GRAVISPHERES

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ABSTRACT
The cause of gravity and its relationship to the Universe is explored together with a possible connection between the nearest Black Hole A0620-00/V616 Mon binary system, and Earth. Colliding black holes cause gravitational waves and orphaned rogue planets.

Keywords:
black hole A0620-00/V616 Mon, V616, fixed link, elastic link, Gravity Waves, electromagnetic momentum, Gravimass, Gravisphere, inverse-square law, dark matter, Planck constant, electrons, positrons, electromagnetic force, Milky Way, universal gravitation constant, G, expanding earth, Big Bang or Steady State?, electromagnetic gravity emissions, EGE, pair production, cosmic rays, quantum entanglement, matter waves, speed of light, Hawking radiation, violin string, Coulomb's law, Newton's law, colliding black holes, LIGO, cosmic collision, colliding black holes, orphaned particles, rogue planets, J1415+1320

1. BACKGROUND

The GRAVIMASS[1] report showed the illustration in **Figure 1**, and calculation copied at **Appendix-A**. It concluded that Black Hole AO620/V616Mon[2] (V616) was at the centre of our gravitational zone of influence. It concluded that our solar system gravity formed at V616 and followed the inverse-square law to become weaker with increasing distance. This implies that the Gravitational Constant[3] value G varies throughout the universe (the term "constant" becomes oxymoronic, see page 8). The GRAVIMASS report highlighted the difference between fixed and elastic links concluding that the nature of gravity is elastic and can transmit energy to objects operating within its gravitational field. It was further concluded that the transfer of energy to the Earth during its orbit around the Sun, results in energy being converted to mass at the calculated rate of 212,245 tonnes per annum – resulting in an expanding earth.

The report Big Bang or Steady State?[4] suggests material digested into a Black Hole results in both positrons and electrons being ejected from the axis of the Black Hole, both particles associate to form a neutrally charged gravitation net, previously described as gravitational waves, but now referred to as **electromagnetic gravity emissions (EGE)**. The report also illustrated a summarised black hole digestion process, including pair production[5] as shown in **Figure 2**.

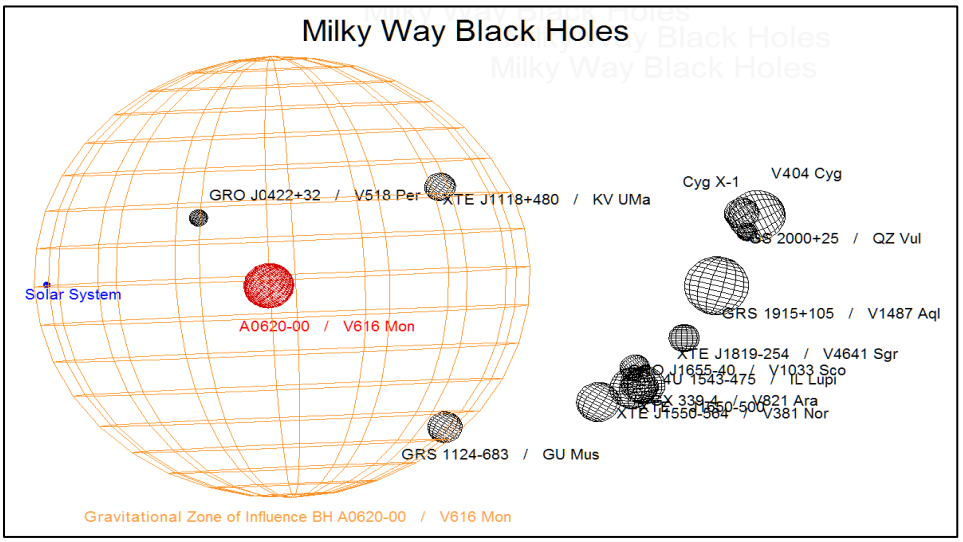


Figure 1.

[1] http://www.bosmin.com/PSL/GRAVIMASS.pdf
[2] https://en.wikipedia.org/wiki/A0620-00
[3] https://en.wikipedia.org/wiki/Gravitational_constant
[4] http://www.bosmin.com/PSL/BigBangOrSteadyState.pdf
[5] https://en.wikipedia.org/wiki/Pair_production

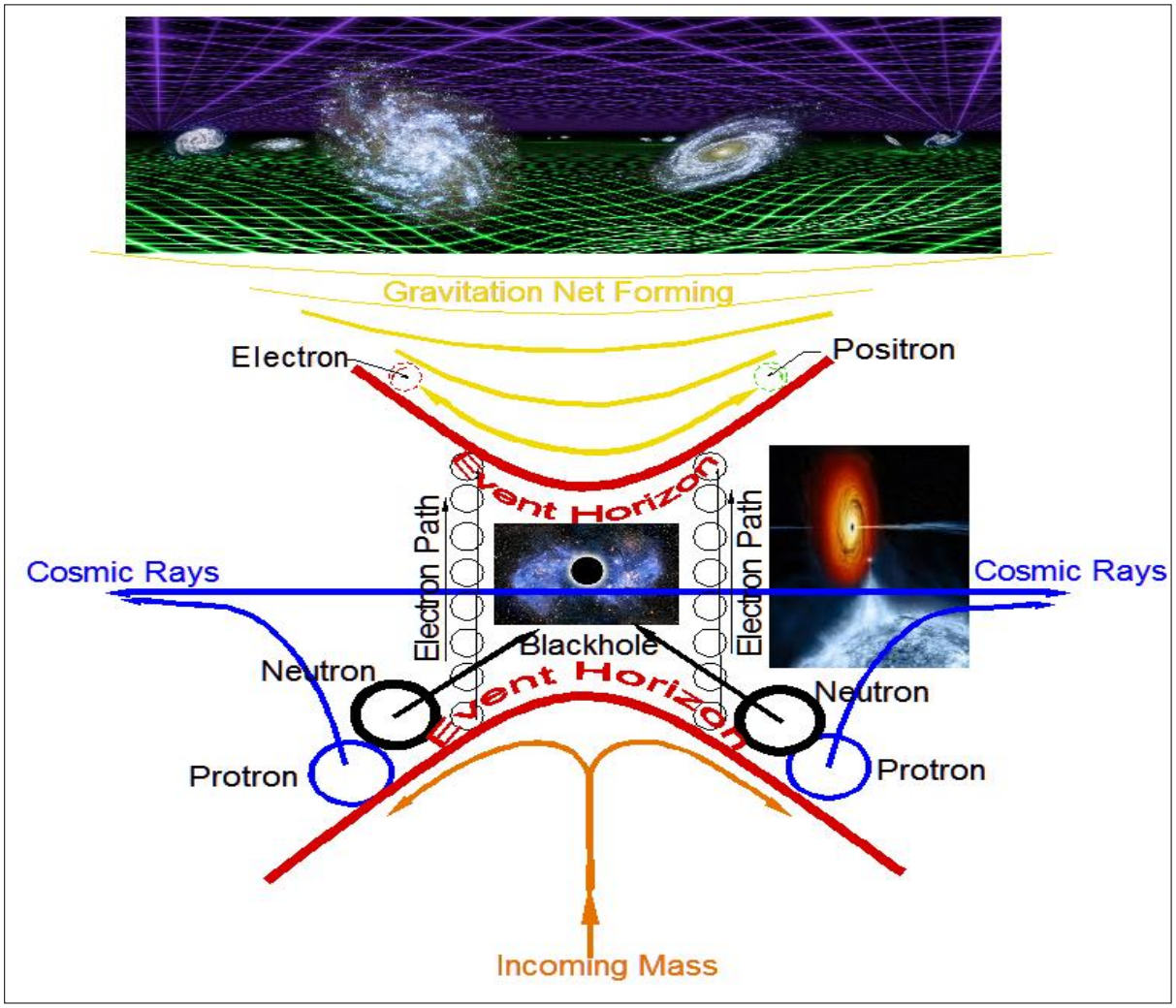


Figure 2

Black Hole structure showing incoming mass moving along the first Event Horizon where electrons, protons and neutrons are progressively stripped off. These components form into gravitation waves, cosmic rays and enhanced Black Hole mass, respectively.

This treatise explores the nature of this phenomenon in more detail and regards it as an example of quantum entanglement[6].

[6] quantum entanglement

2. QUANTUM ENTANGLEMENT

> "***Quantum entanglement*** *is a physical phenomenon that occurs when pairs or groups of particles are generated or interact in ways such that the quantum state of each particle cannot be described independently of the others, even when the particles are separated by a large distance—instead, a quantum state must be described for the system as a whole*."

This definition allows for "groups of particles" to be entangled which is assumed to be the case at V616. In this model there is one end set of entangled particles residing at V616, while the other ends radiate in a spherical pattern covering the V616 Gravisphere. Note in Figure 1, there are other identified smaller Black Holes in our Milky Way galaxy which have their own set of entangled particles, but because one end of the entanglement is always fixed at a Black Hole, the other ends radiate out with weakening influence throughout the universe. However, each Black Hole has its unique set of entangled particles which can therefore be best described as operating in a separate dimension to all other Black Holes. This could be otherwise illustrated as entangled particles operating on separate floors in a high rise building with no connection between the floors.

Notes:[7]

> *Why is there more matter than antimatter?*
>
> *The question of why there is so much more matter than its oppositely-charged and oppositely-spinning twin, antimatter, is actually a question of why anything exists at all. One assumes the universe would treat matter and antimatter symmetrically, and thus that, at the moment of the Big Bang, equal amounts of matter and antimatter should have been produced. But if that had happened, there would have been a total annihilation of both: Protons would have cancelled with antiprotons, electrons with anti-electrons (positrons), neutrons with antineutrons, and so on, leaving behind a dull sea of photons in a matterless expanse. For some reason, there was excess matter that didn't get annihilated, and here we are. For this, there is no accepted explanation. The most detailed test to date of the differences between matter and antimatter, announced in August 2015, confirm they are mirror images of each other, providing exactly zero new paths toward understanding the mystery of why matter is far more common.*

It seems the missing antimatter resides at black hole boundaries.

[7] https://www.livescience.com/34052-unsolved-mysteries-physics.html

3. Matter Waves[8]

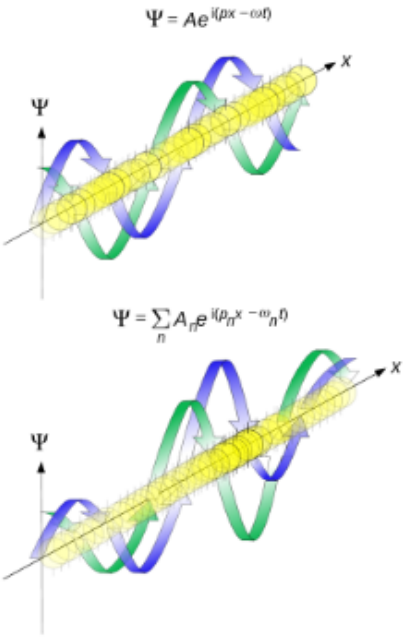
Matter waves **(Figure 3)** *are a central part of the theory of quantum mechanics, being an example of wave–particle duality. All matter can exhibit wave-like behavior. For example, a beam of electrons can be diffracted just like a beam of light or a water wave. The concept that matter behaves like a wave is also referred to as the* ***de Broglie hypothesis*** *(/dəˈbrɔɪ/) due to having been proposed by Louis de Broglie in 1924.[1] Matter waves are referred to as* ***de Broglie waves****.*

The ***de Broglie wavelength*** *is the wavelength, λ, associated with a massive particle and is related to its momentum, p, through the Planck constant, h:*

$$\lambda = \frac{h}{p}.$$

Wave-like behavior of matter was first experimentally demonstrated by George Paget Thomson's thin metal diffraction experiment, and independently in the Davisson–Germer experiment both using electrons, and it has also been confirmed for other elementary particles, neutral atoms and even molecules. The wave-like behavior of matter is crucial to the modern theory of atomic structure and particle physics.

The relationship is now known to hold for all types of matter: all matter exhibits properties of both particles and waves.



Propagation of **de Broglie waves** in 1d – real part of the complex amplitude is blue, imaginary part is green. The probability (shown as the color opacity) of finding the particle at a given point *x* is spread out like a waveform; there is no definite position of the particle. As the amplitude increases above zero the curvature decreases, so the amplitude decreases again, and vice versa. The result is an alternating amplitude: a wave. Top: plane wave. Bottom: wave packet.

Figure 3

The nature of entangled particles is of critical importance because it explains why the speed of light is not a factor in explaining how gravity can influence at a distance.

We also know that entangled particles can operate over long distances. Recent research reports:[9]

> *Scientists have used satellite technology for the first time to generate and transmit entangled photons — particles of light — across a record distance of 1,200 kilometres on Earth.*

While this is not the same distance as light years, there is nothing here to exclude the possibility of those larger distances. It appears that a stable conduit of waves and particles is formed between the entangled particles, or groups of particles, which are not distant dependant. The conduit appears to operate as an elastic link between V616 and other masses in the V616 Gravisphere. As a conduit link it is possible to regard the entire conduit as a single entity. Activity anywhere along the link will provide simultaneous reaction throughout the entangled group, and is not dependant on the speed of light

[8] https://en.m.wikipedia.org/wiki/Matter_wave
[9] http://www.abc.net.au/news/science/2017-06-16/chinese-satellite-breaks-quantum-entanglement-distance-record/8620240

4. HAWKING RADIATION[10]

> ***Hawking radiation*** *also known as* ***Hawking-Zel'dovich radiation***[1] *is blackbody radiation that is predicted to be released by black holes, due to quantum effects near the event horizon. It is named after the physicist Stephen Hawking, who provided a theoretical argument for its existence in 1974,*[2] *and sometimes also after Jacob Bekenstein, who predicted that black holes should have a finite entropy.*[3]
>
> *Hawking's work followed his visit to Moscow in 1973 where the Soviet scientists Yakov Zeldovich and Alexei Starobinsky showed him that, according to the quantum mechanical uncertainty principle, rotating black holes should create and emit particles.*[4] *Hawking radiation reduces the mass and energy of black holes and is therefore also known as* ***black hole evaporation****. Because of this, black holes that do not gain mass through other means are expected to shrink and ultimately vanish. Micro black holes are predicted to be larger emitters of radiation than larger black holes and should shrink and dissipate faster.*

The phrase "black holes should have a finite entropy" means that as matter enters a black hole, the sum of the new mass and total system energy cannot be any greater than it was before the new mass entered into consideration. In other words as new mass enfolds into a black hole, there must be an equivalent mass or energy emitted so the overall state of 'entropy' does not change. This implies that entangled particles generated at a black hole also transmit energy. Some of the energy is in the form of entangled particles delivering gravity, while another energy form emerges as cosmic radiation.

Black Hole radiation appears to be a variable emission based on the quantity of material entering the region. This is similar to feeding a fire with fuel. Smoke appears as new fuel is added, but disappears once the fuel is consumed. Evidence of this type of phenomenon has been observed:
Starting in 2009, J1415+1320 started doing something extremely strange. Over the course of about a year, the blazar grew brighter, then dimmer, then brighter again. Plotting its brightness over time revealed a symmetrical U shape in the data.
And
Now, Readhead and his colleagues argue that they're seeing the blazar's black hole emit tiny burps of plasma, magnified hundreds of times by a new kind of gravitational lens.

The EGE radiation field emanating from a black hole initially operates as electromagnetic radiation which includes electromagnetic momentum[11]. These are entangled particles with one end stable at the black hole and referred to as alpha, and the other end having a vector trajectory away from the black hole, we refer to as beta.

If beta is heading towards another black hole, it will encounter a growing concentration of similar particles which will cause a repelling action. This affect transmits back to both black holes via their elastic links with the net effect being that the black holes tend to move apart. The largest black holes have the most pushing power and are found at the centre of galaxies while smaller black holes exist on the galaxy arms. Similarly, galaxies tend to move away from each other leading to an expanding universe.

If beta heads towards the limit of its gravisphere, it will stay attached at alpha, but exist as a progressively weakening group of entangled particles, and weaker gravity attraction following the inverse-square law.

[10] https://en.m.wikipedia.org/wiki/Hawking_radiation
[11] https://en.m.wikipedia.org/wiki/Radiation_pressure

If beta meets another mass operating in the same dimension, it will attach to form an entangled elastic link with alpha at its parent black hole.

Figure 4

This elastic link can transfer energy to the mass in response to any exercise of the link. A comparison with a violin string is appropriate. **Figure 4**[12] shows the bow impacting the string and causing it to emit energy in the form of sound. At the finger board end the strings are closer together and similar to alpha. The bridge end shows strings further apart and less concentrated, similar to beta.

EGE fields are not exclusive to black holes, but do exist between mass objects. So the Moon is attracted to the Earth and both to the Sun. These are strong gravitational fields, but a weak field of attraction also exists with V616.

EGE can be impacted by objects orbiting within its sphere of influence, and the energy produced takes the form of extra mass[13] created in the orbiting object. In this way, mass is transferred from the black hole back to objects orbiting in the Gravisphere. More massive orbiting objects probably have more momentum and will attract the most extra mass.

When black holes approach each other, Coulomb's inverse square law of repulsion applies as they both have similar surface charges. However, Newton's law of universal gravitation also applies which serves to attract the two black holes more strongly as they approach each other. Apparently, Newton's law prevails on a significant number of occasions as there are a few recent recordings of these collisions.

[12] https://www.youtube.com/watch?v=OOEOLjbKDmo

[13] https://en.wikipedia.org/wiki/Matter_creation

5. COLLIDING BLACK HOLES

Note:[14]

> *Scientists have detected for the third time gravitational waves coming from the merging of two massive black holes somewhere in the universe, the wrinkles in the fabric of space and time created by a powerful cosmic collision.*
>
> *About 3-billion light-years away from Earth, the two black holes, far more massive than our sun, whirled around each other and eventually collided, generating waves like ripples in a pond. The waves spread out into the universe, expanding and contracting spacetime as they went. They reached Earth in January, where they were detected as tiny vibrations by sensitive instruments in twin observatories in Louisiana and Washington state. The collision created a single, bigger black hole, with a mass about 49 times that of the sun, the Laser Interferometer Gravitational-Wave Observatory (LIGO) announced Thursday.*
>
> *LIGO first detected gravitational waves in September 2015 and publicly announced the discovery in February 2016, a century after Albert Einstein predicted their existence. The observatory announced a second detection last June, made in December 2015.*

Gravitation waves are generated when a pair of black holes collides together. During this collision the EGE entangled particles from the smaller black hole are orphaned by the larger body, when their alpha ends are absorbed by the larger black hole.

This results in a ripple effect across the entire universe which is recorded on LIGO instruments. We can describe this as black hole "A" consuming black hole "B", so "B" no longer exists.

The orphaned entangled particles from "B" may not exhibit any gravitational attraction towards "A", because the centre of their Gravisphere "B" no longer exists and the capturing Gravisphere "A" operates in a different dimension. The net result is that orphaned planets from Gravisphere "B" can operate as rogue planets **Figure 4** roaming the galaxy[15] and not exhibiting any gravitational attraction to another body.

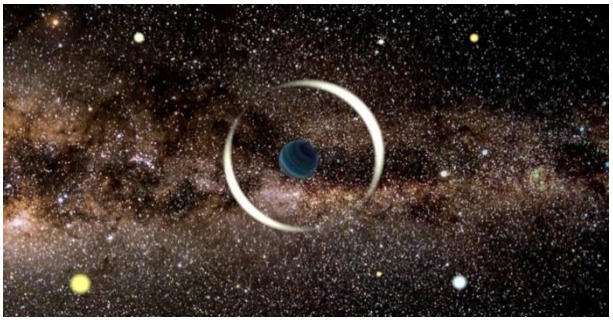


Figure 4 QUICK FLASH The light from a distant star may temporarily brighten when a free-floating planet passes in front of the star. This artist's illustration shows how a rogue planet's gravity distorts and focuses distant starlight as a ring

[14] https://www.theatlantic.com/science/archive/2017/06/gravitational-waves-black-holes/528807/

[15] https://www.sciencenews.org/article/fewer-big-rogue-planets-roam-galaxy-recount-shows

APPENDIX - A

It is reported that[16]

> *"the gravitational force is extremely weak compared with other fundamental forces For example, the gravitational force* (Fg) *between an electron and proton one meter* (d1) *apart is approximately 10^{-67} N* (Newtons)*, whereas the electromagnetic force between the same two particles is approximately 10^{-28} N. Both these forces are weak when compared with the forces we are able to experience directly, but the electromagnetic force in this example is some 39 ($^{-69}$ to $^{-28}$ = $^{-39}$) orders of magnitude (i.e. 1039) greater than the force of gravity—roughly the same ratio as the mass of the Sun compared to a microgram".*

This information is useful for checking to see how far away a Black Hole would have to be from Earth if the cause of our gravity turned out to be a Black Hole stripping electrons. Now we can check to see if the gravitational attraction on Earth is related to the much stronger electromagnetic force at a Black Hole.

Let us assume Fg (gravitational force) between the two objects (electron and proton) reduces with distance from a Black Hole, as per the inverse square law, and d1 is 1 metre. Then d2 is the distance to a Black Hole and the electromagnetic force between the electron and its atom is Fe.

$$\frac{F_e}{F_g} = \frac{d1^2}{d2^2} \tag{3}$$

So d2 is equal to $\sqrt{\frac{F_e/F_g}{d1^2}}$ the term d1 is equal to 1, and d2 becomes $\sqrt{F_e/F_g}$

We can calculate the distance d2 which is 3.16^{19} metres away. Converting that distance to light years, (divide by 9.64^{15} metres). Distance from Earth is 3,343 light years.

[16] George T. Gillies. "The Newtonian gravitational constant: recent measurements and related studies". *Reports on Progress in Physics*, 60:151-225, 1997. Text at http://www.worldwizzy.com/library/Gravitational_constant