BLACK HOLE RADIATION[1]
Entangled Gravity

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ABSTRACT

This paper completes a review of the Gravispheres concept wherein black hole V616 is regarded as the centre of the gravisphere in which the Solar System resides. V616 also represents the location where the strongest local gravity field exists with electromagnetic gravity strings radiating (EGS) from that point. Detail of how EGS form includes a consideration of positronium, Feynman Diagrams, Hawking radiation, quantum entanglement, and quantum energy teleportation. The energy gains of a black hole show that 12.05% of the incoming energy is retained at the black hole.

Keywords:

V616, inverse-square law, Gravitational Constant, G, positron, positronium, EGS, egs, Event Horizon, free neutron, free electron, elastic link, gravity field, expanding earth, Mid Atlantic Ridge, Chalcocite, Cu_2S, Hawking radiation, QET, Feynman Diagram

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[1] http://www.bosmin.com/PSL/BlackHoleRadiation.pdf

1.   BACKGROUND

The BIG BANG OR STEADY STATE[2] paper shows the illustration in Figure 1. It concludes that Black Hole (BH) AO620/V616Mon[3] (V616) is the centre of our gravitational zone of influence, and that the Solar System gravity forms at V616.

The gravity so formed follows the inverse-square law to become weaker with increasing distance from the BH. Included, is a distance calculation that compares the gravity attraction to the electromagnetic attraction of an electron towards a proton, which is 10^39 greater.

Figure 1.

This treatise implies that the "Gravitational Constant"[4] value G varies throughout the universe, and also suggests material digested into BHs results in positrons with electrons (positroniums) being formed at the BH.

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[2] http://www.bosmin.com/PSL/BigBangOrSteadyState.pdf

[3] https://en.wikipedia.org/wiki/A0620-00

[4] https://en.wikipedia.org/wiki/Gravitational_constant

Positrons and electrons remain entangled to form Electromagnetic Gravity Strings (**EGS**). Figure 2 illustrates a summarised BH digestion process, including "pair production"[5].
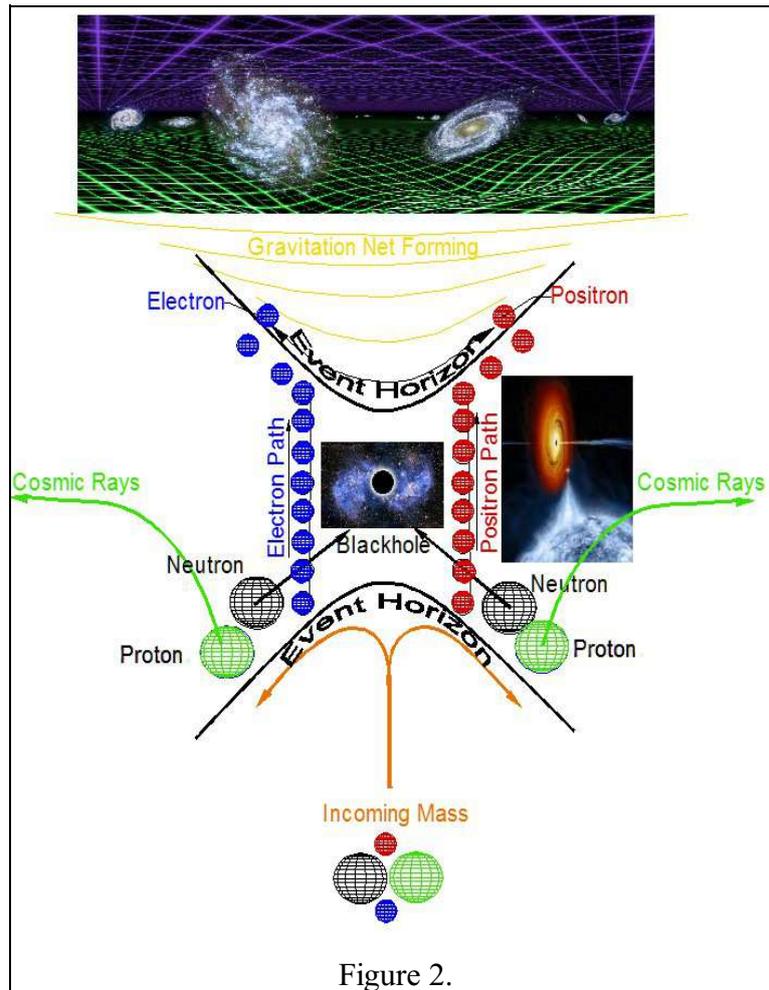

Figure 2.

This figure shows the BH structure with incoming mass moving along the first Event Horizon where electrons, protons and neutrons are progressively stripped off. These components form into EGS, cosmic rays and enhanced BH mass, respectively.

Neutrons become 'free' neutrons which normally would suffer a half-life decay of 10 to 15 minutes. This is a particular conundrum facing research into neutron stars and BHs as further discussed.[6]

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[5] https://en.wikipedia.org/wiki/Pair_production

[6] https://phys.org/news/2018-08-neutron-stars-puzzle-earth.html

The Natural Gravity paper[7] describes how gravity in the solar system is centred on BH V616, where the most energetic rays at 3.10E+008 joules per photon attach preferably to the largest solar system mass, being the Sun. Figure 3.

Figure 3.
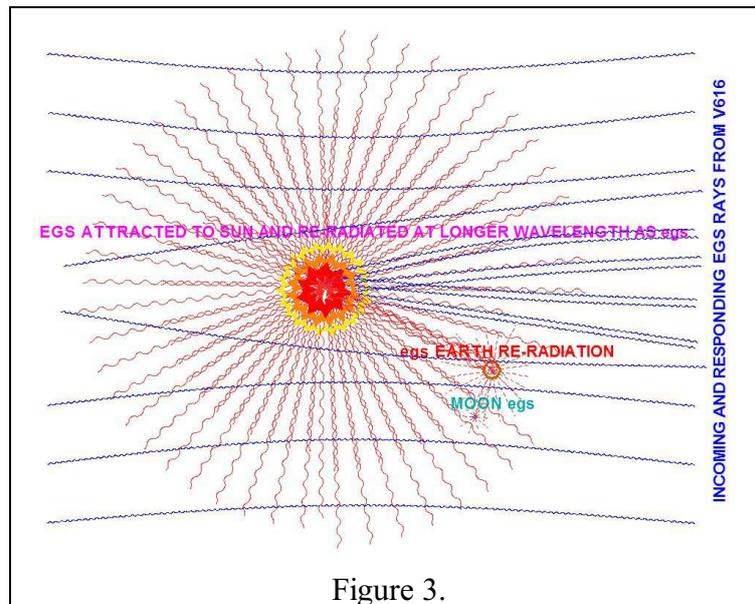
Gravity rays retransmit from the Sun, at a longer wave length and at a lower energy of 1.24E-003 joules per photon, to the rest of the Solar System. These emissions are referred to as **egs** rays. Every mass in the solar system receives egs rays and retransmits gravity rays at a lower energy level, proportional to their sizes.

The GRAVIMASS[8] report highlights 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 further concludes that 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.

This is most dramatically illustrated in Figure 4 showing the Mid Atlantic Ridge details.[9]

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[7] http://www.bosmin.com/PSL/InterstellarGravity.pdf

[8] http://www.bosmin.com/PSL/GRAVIMASS.pdf

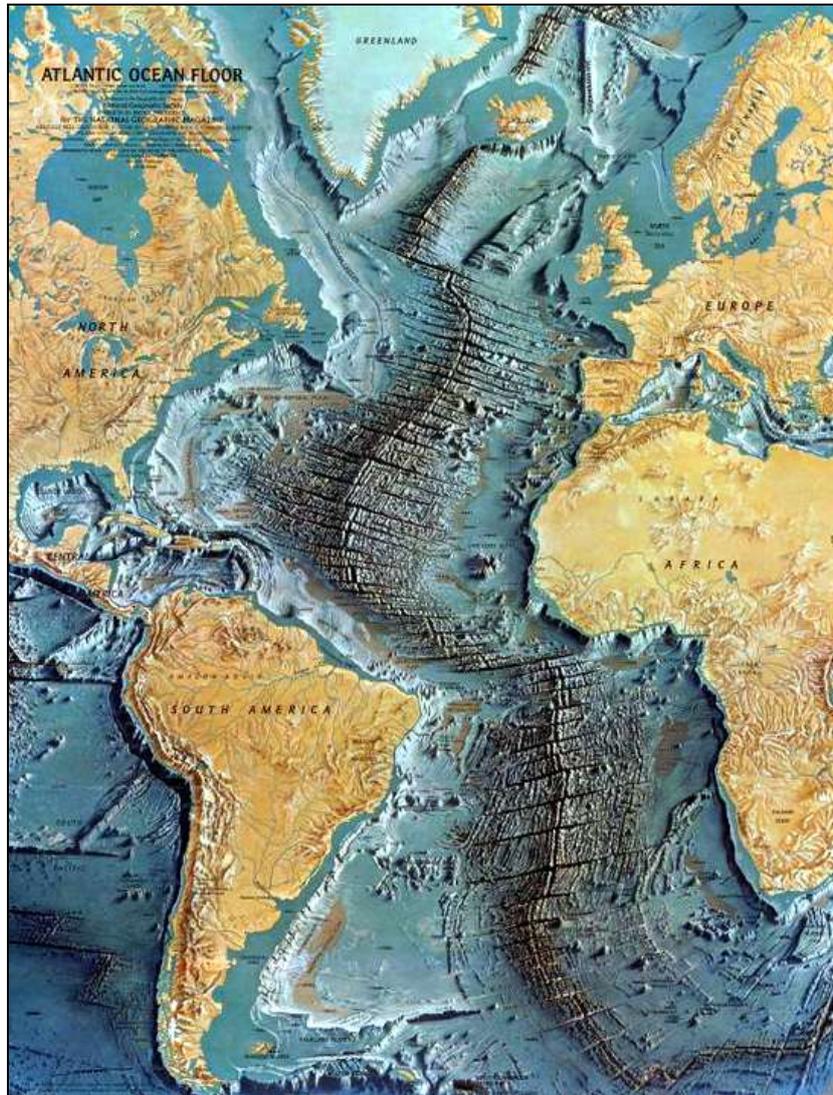[9] https://news.nationalgeographic.com/2017/02/marie-tharp-map-ocean-floor/#/01_map_post_0215.jpg

Figure 4.

This Black Hole Radiation paper considers the nature of this phenomenon in more detail and explores gravity as an example of quantum entanglement.

2. MASS TRANSFER FROM BLACK HOLE V616

The average density of the Earth is quoted as 5.51 g/cm³ (5,500 kg/m³). This is close to the density of the mineral Chalcocite (Cu_2S) which varies from 5.5 to 5.8 and averages 5.65.[10] Chalcocite will be regarded as the average representation of the Earth's components.

The mass accumulated from the action of gravity on Earth is calculated to be 212,245 tonnes per annum.[11] Using this information, we can calculate the rate of energy transfer from V616 to Earth shown in Table 1.

Inputs			
Mass accumulating on Earth	kg pa	2.12E+008
Density of Chalcocite (Cu2S)	kg/m3	5500
Convert joule to watt-hour	##	2.78E-004
Speed of light	mps	3.00E+008
Outputs			
Rest Energy of 5500 kg of Cu2S	Joules	4.94E+020
Rest Energy of 5500 kg of Cu2S	watt-hour	1.37E+017
Volume of Cu2S accumulated each hour	m3	4.40E+000
Energy equivalent transferred from V616 to Earth	watt-hour	6.04E+017
TABLE 1.		

This compares with the rate of energy radiated from the Sun at 1.38E+030 watt-hour, showing the mass accumulation rate on Earth is very small compared to the energy radiating from the Sun. However, as shown in Figure 3, the energy transfer to Earth possibly comes via the Sun, and is consistent with a submarine hum recorded in the Indian Ocean east of Madagascar, at frequencies between 2.9 and 4.5 millihertz.[12]

Interim Conclusion.
1. Energy transfer to Earth possibly comes via the Sun, and is consistent with a submarine hum recorded in the Indian Ocean.

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[10] http://www.webmineral.com/data/Chalcocite.shtml#.Xvaa9qYlHb0

[11] http://www.bosmin.com/PSL/GRAVIMASS.pdf

[12] https://www.sciencealert.com/earth-s-hum-recorded-bottom-of-the-ocean-permanent-free-oscillations

3.   HAWKING RADIATION[13]

> ***Hawking radiation**, Radiation theoretically emitted from just outside the event horizon of a black hole. Stephen W. Hawking proposed in 1974 that subatomic particle pairs (photons, neutrinos, and some massive particles) arising naturally near the event horizon may result in one particle's escaping the vicinity of the black hole while the other particle, of negative energy, disappears into it. The flow of particles of negative energy into the black hole reduces its mass until it disappears completely in a final burst of radiation.*

And:[14]

> *Hawking radiation is black-body radiation that is predicted to be released by black holes, due to quantum effects near the black hole event horizon. It is named after the theoretical physicist Stephen Hawking, who provided a theoretical argument for its existence in 1974.*
>
> *Hawking radiation reduces the mass and rotational 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. As the radiation temperature is inversely proportional to the black hole's mass, micro black holes are predicted to be larger emitters of radiation than more massive black holes and should thus shrink and dissipate faster.*

As new mass enfolds into a BH, there must be an equivalent mass or energy retained, or emitted so that the overall state of 'entropy' does not change. This implies that entangled particles generated at a BH also transmit energy. Some of the energy is in the form of entangled particles delivering gravity, while another energy form emerges as cosmic radiation. The retained mass fraction stays in the BH which increases in size over time, provided material continues to enter the BH.

> *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[15]

> *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.*

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[13] https://www.britannica.com/science/Hawking-radiation

[14] https://en.m.wikipedia.org/wiki/Hawking_radiation

[15] https://www.sciencenews.org/article/gravitational-lens-black-hole-astronomy

BH 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 and flames appear as new fuel is added, but disappears once the fuel is consumed.

Interim Conclusion.
1.   The retained mass fraction stays in the BH which increases in size over time, provided material continues to enter the BH.
2.   BH radiation appears as a variable emission based on the quantity of entering material.

4.   QUANTUM ENTANGLEMENT[16]

> "**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 forming the V616 Gravisphere. Figure 1 shows other tentatively identified smaller BHs in our Milky Way galaxy, which would have their own set of entangled particles, but because one end of the entanglement is always fixed at a BH, the other ends radiate out with weakening influence throughout the universe.

Comment notes:[17]

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 tests 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 may partly, reside at BHs.

Importance for the black hole problem:[18]
We have seen that vacuum fluctuations produce particle pairs near the horizon. One member of the pair is inside, and one outside.
Suppose for concreteness that particles making up the pair are an electron and a positron. Is the electron inside the horizon, or is the positron inside the horizon?

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[16] quantum entanglement

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

[18] https://www.asc.ohio-state.edu/mathur.16/infopublic/info2.4.html

From what we have seen about entangled states, we can guess that the state we will get is an entangled state of the form

Thus the electron is inside if the positron is outside, and the positron is inside if the electron is outside.

However, positrons associated with a BH appear to form a vital function, because the positive charge inherent to the positron, stabilise the neutrons within the BH. Under these circumstances, the entangled electron-positron pair will always have the positron residing in the BH. The electron is free to radiate from the BH in a fashion predicted by Hawking Radiation.[19] The distribution force comes from the large accumulation of negatively charged electrons residing at the surface of the BH, which ultimately causes repulsion discharge into space as EGS, but the electrons stay entangled with the positrons attaching to the neutrons within the BH.

Under these circumstances, the entangled particles can transport energy as described:[20]

Energy-Entanglement Relation for Quantum Energy Teleportation
Masahiro Hotta
Protocols of quantum energy teleportation (QET), while retaining causality and local energy conservation, enable the transportation of energy from a subsystem of a many-body quantum system to a distant subsystem by local operations and classical communication through ground-state entanglement. We prove two energy-entanglement inequalities for a minimal QET model. These relations help us to gain a profound understanding of entanglement itself as a physical resource by relating entanglement to energy as an evident physical resource.

And,[21]

General Relativity says that any form of energy is a source of gravity.

We also know that entangled particles can operate over long distances. Recent research reports:[22]

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[19] https://en.wikipedia.org/wiki/Hawking_radiation

[20] https://arxiv.org/abs/1002.0200

[21] https://van.physics.illinois.edu/qa/listing.php?id=28195&t=does-energy-cause-gravity

[22] https://www.abc.net.au/news/science/2017-06-16/chinese-satellite-breaks-quantum-entanglement-distance-record/8620240

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 EGS link provides simultaneous reaction throughout the entangled group, and is not dependant on the speed of light

The energy released by a positron being absorbed into a BH can be calculated by assuming the positron is removed from the energy system, thereby reducing the system entropy, but implying that energy is radiated beyond the BH, as a gravity field.

Interim Conclusions
1.   Positrons associated with a BH appear to form a vital function by stabilising neutrons within the BH.
2.   The entangled electron-positron pair at a BH, will always have the positron residing inside the BH.
3.   The electron is free to radiate from the BH.
4.   Electrons stay entangled with their positrons inside a BH, to form EGS gravity fields.

5.   FEYNMAN DIAGRAMS[23]

Feynman Diagrams are pictorial representations of the interactions of subatomic particles. The big advantage of Feynman Diagrams is that it not only tells you what goes into the interaction and what comes out, but also what goes on during the interaction itself.

In this discussion the decay of a neutron is relevant as discussed as follows:[24]
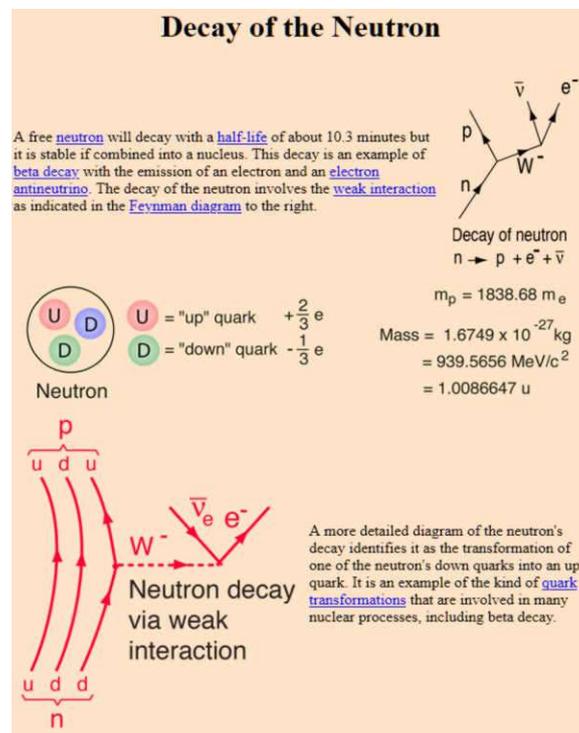
However, "Positron emission[25] occurs when an up quark changes into a down quark."[26]

This raises the question: Can the down quark associated with a positron stabilise a free neutron by preventing 'one of the neutron's down quarks becoming an up quark?

[23] https://digestiblenotes.com/physics/fundamental_particles/feynman_diagrams.php

[24] http://hyperphysics.phy-astr.gsu.edu/hbase/Particles/proton.html

[25] https://en.wikipedia.org/wiki/Positron_emission#cite_note-3

[26] https://en.wikipedia.org/wiki/Positron_emission

6. FREE NEUTRON QUARK DEPICTION

Free neutrons are defined as neutrons operating without a proton associate. Under those circumstances the neutron becomes unstable and is known to have a short half-life and rapidly deteriorates into a proton, electron and an antineutrino.[27] It appears that the positive charge associated with the proton acts to stabilise the neutron. There must be a form of stabilisation for a free neutron to explain how these particles can exist in a stable state at megnetars, neutron stars, BHs, and elsewhere in the universe.[28]

Of interest in the current BH discussion is; can the positive proton charge be replaced by the positive charge of a positron, if so how?

The details of the Quark Diagram Figure 5 suggest how this might occur.

Figure 5.
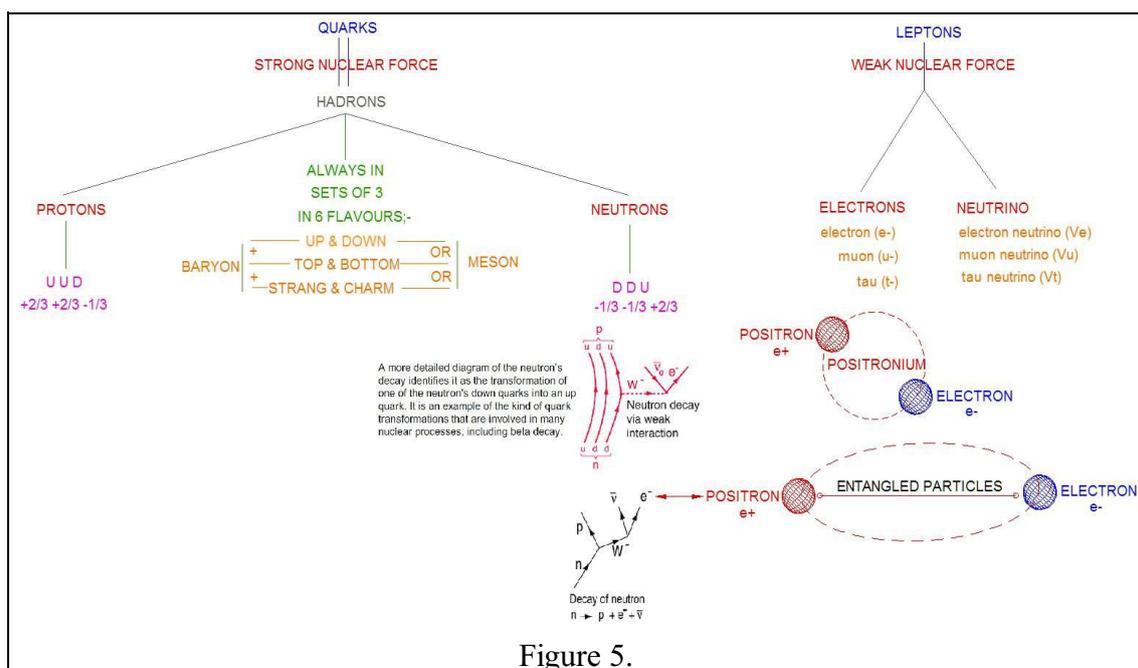
The Feynman Diagram at the bottom of the Neutrons column shows a free neutron with a hanging e- charge. The positronium diagram includes an e+ charge, and shows the situation presumed to occur as an electron enters a BH at a similar time that a free neutron forms. Before the neutron can decay, a positron attaches to the neutron, providing the required stabilising positive charge. However, the positron is still entangled with its electron which radiates from the BH, as an entangled particle. This entangled association at a BH is expected to cause the strong gravity field inherent to a BH.

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[27] https://www.fnal.gov/pub/science/inquiring/questions/beta_decay.html

[28] https://phys.org/news/2018-08-neutron-stars-puzzle-earth.html

This raises the possibility that free neutrons may be able to associate with positroniums in nature if this unusual event can occur naturally. The result should be a micro gravity sphere which might grow into a more substantial structure? The current revision alters Figure 2, which now appears as Figure 6:
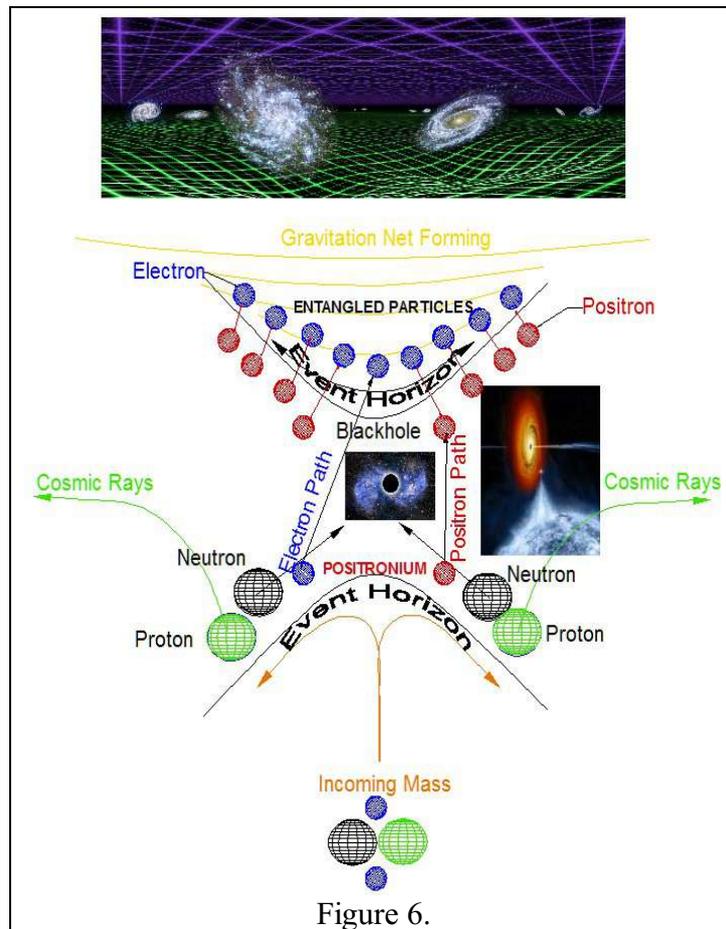

Figure 6.

Figure 6 shows the positronium combination entering the BH together with neutrons and protons. The protons become separated and eject as Cosmic Rays close to the speed of light, due to the high positive charge within the BH.[29] Free neutrons associate with positrons staying within the BH while also being entangled with their electron pair, as it radiates from the BH forming a strong gravity field.

This raises the possibilities that "free" electrons reaching the Sun can associate with local positrons to complete the V616 to Sun gravity field. The Sun can then radiate "free" electrons to the planets, thereby completing the gravity reflection experience.

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[29] http://www.bosmin.com/PSL/M87Galaxy.pdf

Interim Conclusions
1. The positive proton charge of a neutron might be replaced by the positive charge from a positron.
2. A positronium combination might lead to an entangled association with an electron which forms into a gravity field.
3. "free" electrons reaching the Sun can associate with local positrons to complete the V616 to Sun gravity field, as shown in Figure 3. The Sun can then radiate "free" electrons to the planets, thereby completing the gravity reflection experience.

7. BLACK HOLE ENERGY BALANCE

If a planet like the Earth entered a BH, there would be a release of energy, estimated by adopting the following logic. The average Earth density is reported to be approximately 5.5 g/cc, close to the density of Chalcocite Cu_2S. A molecule of Chalcocite includes 2 atoms of Cu, combined with one atom of S as shown in Figure 7.[30]

Figure 7.
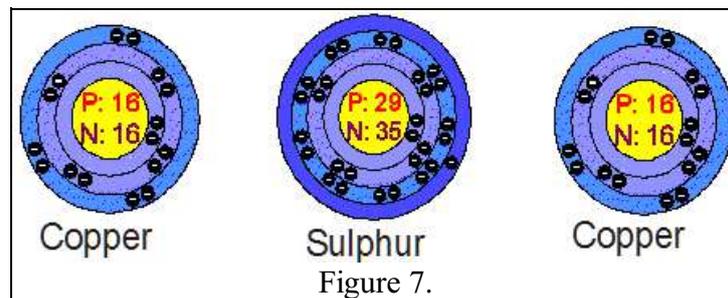
A Chalcocite molecule consists of 74 protons, 74 electrons, and 86 neutrons. Now assume one molecule is consumed at a BH. The energy released going into the BH includes, the strong nuclear hadron force between Cu and S as well as the weak nuclear lepton force attaching to the electrons.

The rest energy of this combination amounts to a total of 2.41E-008 joules as shown in Table 2, under BH Reconciliation. The energy released from the BH includes both rest and kinetic energy as protons in cosmic rays, and electrons associated with the gravity field radiation. This amounts to 2.12E-008 joules.

The energy gain at the BH of 2.90E-008 joules includes both neutrons and positrons, and shows that 12.05% of the incoming energy is retained at the BH.

Interim Conclusions
1. The BH retains 12.05% more energy than is released.
2. A BH will grow in size as long as incoming material feeds into it.

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[30] http://www.chemicalelements.com/elements/cu.html

BH Receipts			
	Proton Rest Energy	MeV	938.28
	Neutron Rest Energy	MeV	939.57
	Electron Rest Energy	MeV	0.511
	Cu2S Protons	##	74
	Cu2S Neutrons	##	86
	Cu2S Electrons	##	74
	Cu2S Positrons	##	74
	Convert MeV to Joules	##	1.60E-013
BH Outputs			
	Mass of Proton	kg	1.67E-027
	Mass of Electron	kg	9.11E-031
	Protons	##	74
	Electrons	##	74
	Speed of light c	mps	3.00E+008
	Proton Cosmic Ray exit speed % of c	%	95%
BH Reconciliation			
	Incoming Rest Energy per Cu2S molecule	Joules	2.41E-008
	BH Rest Energy Released per Cu2S molecule	Joules	1.11E-008
	Cosmic Ray Kinetic Energy per molecule	Joules	1E-008
	Gravity Kinetic Energy per molecule	Joules	6.06E-012
	BH Total Released Energy of Cu2S molecule	Joules	2.12E-008
	BH energy gain per molecule	Joules	2.90E-009
	Proportion of BH retained energy	%	12.05%
	TABLE 2		

8.   CONCLUSIONS

1.   Energy transfer to Earth possibly comes via the Sun, and is consistent with a submarine hum recorded in the Indian Ocean.

2.   The retained mass fraction stays in the BH which increases in size over time, provided material continues to enter the BH.

3.   BH radiation appears as a variable emission based on the quantity of entering material. Positrons associated with a BH appear to form a vital function by stabilising neutrons within the BH.

4.   The entangled electron-positron pair at a BH, will always have the positron residing inside the BH.

5.   The electron is free to radiate from the BH.

6.   Electrons stay entangled with their positrons inside a BH, to form EGS gravity fields.

7.   The positive proton charge of a neutron might be replaced by the positive charge from a positron.

8.   A positronium combination might lead to an entangled association with an electron which forms into a gravity field.

9.   "free" electrons reaching the Sun can associate with local positrons to complete the V616 to Sun gravity field. The Sun can then radiate "free" electrons to the planets, thereby completing the gravity reflection experience.

10.   The BH retains 12.05% more energy than is released.

11.   A BH will grow in size as long as incoming material feeds into it.