Proposition to explain the natural state of nature responsible for the effects we labeled dark matter by introducing the last of three modifications to the field equations of the general theory of relativity.

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Abstract: I wish to propose three changes to the field equations of the general theory of relativity that can help explain the nature of black holes, the nature of dark energy, and the nature of dark matter. Over forty-five years of research have led me to certain conclusions about the reality of nature, and the single key to unlocking mystery after mystery is to toggle an assumption made at the very core foundations of nearly all the branches of science. When we no longer treat eternal time and infinite space as speculation and instead embrace that certainty, then by examining the implications of that premise applied to the equations of the general theory of relativity and the equations of the special theory of relativity, there is a very clear image of the surrounding universe that develops.

Keywords: Einstein Field Equations, Modified General Relativity/MGR, Dark Matter, Tensor Mesh Phase Aggregator Function

One problem that science seems to have with gravity is that we were so enamored with being able to claim gravity was a warping of spacetime we regularly overlook that gravity does not work magically nor instantaneously. Our planet does not actually orbit the sun, but instead orbits where the sun was a little over 8 minutes ago.

In order for each unique point in space inside our heliosphere to know how much to warp and where to bend, there must be some type of force carriers coming in from all different sources, all telling that point in space many different things. It is the aggregation of all those different instructions that builds the overlapping geodesics of spacetime. A tensor mesh of gravitational attraction.

If the force carrier for gravity moved in straight lines, one could argue that it exceeds the speed of light. However, since it appears to travel at the same speed as light, one could logically conclude that it also travels in waves. Every other spot in all of physics where we see energy in motion, there are waves of energy in motion. There is no observational evidence to support that if there was in fact a force of gravity, why it would not move in some form of wave? The fact that Ligo can measure gravitational waves is another reason to suspect that gravity may propagate outwards in spherical waves.

When we start with a hypothesis of some type of gravitational wave being responsible for the instructions sent by mass to tell space and time how and where and when to bend and warp, we can clearly see a potential cause for the effects we label dark matter. We first solved for dark energy by applying general relativity, special relativity, and orbital

mechanics to the backdrop of eternal time and infinite space. Here, we solve for dark matter by applying the field equations of the general theory of relativity alongside what we know about wave mechanics, in particular, what happens when there is constructive interference from waves in phase.

Constructive interference happens because waves in phase will increase the amplitude of the waves and when that happens, the energy carried by the wave does not increase linearly. Instead, the energy carried by a wave is directly proportional to the square of the amplitude, so as we add more waves in phase, the strength of the aggregated wave will grow exponentially. Think of the difference between looking at 50 flashlights 50 miles away versus 50,000 flashlights 50 miles away, because the same aggregation of intensity would occur if the attractive force of gravity moved in some form of wave.

Therefore, pockets of spacetime sharing the same relative trajectory and relative velocity could see their gravitational waves of attraction increase in strength, thus warping and bending spacetime by a larger amount than what we would predict the mass alone could accomplish. If there was a wave behind how space and time are instructed to behave at all different points, and the aggregations of those waves in phase could cause gravity to appear stronger, then we would predict that all the separate star systems inside a galaxy could each be pulling a little bit more on the areas around them than what we expect. I predict there is a way to leverage AI and cosmological "big data" to begin running simulations of the effects of gravity in phase against different areas where we see dark matter and tweak the phase aggregator function appropriately. If successful, I have labeled the function Phi to apply as an approximate sum of the aggregations of all bodies sharing the same comoving frame of reference with gravitational waves of attraction in phase.

The function Phi may be more than just a linear sum function, which is why we need AI to help review as much reliable data as possible. Unless we could conduct certain experiments with extreme precision in a truly weightless environment devoid of all interfering waves of gravitational attraction, I am afraid that being weightless yet still inside many overlapping gravity wells does not offer an accurate test environment for these types of tests.

Otherwise, an array of maybe 10,000 space drones with synchronized and accurate chronometers and built-in interferometers all talking to each other offers us another way to improve our simulations and AI big data to find the elusive way that bodies in motion sharing the same comoving frame of reference could produce a stronger aggregate attraction. I predict that synchronized chronometers and interferometers can leverage the effects of time dilation to see where we find aggregations of waves in phase inside our own solar system. When we get that working properly, then in theory we could measure the one-way speed of light.

In those areas where multiple offsetting waves intersect, the shape and size of the gravity wells and geodesics created could also exhibit either constructive or destructive interference. The gravitational lensing observed around areas of little to no mass could be attributed to the overlapping gravity waves being in phase at those specific points.

Lastly, I do not think we pay enough attention to what the Lense-Thirring effect is telling us about how spacetime is more interconnected than we realize. The mass energy cohesion to localized spacetime creates a tensor mesh of overlapping and interlocking geodesics that can tug on each other. We can see this happen around massive black holes but forget that we do not need to have the extremes of mass to still have that underlying attraction of nearby areas of spacetime itself. When evaluating the rotational speeds of the outside arms of non-diffuse spiral galaxies at larger scales, it is important to take that into account. In regions where matter is sparse, we would predict that the aggregations of their waves experience less of an effect of constructive interference, and diffuse galaxies would show fewer signs of dark matter.