

# Conservation of Mass Limits and White Dwarfs

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Abstract: A new idea is presented which follows from the General Theory. It is hypothesized that mass is conserved in closed systems, but there is a caveat to that due to white dwarfs. In the General Theory white dwarfs have mass that is not conserved. Meaning if you take all transfers of heat and matter away, it will become more massive as it transitions to more massive stages of evolution. This means mass is not conserved under extreme pressures and temperatures. In short, there are properties of mass that we do not understand yet, and white dwarfs show this in light of the General Theory.

In the General Theory a white dwarf is about the diameter of the Earth, and has the mass of the Sun, if not a little more for each property. This means white dwarfs are extremely dense far beyond our regular familiarity. This is problematic though, because there is not a lot of extra heat or mass that can be added to a white dwarf to make it expand into a blue giant. This being said, it follows that the property of mass is gained in the white dwarf as it expands, regardless. This means that the white dwarf creates its own mass, it can be created and destroyed, but if that is not how people would like to word it, I guess mass effects can be dimmed and brightened. This is counter to all experiments done on the Earth, but there is an explanation.

This does not mean conservation of mass is not a valid law under low pressures and temperatures, it only means conservation of mass is only valid when the material is not under extreme heat and pressure. The laws of physics and chemistry as we understand them in our regular life do not apply when matter is subject to extremes in many cases. This is easy to reason as a few examples are apparent. Superconductivity (the ability for electric current to flow totally unimpeded), superfluidity (the ability for fluid to travel uninterrupted even up container walls), special relativity (where time and space become interchangeable when travelling near luminal velocities), etc. The natural world is very peculiar, notice how that word has the word "liar" at the end, Mother Nature is constantly lying to us. She tells us things via experiment, yet simultaneously hides the

truth from us. She both hides the truth and shows the false, simulation and dissimulation. So we go with the experiment, yet are consistently deceived. It takes a clever investigator to see through her deception, a man/woman who can set their ego on a shelf.

So in short, it is not that conservation of mass is not a valid property, it is only valid under conditions that do not involve extreme temperatures and pressures, that which occur in white dwarfs and birthing galaxies/quasars/radio galaxy cores, objects that are far removed from our daily experience. Just thinking about that as well, extreme pressures and temperatures also occur in highly evolved stars, which could have something to do with their gravitational field, but more on that later. There is a stability to the property of mass when matter reaches a certain threshold of calmness, it is not being compressed greatly nor being heated greatly. The idea is that mass does in fact, arise and can have its effect negated, it can be both dimmed and brightened like a light bulb on a variable switch.

As well, the mass effect becomes only variable as you approach the limit. For instance in special relativity, if you travel 99.9% the speed of light, you are going 10 times faster than 99% the speed of light. With the mass effect issue, there will be a threshold of pressure and temperature where the effects are elevated to extremes that are far beyond our current understanding or acceptance.

To throw some numbers in here, Bellatrix, one of the stars in the Orion constellation, is a blue giant with about 8.6 Sun masses of material. In the General Theory a white dwarf is one solar mass. So in essence, 7.6 Sun masses of material will manifest out of a white dwarf so that it expands and has the mass of Bellatrix. In real world terms, a race car, about 860 kilograms, could have its mass negated down to the race car weighing about 100 kilograms. This is not just the race car though, it is the entire car, plus the person in it. So given the person in the car is a part of the 860 kilograms (80 kg), he or she would weigh about 9.3 kilograms. This would be a huge effect, but definitely more mild than extremes needed for extreme acceleration such as craft witnessed by Commander David Fravor of the Tic Tac UFO. If you remove 99.99999% of the mass effect, then you can accelerate the craft as if it were photons coming out of a laser. So there are extremes. There is slight mass effect removal, medium, to heavy, extreme, and total.

This is not to say the car needs to travel any faster or slower, but that its mass can be dimmed. As well, the mass can be increased too. Think Thor's Hammer, only those worthy of ruling Asgard can lift it. What use would that have? Well, a mass centering device could be placed in a craft to make sure

people would have the effects an ancient star (Earth) has on a person's bone structure, lymph node drainage and other natural fluid drainage in the human body. This would ensure health and well-being for very long term space travel.

In special relativity as you approach the speed of light the mass becomes greater. As a particle with mass approaches the speed of light, its energy increases and becomes infinite at the speed of light, which is the reason why it can never be accelerated to reach that speed. This has actually been verified by experiments, and it has been shown that nothing moves faster than the speed of light. This is only one half of the dilemma though, if not in truth only 1% of the actual dilemma. The 99% of the meat is in whether you can remove the mass effect from the get go. An ideal photon rocket has an exhaust specific energy of 89,875,517,874 Mj/kg (mega-joules per kilogram), as opposed to a LOX and LH2 rocket of 9.7 Mj/Kg. We talking 10 magnitudes of rocket velocity already available to us, if we can just figure out how to remove the mass effect.

The giant dam that is preventing us from understanding how to travel to the other stars is not in our ability to create propulsion, we have that down already. We get it. Our problem is that we have specific laws that we say are impossible to get around, yet white dwarfs lay it out on the line. They are actually much more massive. It is very strange though. They are already extreme densities, and I'm saying they are actually vastly more massive, in that they are giving us a clue, while simultaneously lying to us. Astronomers have the approach that the white dwarfs are already too heavy to understand, and they leave them alone. They say, nope, they are heavy enough, lets design entire models around them and ignore other possibilities.

For the first time in theory development, I am beginning to think they are actually much heavier, it is the properties of the white dwarf that remove the mass effects. They are the objects we should be studying in depth, not as "dead stars". I already have that down, dead stars have normal mass effects yet astronomers call them planets. White dwarfs are new born stars. Their mass effects are telling a tale that we need to unwind. Nature is manipulating mass naturally, we need to come to terms with that, and not doggedly preserve ideas that do not tell the whole story.

This paper is to serve the reader, make of it what you will. I have placed white dwarfs at the beginning of stellar evolution, hopefully this is a more correct direction to travel in. Graph is on the next page:

# STELLAR METAMORPHOSIS

