Proposition to explain the natural state of nature occurring at the center of black holes by introducing the first 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: Black Holes, Lower Limit Of Gravity, Einstein Field Equations, Modified General Relativity/MGR, Polyquarks

The easiest of the three proposed changes needed to complete the field equations of the general theory of relativity sets the lower limit on the distance that the stress energy momentum tensor can act upon. That distance is approximately .08 femtometers because below those distances a much stronger force, one that is 100 trillion trillion trillion times stronger than gravity takes over. There are no singularities because the strong nuclear force would prevent quarks from occupying too small of a confined region of spacetime.

We already know we can't separate two quarks without two more popping out of the subquantum foam to make four, so that shows we should not expect the center of a black hole to condense quarks down past their known physical limits.

Quarks exist in the three spatial dimensions, so when the matter condenses into its densest state, gravity cannot push it any closer together. Instead, the forces cause the remaining neutrons that finally reach the center to break into their constituent quarks, joining the massive dense polyquark at the center of each black hole.

Similar to how electron degeneracy pressure keeps white dwarves from collapsing further and neutron degeneracy pressure keeps neutron stars from collapsing further, so does quark degeneracy pressure keep black holes from collapsing any further. There is free space inside the proton and neutron, as

quarks have some degree of freedom in all three dimensions inside the nuclei, but a dense quark soup of confined energy, confined even further, might produce a stronger gravitational effect than the confined energy inside nuclei. If someday we find the gravitational attraction of black holes increases by a greater margin than the amount of mass that entered, it would match the prediction of quarks being confined even further with fewer degrees of freedom, producing greater confinement and a stronger gravitational force.

At the center of the event horizon of each black hole, instead of a singularity, we have a dense quark soup or a large polyquark. We have seen short lived 4 quark and 5 quark quasiparticles before, and there is no reason to suspect an end to the number of quarks that could join under the right energy and pressure. The nuclei of our heaviest elements already show us how many quarks can coexist in fairly close proximity.

The accretion disk we see before the event horizon likely continues all the way down to the center, where it spins faster as it gets closer to the center. The massive gravitational pull alongside the particles being accelerated to relativistic speeds provides the energy needed to defeat the neutron degeneracy pressure that would have otherwise held the neutrons together.

That center grows in volume as mass passes the event horizon and eventually joins the central polyquark thus increasing the overall surface area of the event horizon proportionally. As atoms spin inwards towards the center, they first undergo electron capture and eventually reach a density and pressure where neutrons break down into their constituent quarks. Unknown if we might see length contraction at relativistic speeds, providing the means to break the neutron degeneracy pressure past the .08 femtometer limit. Also unknown is if they join one at a time or join in pairs?

If a pair of quarks joins the central polyquark and releases a free quark, we know that the remaining quark would almost instantly pair up with another stray or manifest one from the subquantum foam. All the photons, neutrinos, stray electrons, and maybe other particles as they build up enough energy could convert down at high enough speeds to the gluons the central dense polyquark would need to stick together. We do not know if, at certain energy levels, the conversion of high-speed and high-energy photons, neutrinos, and random quasiparticles results in the formation of new quarks also, rather than just gluons.

At the innermost ring of the accretion disk, we could first observe stray high energy non-quark gluon mass under pressure, only transforming into up and down quarks, resembling the familiar baryonic matter that makes up most everything else we see. It is also possible the process could involve other types of quarks, but not sure we will ever have the means to confirm with certainty. We may not know the exact process or exactly what is happening at the center, but we can be certain that it is not a singularity.

The gravitational pressure would be strong enough, along with the relativistic speeds, to see any remaining mass converted into gluons or maybe quarks, and the central soup could likely either see quarks constantly changing types in a chaotic flux of energy in motion. However, there is also a chance they just stay up and down quarks.

By setting the lower limit where the effects of gravity lose to the strong nuclear force, we may not be unifying quantum mechanics and general relativity, nor uniting forces to define quantum gravity, but we can define size limits for general relativity where the effects of gravity have no union with quantum mechanics.