

Vagaries of the inverse squared law

The present theory of gravity and charge forces have one thing in common.

The forces depreciate with distance as $1/r^2$

This is a measured quantity, never defined with relationship to other variables until now.

- 1 The problem with this is that as r decrease $1/r^2$ approach infinity, the force blow up.
- 2 It does not describe reality, causing scientist to invent weak and strong nuclear forces.
- 3 It causes a discrepancy whereby, the stars in the outer orbits of galaxies appear to have orbital velocities that would imply a different value of G .

With the very small, particle physics blows up, we need to manufacture fictitious forces, weak strong etc.

With the very huge we also run into trouble because stars in the outer orbits have the same velocities as the ones close to the center.

For a given radius of orbit, the velocity is dependent on the force of attraction. The stronger the force of attraction is the faster the object would have to move to maintain orbit. So the closer the object is to its host is the faster it will have to orbit.

Hence Mars orbits the Sun much faster than Pluto does.

- This hypothesis solve all these discrepancy. It describes particles down to Planck radius without having to invent short distance strong force.
- It also describe the orbit of object that are far from their host.
- This also predict repulsive gravity when objects penetrate Planck's length this is where the dark energy is hidden.
- As they tunnel through the planck we cannot see them.

Classic gravity G/r^2

p Planck length.

c speed of light.

G classic gravity.

Assume 2 masses of 1, unit mass each.

New gravity relativistic .

$$2 \frac{c^3}{\hbar} \left(-1 + \frac{1}{\sqrt{1 - \frac{p^2}{r^2(1 - \frac{v^2}{c^2})}}} \right)$$

The expression above is the force divided by the product of the two masses involved $F/(Mm)$.

This quantize gravity because we divide by \hbar . The force of gravity has discrete quantities, it can

only jump by hbar. We will not notice that the earth is locked in orbit because hbar is so small. The force of charge is locked in the same way. The difference between charge and gravity is:

New charge relativistic .

$$2e-7 \frac{c^2}{p^2} \left(-1 + \frac{1}{\sqrt{1 - \frac{p^2}{r^2(1 - \frac{v^2}{c^2})}}} \right)$$

$$2e-7 = \frac{u0}{2\pi}$$

If velocity v is set to zero, the expression could be simplified to.

New gravity non- relativistic.

$$2 \frac{c^3}{\hbar} \left(-1 + \frac{1}{\sqrt{1 - \frac{p^2}{r^2}}} \right)$$

We convert the radius squared to Planck lengths squared $\frac{p^2}{r^2}$

This is a table of the comparison between the classic and the new forces of gravity.

We subtract the result of old from new gravity.

By setting v to zero we simplify the expression and make it non-relativistic.

$$2 \frac{c^3}{\hbar} \left(-1 + \frac{1}{\sqrt{1 - \frac{p^2}{r^2}}} \right) + \left(\frac{G}{r^2} \right) \quad \text{The difference between the old and new gravity.}$$

The first is negative so we add to get the difference. All results for new gravity are negative for convenience. Just ignore the minus sign. All of this is about push and pull. See universe at rucko.com .

We need to multiply the result of these expressions of gravity by mass M * m to get the force. We need to multiply the result of these expressions of electromagnetism by charge Q*q to get the force.

host mass 1e7	satalite mass 1	c speed light	p Planck length
radius	oldGrav	neWgrav	! USING HERE ! relativistic ! NOT USING HERE !
	$1e7 * G / r^2$	$2 * c^3 / hbar * (-1 + \sqrt{1 - p^2 / r^2})$	$2 * c^3 / hbar * (-1 + \sqrt{1 - p^2 / (r^2 * (1 - v^2 / c^2))})$
7e45	1.362097959e-95	0.000000000e-1	
7e35	1.362097959e-75	-1.362097193e-75	
7e25	1.362097959e-55	-1.362097188e-55	
7e15	1.362097959e-35	-1.362097188e-35	
7e5	1.362097959e-15	-1.362097188e-15	
1	6.674280000e-4	-6.674276222e-4	
7e-5	1.362097959e+5	-1.362097188e+5	
7e-15	1.362097959e+25	-1.362097188e+25	
7e-25	1.362097959e+45	-1.362097188e+45	
1.616254e-35	2.554966422e+66	-5.101903800e+66	
1.616253e-35	2.554969583e+66	-5.104258306e+66	
1.616252e-35	5.109942597e+66	(5.109942597e+66 0.000000000e-1 i)	// Planck = 1.616252e-35
1.616251e-35	5.109945759e+66	(5.109942597e+66 -5.684295976e+63 i)	0
7e-35	1.362097959e+65	-1.380751756e+65	
7e-45	1.179850706e+76	(5.109942597e+66 -1.179850706e+76 i)	

Two electrons using charge 1.602176487e-19

1.616253e-35		
1.616252e-35	1.766338596e+42	(1.766338596e+42 0.000000000e-1 i)
1.616253e-35	8.831682051e+41	-1.764373724e+42

Two electrons using mass 9.10938215e-31

1.616253e-35	2.854963506e+19	-5.703582358e+19
1.616251e-35	5.709937611e+19	(5.709934078e+19 -6.351726010e+16 i)

Conclusion

The classic $1/r^2$ does not work at distances close to Planck length. A more realistic expression is the push and pull. If the universe had only pull it would just be a matter of time before everything would collapse. The new hypothesis shows that orbits are locked in place at different energy levels.

This is the magic.

$$-1 + \frac{1}{\sqrt{1 - \frac{1}{r^2}}} \quad \text{as opposed to} \quad 1/r^2$$

In the new expression r is measured in Planck lengths as it is believed that this is the smallest there is. This expression would be all that is needed if our meter was 1 Planck length, which it is not. We

therefore need to convert the radius to Planck length. p^2/r^2 . We also need to bring it to SI. Units since this is the popular measure.

For gravity we need to multiply the result of the above by the two masses involved $M*m$,but then just like how we convert the radius to Plancks we need to convert the masses from kilograms to Plancks.

Hence we multiply. $\frac{2 * M * m * c^3}{\hbar}$ **This is not the magic** it is just because we are working in Planck units which is unnatural to us. It would not be very convenient to peddle farm produce in Planck units.

The same is true for electromagnetism we multiply by $\frac{2e-7 * Q * q * c^2}{p^2}$ where $2e-7 = \frac{u0}{2\pi}$

Now with this conversion we can enter our numbers in SI. Units meter kilogram seconds. And get our answers in the same.

The electromagnetic expression displays what we have been calling the strong nuclear force, which is more than 100 times stronger than the electromagnetic force.

Electromagnetism is the force displayed when all the tiny energies (vibrations) are free to rotate easily, so they all line up. It is like a stadium light, an array of 20 lights all pointing in the same direction, as opposed to gravity where all 20 lights are pointing in a different direction.

Electromagnetic expression

$$\frac{u0}{2\pi} \frac{c^2}{p^2} \left(-1 + \frac{1}{\sqrt{1 - \frac{p^2}{r^2(1 - \frac{v^2}{c^2})}}} \right)$$

It is all electromagnetism: gravity, strong, weak, and whatever else forces. It is tension in the goo. Vibrating goo.

gravity

What is your opinion?

Leon Rapaport 11/25/2010

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