

Discovery on 4/8/2022 5:06 AM, Gene Preston wrote:

For some time I've suspected the neutron may be a tiny black hole. However the conventional gravity equations do not work at all at that scale. What seemed to be missing to me is that at that tiny scale we need a very large number to cancel the very small size so that the overall physics works at the tiny scale and the galactic scale. While watching TV I hit pay dirt. I thought of the mass as a distributed source of flux that goes outward from a point or central region. The mass has to go through a boundary whose surface area is proportional to r^2 . If we took the gradient at that r distance, that is proportional to another $1/r$ factor. So the flux is mass m/r^2 divided by r . The formula m/r^3 should be the same ratio for the neutron as a small black hole. But we are not to think of the r^3 as volume but as a surface flux times a gradient. Here are the numbers: neutron mass = 1.675×10^{-27} kgm and $r = 0.8 \times 10^{-15}$ m. $m/r^3 = \mathbf{3.3 \times 10^{18}}$.

Searching for smallest black hole I find this:

https://www.nasa.gov/topics/universe/features/smallest_blackhole.html

The mass is 3.8 suns or 3.8 times 2×10^{30} kgm and diameter of 15 miles or 24 km so the radius is 12 km. $3.8 * 2 \times 10^{30} / (1.2 \times 10^4)^3 = \mathbf{4.4 \times 10^{18}}$. Whammo this is it! Here we have a physics that makes sense and the concept works at the atomic level as well as the massive black hole level. Here is what is happening. The mass enclosed at an r is a source of flux through the surface and has a force associated with it that is inversely proportional to the size also. The energy density of matter is probably nearly maxed out for both the black hole and the neutron. There is a surface boundary with rapid change in the space so that inside the space there is a maximum energy density and outside the radius of collapse there is energy in that field also. Outside the surface the amount of mass inside a radius r divided by the flux through a surface times the gradient at that internal radius r is likely to be a constant so that the product of surface flux times gradient is a constant. If we imagined the speed of light is variable and creates the gravity field then the amount of mass inside a volume times the speed of light times the gradient in the speed of light would be a differential equation that is the correct gravity equation. It's not going to be Newton's equation. We need to find that equation because it is the correct solution to the gravity equation which will be calculated as a gradient in the speed of light. This change in the speed of light contains energy. It's a tension in space like a spring. At $r = \text{infinity}$ the speed of light is the constant we use and we integrate from $r = 0$ to infinity to get the total energy in the warped space. There is not likely to be a hard boundary but a continuous smooth S shaped curve from $r = 0$ to infinity of the neutron and black hole. When we derive that equation we should be able to explain a lot of things like how black holes hold an entire galaxy in its grip as well as explain why galaxies rotate like clockwork. The energy in the gravity fields will be known from gradients in the speed of light over vast spaces and explain where the dark matter is hiding; i.e. in the gravity fields. We should be able to add some terms to Maxwell's equations linking gravity directly to EM theory we already know of. I suspect that the magnetic field is also created by rates of change in the speed of light or the warping of space. It's going to be the same stuff as GR but explained in a more logical math and easier to produce engineering devices using the new equations.

Gene Preston

4/8/2022

Next Discovery on 4/28/2022 6:20 AM, Gene Preston wrote:

Something new happened last night. In the description above there is a concept that it's the product of flux through a boundary times the gradient at that boundary that makes the neutron work as a black hole. The differential equation solver <https://onsolver.com/diff-equation.php> returns a solution to the equation $y = xx'$ returns this solution $x(y) = +/- \sqrt{c+y^2}$.

This is similar to equations I have seen describing the black hole. I need to find exactly how GR equations work and see if I can match them with this concept.

Gene Preston 4/29/2022