule.

For that last reason, you can see why I ridiculed the mainstream Kerr Effect equation. You have to know what elements you are dealing with here, since each one channels charge in a different shape, with a different pulse, wave, and grid. There is no way to write a correct equation for this or any other phenomenon without including the real characteristics of the element. I have previously ridiculed many other mainstream equations and solutions and experiments for this reason, and I do so again here. Especially in solid state, we always see the mainstream magicians trying to write equations for their fields while knowing nothing about the nucleus or charge field. As here, they end up ditching all known particles and creating their own ghost particles, fields, and operators, getting so far from reality

they forget to tell you what elements they are working with. They don't tell you because—given the way they work—it actually doesn't matter. The solutions are generic fudges that are the same for any given element.

So what causes the Kerr Effect? You can probably tell me now yourself, even if you bumbled in here from the mainstream. The Kerr Effect is about E causing a change in the refractive index of a material. Well, what are we adding when we add E? We are increasing the charge in the area, and doing it in a linear manner. More photons are being fed into the material in such a way that they move down the nuclear axes, increasing local current. That increased current will knock electrons out of north pole positions, creating more free electrons in the material. Those electrons will no longer be in channeling positions, and many will therefore be chaotic relative to the ambient charge field. In other words, they will go from channelers to blockers. With more free photons and electrons in the field surrounding the nuclei, the material will no longer be what it was, so *of course* its refractive index will change.

The other thing that has changed materially is the pole to pole channel between nuclei, which has a stronger current moving through it. This current is a real current of real photons, and as we know from the photoelectric effect, photons can hit and be hit. In a solid, the gap between nuclei isn't very great, so very little passes that gap. But in a liquid it can be considerable, which is why the Kerr Effect is greatest in some liquids at ==*some definite angles*==. Free electrons are also herded into that current, and of course they are far easy to hit than photons. So anything wishing to pass that gap is going to be affected, even a beam of light. But light coming in from the side will be affected differently than light coming in parallel to the nuclear axis, again for obvious reasons.

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So, that's done, let's look at the rest of Collier's video. Yeah, she is definitely a paid agent, since she is selling all their projects. She does a top-ten list of important projects since 1953. First she sells the Fermi Pasta experiment as great because it got computers into physics big time (1953). This computer modeling was supposed to open up physics, but all it did was further bog it down, because physicists then began every project by feeding the question into a big computer, hoping the computer would do their thinking for them. Theory was already convalescent or obsolescent in the 1940s, due to the terrible influence of Bohr and Heisenberg, who had told everyone physics was done. But the arrival of computers in the 1950s was another huge wall, again turning everyone's brains off and making sure theory was obsolete. From then on you didn't have to think, because the computer would do it for you. The model would tell you where to look and even suggest solutions. But as with AI to this day, the solutions were all garbage. Computers can't do theory, and people are starting to get that message. Not Collier, since IBM and Google don't like that message and they are behind Youtube. If she were telling you what I am, she wouldn't last ten minutes on Youtube.

Next she sells space exploration as a big accomplishment of physics since the 1950s, leading with the Moon Landing. [Pretty sad](), since that never happened. She also sells the robots on Mars. I guess she hasn't figured out those are really in Nevada. Same for the landing on an asteroid hoax.

Next she sells the gravity wave hoaxes that I have blown to smithereens: [BICEP]() and [LIGO]().

Next she sells the EHT telescope, which she tells us is capable of seeing the black hole at the center of the Milky Way. . . *and* Andromeda.
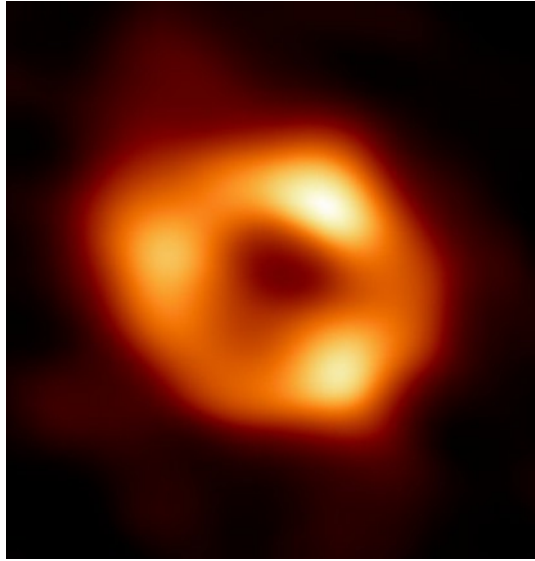
That's the image they posted of the Milky Way's black hole. What evidence do we have that is a black hole? None. Why would a black hole have three hotspots around it? No answer. My guess is these black holes images are just as fake as the images from Mars. We can't trust anything we get from NASA, or Musk or Bezos either. Frankly, Collier comes off as an idiot, not only for the way she speaks and the fact she is playing vidgames while making these videos, but for this: in this video, she publishes a picture of the Milky Way black hole, but can't even get that right. The image she has up is of M87, and my guess is she did that on purpose, because that image of M87 doesn't have the three circular hotspots that look like protostars. Its hotspots look slightly more like a ring, though it is heavy on the bottom and does have two hotspots.

So Collier's little propaganda list here looks pretty stale, so much so I don't need to go on. For anyone who can see through a glass wall, her presentation proves physics IS in fact dead, so dead it can no longer find someone capable of selling it. No one who isn't vaccine damaged is going to watch this and experience a surge of patriotism and good cheer for Modern science, saluting these brilliant people like Collier for saving us from the dark ages. Just the reverse. They are going to watch this and shake their heads in disbelief at how far the mighty have fallen.