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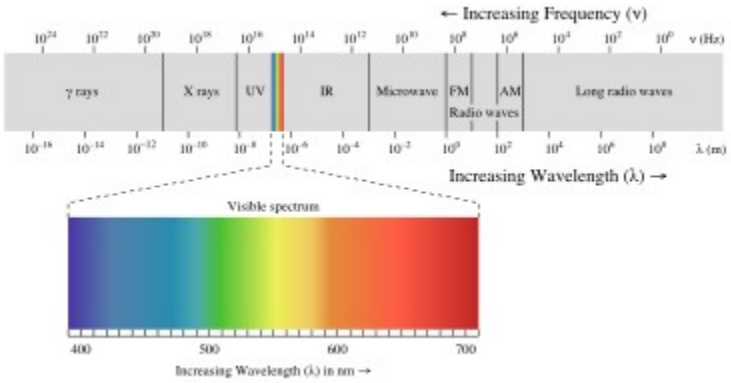
Why the Current Light Equations are 6% Wrong



by Miles Mathis

Abstract: this paper is further commentary on my recent paper on the wavelength and frequency of light. There are a few points that need to be addressed, but that paper was long and dense enough already. As a bonus I will show exactly why the current equations are 6% wrong.

My recent paper on the wavelength and frequency of light being reversed has confused many readers. I think the paper is clear, but it is always difficult to convince people immediately of something new when they have accepted the something old all their lives. The question I have gotten most often is this one:

You admit in one part of the paper that the current wavelengths actually do exist in the data. You say they are caused by the jostling of photons. They also seem to exist "in the field", despite your many statements to the contrary. So your paper seems to be much ado about nothing.

While I understand these readers' difficulties, I really think some may be purposely failing to make distinctions, or to see what I am trying to say. But perhaps it is my fault, and I still haven't said it clearly or simply enough. That was my first paper on the topic, and a first paper does tend to lack full efficiency. I don't think I said anything that doesn't need to be said, but the paper could be shorter and simpler, no doubt. And parts of the paper may be *too concise*. I like simple math, but sometimes my math is so simple it moves right through the brain. Many readers apparently need at least twenty lines of math before any hook is set. At any rate, my paper is *not* much ado about nothing. It is one of the most important papers I have written, and I will try again here to make my readers see that.

I spend a lot of time in that paper saying that light does not create a sine wave in the field or data. Then, as my reader above points out, I admit that in the interferometer the light does make a wave. Haven't I been caught in a gross contradiction? No. What you have to understand—and what I thought

was obvious—is that I am redefining what light is. Currently, light is not really defined. We have a loose "duality" definition, but it changes according to the experiment. So even that definition is not a real definition. We have been letting the experiments define the light. That has never been satisfactory, and I think most people will admit that. I show why this is so: we are taking the *results* of light for the light itself. I showed that in the interferometer the wavelength measured doesn't even belong to the light itself. It belongs to the experimental result. The wavelengths are in the data, not in the photons. The wavelengths are created in certain experiments, and rely on a certain sort of photon interaction. Interference is a result of light, not light itself. The current wavelength belongs to the interference, not to the light itself. Therefore, what I said was correct: light itself has no field wavelength of that sort.

To make any further progress in quantum mechanics, we have to create a real mechanics for light. We can't depend on an experimental definition of light any longer. This is what I am doing, and it is fundamental. We need to know what the light is doing, not just what the results of light are doing. We need to assign variables to the light itself, not just to the results of light. We need to define light as the sum of its own material characteristics, not as as its results in a field or in an experiment.

This isn't just theoretical quibbling, either. It isn't metaphysical and it isn't handwaving. My new mechanical definition of the photon has allowed me to solve many problems the current theory of light cannot solve. See my two papers on superposition, my paper on entanglement, my paper on partial reflection, and my paper on the double-slit, just as a start. This means that I have much more *experimental* success than the old theory. That is what "experimental" success means in physics. It isn't just running experiments in a lab. It is *explaining* experiments in a clear mechanical fashion. That is what I am doing, which should be obvious to anyone not trying to protect old theory.

I have defined light as a real particle, with real radius and real mass. It also has real spin. In fact, it has several spins. These spins stack to create the characteristics of light we experience. What this means is that **light is spinning photons**. Light is not a particle/wave. It is a particle with a spin. This spin can then create waves in data or fields, but the waves do not belong to the photon. The current waves are field results, as in the interferometer. There is no wave/particle duality. The photon is a particle that may (or may not) create a wave in the data. In the photoelectric effect, there is no wave in the data, which is precisely why we say the light is a particle in that experiment.

Bohr thought that light was intrinsically mysterious. Because he could not unwind the mechanics, he forbade anyone else from doing so. Feynman—and everyone else—took him at his word, even though Feynman already saw much more than Bohr ever did about the photon. But because Feynman was defined by his maths—including the gauge math—he refused to look closely at the photon. He preferred to keep the mystery, because he didn't want to rewrite all his equations. The photon as a point particle was easy, and all the math rested on it and depended on it. No one wanted to do the work I am doing, so they let the mystery lie.

"Fine," my readers will say, "but what does this mean for current light theory? Are you saying it is completely compromised?" No, I never argued it was completely compromised. I am well aware that it has worked pretty well in some situations for centuries. The current variables are proportional to the correct variables, so things often work out quite well. It is fine, as far as it goes; it just doesn't go very far. My point was simply that the variables are misassigned. The current variables for wavelength and frequency don't belong to the light itself, and we should be aware of it. Until now, we weren't aware of it. Specifically, while the data would appear to have a low frequency, the light itself has a high frequency. This changes nothing about the energy, so it doesn't effect the numbers out in many situations. I said the numbers were wrong only in that they were applied to the wrong things.

Even my contention that the equations are 6% wrong does not mean the experimental numbers are wrong. To see what I mean, let us look more closely at that. I rewrote the equations and found a 6% discrepancy between what we *should* find for the energy of the light and what we do find. But that doesn't mean I am questioning the data. I rarely question data. Here, as usual, I am questioning the assumptions and the math. The bad assumption here is that the interferometer is in a charge vacuum. It isn't. What we are finding in all experiments on Earth is how light acts here, in this charge field. So the numbers out are going to be "light in the experiment *plus* the charge field." That's right, it is the local charge field that is causing the equations to miss by 6%. Our current equations match the data just about perfectly, and I admit it. *Of course* they match the data, since that is what they were built to do. They were built *around* the data. That is why we have what I have called an experimental definition of light for three centuries. But they miss the energy and frequency of the light itself because they aren't measuring the energy or frequency of the light. They are measuring the frequency of the field wave, and light isn't a field wave. And they are measuring light in a charge field, so they are measuring both the light and the charge.

It is in this sense that the equations fail. The equation $E = h\nu$ is *supposed* to be telling us the energy of the light by itself. But since the frequency in that equation applies to the field frequency, not the photon spin frequency, that equation isn't telling us the energy of the light by itself. It is telling us the energy of the light in this particular field. Our equations include the local charge field once again, and we aren't even aware of it. So you see that the fact that I am able to break down the equations is very important.

As proof that my new theory is not just a theoretical nicety, you will see that my 6% number turns out to be very important. It helps us measure the local charge field once more. I have measured it in other places, finding an acceleration opposite to gravity of .009545m/s^2 in the field of the Earth. But here in the interferometer experiment, I have found a way of measuring it relative to visible light. It has an energy 6% of visible light. At first glance that seems to put it once again in the infrared, which would confirm my previous findings. But more work needs to be done to unwind exactly what the data is telling us.