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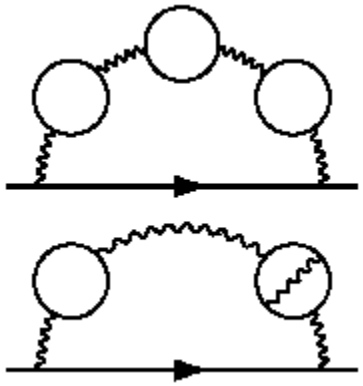
What is the Fine Structure Constant?



by Miles Mathis

The fine structure constant is currently defined as the amplitude (or probability) that an electron will emit a photon. Underneath the Feynman diagram above, Wikipedia says this:

Two example eighth-order Feynman diagrams that contribute to the electron self-interaction. The horizontal line with an arrow represents the electron while the wavy-lines are virtual photons, and the circles represent virtual electron-positron pairs.

Virtual photons. The sign of a fudge. Virtual particles aren't physical, so they are infinitely pushable. This despite the fact that Feynman himself defined the fine structure constant as "the amplitude (or probability) that a *real* electron will emit a *real* photon." Apparently they couldn't make that work in the gauge math, so they have fallen back onto the virtual photon, which is a ghost. But we don't need any eighth-order Feynman fudges, since the fine structure constant isn't an amplitude or a probability to start with. I will show that it is a simple mass to charge transform.

Even Feynman understood that his pushes were pushes. In one of his last books, *QED*, Feynman told us he put the fine structure constant on his blackboard every morning and stared at it, hoping to crack it like one of his safes. He admits he never did. He never figured out why it was the number it was, or the mechanics underneath it. That is why the mainstream is still diddling with the Feynman diagrams, which are just heuristic devices. No one after Feynman had cracked that safe either, until I came along with the actual combination.

In current math, the fine structure constant is mainly another fudge. But in two previous papers, I have derived the fine structure constant by simplifying and correcting basic quantum equations. In the first paper I derived it by correcting Rutherford's impact parameter equation. In the second paper, I tore apart the fine structure constant defining equations, showing how they were overwritten and redundant.

Here, I will extend my analysis into new territory, refining even further the significance of the number 1/137 by tying it to new numbers I have derived in the charge field.

First, let us review the major findings of those first two papers. I showed that the mass of the alpha particle in the Rutherford experiments was inhabiting the equations in a strange way. Rutherford wrote the impact parameter equation as a charge equation, but then inserted the mass of the alpha particle without transforming it into a charge entity.

$b = \sqrt{} [1 + \cos\theta /1 - \cos\theta] kQq/mv^2$

Where b is the impact parameter. If we study the form of that equation closely, we find that the field in the numerator of Rutherford's equation doesn't match the field of his denominator. The numerator is written in terms of charge (as we see from *q* and the constant k), while the denominator is written as mass. The kinetic energy mv^2 is not a charge entity and can't be included in a charge equation without transforming it into a charge entity. What we need is a transform from mass to charge, to correct the equation and make the numerator match the denominator. I found that this transform just happened to be the fine structure constant.

That's right: what Rutherford needed was a way to write the alpha mass as charge. Since I had already shown in previous papers that charge and mass were actually equivalent, this was not hard for me to do for him. To transform the alpha mass into charge, we simply create a photon with the same energy as the alpha, and then calculate its mass equivalence from the equation $E=mc^2$. We can use that equation without *gamma* because we are applying the equation to a photon. Relativity doesn't apply to photons, according to Einstein's Principle 2. Relativity transforms everything *except* light. Light is the cause of Relativity, so you cannot transform light itself.

The mass of that created photon with the same energy as the alpha is the charge equivalence we need to correct the Rutherford equation. The alpha mass is not a charge entity and so it cannot inhabit a charge equation. But the mass of the equivalent photon *is* a charge entity, and can.

And the *ratio* of the mass of that created photon to the mass of the alpha is the fine structure constant:

$m_\gamma/m_\alpha = .0073$

In other words, we multiply the mass of a particle by .0073 to find its charge equivalent. The fine structure constant is a mass to charge transform. It is also a transform between normal matter and light. It tells us that at equal energies, light is that much less massive than normal matter. The greater velocity of light makes up the energy difference.

This must imply that the fine structure constant is not a relativistic number, meaning it wouldn't apply to normal matter at extremely high speeds. The fine structure constant only applies to normal matter that is at zero or non-relativistic speeds. This is a complication that the mainstream has so far missed, and is another cause of current equations misfiring and requiring renormalization and other pushing.

If we compare what we found by correcting the Rutherford equation to the current definition of the fine structure constant, we find that the constant cannot be what we are told it is. There is no electron in the Rutherford equation. Rutherford is using the mass of the alpha, which is a Helium nucleus, not an electron. An electron is a *beta* particle, not an alpha particle. The fine structure constant is not a probability of any sort, it is a mass to charge transform, or a matter to photon transform.

Now, in other papers, I have shown that photonic matter outweighs normal matter by 19 to 1, in most charge situations and as a universal average. This is where the dark matter ratio of 19 to 1 or 95% is coming from. If we divide 137 by 19, we get 7.21. Here's a question for my regular readers: where does that number come from? Where have we seen that number in my other new equations? I'll give you a hint: it was in my first book. It is the difference between level 1 and level 2 in my quantum spin equations. Return to my paper unifying the proton and the electron, and you will see that I found that the electron with x-spin will have an energy 7.22 times the energy of the electron at rest. If the electron at rest is given a baseline energy of 1, the energy level of the x-spin will be 7.22. I have called that the first mesonic level, and it is the level between electron and muon.

What is the connection? The connection is that charge is giving the electron its x-spin. A free electron in a charge field will be given an x-spin by the field, and will gain 7.22 times its original energy. Why? Because the charge field is bringing the electron up to its own energy level. The charge field has 19 times the mass equivalence of the electron at rest; but—at equal energies—charge has 137 times *less* mass. So to bring the electron up to the energy of the charge field being recycled though it, we have to increase its energy by 137/19 = 7.2. Once the electron has been given an x-spin by the charge field, it is in equilibrium with that field.

This now provides us with a third derivation of the fine structure constant, and this last one is the shortest and most transparent. Since I have shown short mechanical derivations of both 19 and 7.2, we see precisely where the number 137 comes from. It is just 19 x 7.2.

You will say, “If 137 and 19 are mass differentials, shouldn't 7.2 also be a mass differential? But in your unification paper, you say 7.2 is an energy differential.” Good point, but easily answerable. Since 137/19 is a ratio, it doesn't matter if the numbers stand for mass or energy. Since mass and energy are proportional, the ratio will be the same either way. In other words, we could change both 137 and 19 into energies, then find the ratio, but since we would be multiplying both 137 and 19 by the same number, the ratio would not change. Therefore my equation is correct.