

New Insights into Black Holes – Including, No Particle Evaporation & Detecting Their Internal Structure

ABSTRACT

Unfortunately, this theory contradicts that of someone I greatly admire -Stephen Hawking. I emailed him a few questions in the past, that I thought only he could answer!

This theory assumes that

#1 Negative energy does not exist.

#2 Matter-energy cannot be created or destroyed.

#3 Matter-energy cannot cross the 3 dimensional event horizon of a black hole.

#4 Electro-magnetic radiation cannot cross the 3 dimensional event horizon of a black hole.

#5 Gravity cannot be created or destroyed.

#6 Gravity can cross the 3 dimensional event horizon of a black hole.

#7 Information (from information theory) cannot be created or destroyed.

#8 Information (from information theory) can cross the 3 dimensional event horizon of a black hole.

#9 Electrons & positrons are **EMITTED from the energy just outside the event horizon of the black hole! (Only half of the “energy that is converted to mass” is EMITTED. The other half is ADDED TO THE MASS OF THE BLACK HOLE!)**

#10 A black hole **GAINS MASS** from the energy just outside the event horizon, whilst “emitting” electrons & protons!

#11 The only “entropy energy” that is “allowed” to cross the 3 space-dimensional event horizon of a black hole is gravitational energy!

#12 Black holes “emit gravitational energy”! This “emitted radiation” should reduce the mass of a black hole!

#13 To create an electron-positron pair there would be minimum values required for these values:- (a) amount of energy; (b) energy density; (c) energy density gradient.

#14 The matter spiralling in towards the black hole could continue inwards, through the event horizon, looking like a hurricane.

#15 The “eye of the storm” of the black hole could be “mostly mass free”.

#16 The “lumpiness” of matter just inside a galactic black hole’s event horizon could be measured by the “gravity probes” of changes in the orbital movements of its nearby stars.

#17 The “gravity probe analysis” of the masses moving within the black holes, would also reveal their angular momentum.

#18 Our universe could come from the collapse of a “super-super star” in a previous universe, transferring “our mass & energy”, through its event horizon, into our universe!

#19 The transfer would start quickly, proceed quickly, end quickly, when the “pre-universe’s star” ran out of matter- energy around its event horizon, or our universe expanded beyond the “pre-universe’s star’s” “energy-matter region” outside its event horizon! The “matter-energy” transferred would be very homogeneous, leading to the very even cosmic microwave background radiation!

#20 absolute measurements are where only “one measurement” is needed for “a measurement”
e. g. mass, charge, temperature.

#21 relative measurements are where “two measurements” are needed for “a measurement”; it needs a start & stop to create “a measurement”

#22 The pre-universe star’s universe properties – could have absolute measurements of matter-energy (& maybe 1 space dimension & 2 time dimensions that were “incompatible with our space & time dimensions)

#23 Our universe, before the merger, could have been balanced with 3 space dimensions & 3 time dimensions.

#24 The merger then ADDED 1 “different” space dimension (only evidence; gravity sidesteps the 3 dimensional event horizon of a black hole & our universe is expanding like a 4 dimensional sphere (all points see the same expansion!

#25 In the merger of the time dimensions, the two time dimensions from the “pre-universe star’s universe” cancelled out or destroyed two of our three dimensions of time!

ASSUMPTIONS

[1] We are aware, individual, intelligent beings, with awareness of our surroundings.

[2] We are not “holo-characters” in a “simulation of the past” programme, run by a future civilisation (of ours?).

[3] We are not “random fictional characters” in a computer entertainment programme, with different players “playing each of us” in the programme. (I wouldn’t want to play me; not enough fun, excitement & enjoyment!)

[4] A god is not necessary for the creation of our universe.

[5] The laws of mathematics & physics are the same throughout the universe.

[6] Mass, Energy, Electromagnetic radiation, Gravity, & Angular Momentum [MEEGAM] cannot be created or destroyed. The components of [MEEGAM] are considered as different aspects of the same thing, for simplicity. [MEEGAM] (The name is based on the initials of the inter-related properties only!)

[7] A black hole’s event horizon is a 3 dimensional barrier to [MEEGAM], except for gravity. Gravity “side-steps” the event horizon. Therefore gravity must exist & be detectable in 4 space-dimensions! Charge, angular momentum & information (theory) would not normally be detectable from outside the event horizon, but would add to the mass of a black hole! Charge & angular momentum of a black hole could be reduced if matter with properties “opposite to the predominant value” is “added” to the black hole!

[8] As the information of “information theory” must “follow” all aspects of [MEEGAM], including gravity, it, too, must exist in 4 space-dimensions. This means that information crossing the “3 space-dimensional event horizon” is only “invisible from a 3 space-dimensional point of view”. It is still traceable in the “4 space-dimensions of our universe”! No information is lost from the 4 D universe. No information paradox! No “hair” disappearing from a black hole!

[9] For the expansion of our universe, any point in it “sees equal expansion of space in all directions. This does not correspond to the expansion of a 3 space-dimensional object! (Like a balloon & its contents; it expands from a central point!) The expansion of our universe, does correspond to the expansion of a 4 space-dimensional ‘spherical’ object! Our universe is a 4 space-dimensional object!

[10] As the event horizon of a black hole is a one-way, 3 space-dimensional barrier to [MEEGAM] (except gravity), no particles or electro-magnetic radiation will be emitted, from a black hole, through its event horizon! However, there will be a region, just outside the event horizon, usually containing a high energy / mass density. At a certain distance out from the event horizon, in this region, the energy / gravitational gradient will easily convert the energy into electron-positron pairs. As each one of the pair moves off in an opposite direction, mostly, one of them will “fall into the black hole”, whilst the other “leaves the vicinity of the black hole”!

The black hole **GAINS MASS** from the energy just outside the event horizon!

Electrons & positrons are **EMITTED from the energy just outside the event horizon of the black hole!**

(Only half of the “energy; converted to mass” is EMITTED. The other half is ADDED TO THE MASS OF THE BLACK HOLE!)

[It is assumed that to create an electron-positron pair there would be minimum values required for these values:- (a) amount of energy; (b) energy density; (c) energy density gradient.]

There is no need for negative energy, negative particle or quantum tunnelling for what might, usually, be described as “Hawking Radiation”.

A WARNING:-

Stephen Hawking’s paper [at end of this document] states that there is a very rapid change in the size of small black holes. His viewpoint must now be swapped around, to them rapidly GAINING MASS from the energy-mass around them! Any small black hole created in a lab would, almost instantly, drill through the floor, sink all the way to the centre of the Earth, & rapidly start turning the Earth into a small black hole!

If there is no mass or energy in the region, just outside the event horizon, there should be no mass gain for the black hole! (but there is still gravitational energy there!)

[11] The previous paragraph precludes particle emission, as “Hawking Radiation”, from a black hole & would seem to eliminate mass reduction of black holes. However, black holes do “emit gravitational energy”! This “emitted radiation” should reduce the mass of a black hole!

[12] As black holes have entropy, they must be emitting energy! The 3 space-dimensional event horizon prevents the emission of any electro-magnetic radiation or mass particles (in the form of “energy”!) The only “energy” that is “allowed” to cross the 3 space-dimensional event horizon is gravitational energy! (It also creates potential energy.)

[13] This “emitted radiation”, from “within the black hole”, of gravitational energy, gives the black hole its entropy (its tendency to level out gravitational strength) & reduces its mass, eventually leading to the evaporation of the black hole!

[14] As “Hawking Radiation” is closely associated with the evaporation of the black hole, the “gravitational energy emitted radiation” that reduces the mass of the black hole, eventually leading to the evaporation of the black hole, should, forthwith, be known as “Hawking Radiation”!

The electron-positron pair “radiation” from the energy just outside the event horizon adds half of its mass to the black hole needs to be renamed. Maybe “black hole aura radiation”?

[15] Most black holes stay “in the centre” of planetary or galactic nebula & will therefore have matter spiralling in towards them. This could continue inwards, through the event horizon, looking like a hurricane. The nearer to the black hole centre that any mass is, the faster its circumferential velocity would be. It may even be travelling faster than light, within the black hole! This high velocity & high mass density may even convert all inward velocity to circumferential velocity!

[16] The “eye of the storm” of the black hole could be “mostly mass free”. The “incoming mass” would have an increasing pull (outwards) relative to the “centre of the black hole”, on moving towards the centre of the black hole.

[17] The “lumpiness” of matter just inside a galactic black hole’s event horizon could be measured by the “gravity probes” of changes in the orbital movements of its nearby stars. Very rapid & very precise data gathering rates would be needed, because the masses inside the event horizon would be moving very fast!

[18] The “gravity probe analysis” of the masses moving within the black holes, would also reveal their angular momentum – a property that would previously been considered as “forever hidden by the event horizon of a black hole”!

[19] Our universe could come from the collapse of a “super-super star” in a previous universe, transferring “our mass & energy”, through its event horizon, into our universe! Just after the energy-matter “appeared” in our universe & the inflation had started, a feedback loop (as a triangle) started:-

{a} [increasing expansion of space] > bigger orbits

{b} bigger orbits > [increasing angular momentum] > matter moving apart

{c} matter moving apart > [decreasing gravitational attraction] > less hold on matter

{a} less hold on matter > [increasing expansion of space] > bigger orbits

BEYOND OUR UNIVERSE

[20] If it is assumed that [MEEGAM] cannot be created or destroyed in this universe, we have to look for an external source for it!

We will assume a previous universe (not tied to “[MEEGAM] cannot be created or destroyed in the universe”)

In this universe there is a super-superstar, (or maybe a very close binary) containing all the energy-mass for our universe (This could be the only star in that universe!)

It burned through its lifetime very fast & then went super-supernova, creating a super-super black hole. The black hole & its event horizon that it creates, is our universe & all the energy-matter came in through its event horizon at the “creation” of our universe!

[21] This is compatible with most “big bang theories”:-

(a) “having the right amount of energy-matter”, the enormous size would also give

(b) highly homogeneous energy-matter because of the enormous gravitational pressure from the enormous star. This would lead to a very homogeneous, even cosmic microwave background radiation.

(c) The energy-matter transfer would

{1} start rapidly when the pre-universe star went super-supernova.

{2} transfer the energy-matter rapidly through the pre-universe star’s event horizon.

{3} cease rapidly when there was no more energy-matter left just outside the event horizon!

{4} the rapid end explains the end of the inflationary period as the end of the transfer!

This requires that the energy-matter is created in a previous universe (where there is no restrictions on creating energy-matter!). The energy-mass transfer would end when one of these three things happened

{a} There is no more energy-mass to transfer!

{b} The energy-mass transfer rate falls below a certain rate.

{c} The expansion of the Universe’s black hole engulfs the energy-mass region that was just outside the event horizon of our universe.

[22] (From another theory of mine.) There are two different types of measurements:-
absolute & relative measurements.

{1} absolute measurements are where only “one measurement” is needed for “a measurement”

e. g. mass, charge, temperature.

{2} relative measurements are where “two measurements” are needed for “a measurement”; it needs a start & stop to create “a measurement”

e. g. length, time

(a) In the pre-universe star’s universe properties – could have absolute measurements only:-
mass, charge, temperature (from the mass & energy that is transferred to our universe)

(b) In our “pre-merger universe” it could have had relative measurements only:- (from the pre-existing length & time).

Our universe is a merger between two universes with different laws of physics. (Different universes can have different laws of physics.)

[23] Lets assume that all elementary particles are always in “the mass form” (another theory of mine has the “mass form” & the “wave form” swapping over in very rapid sequence.)

[24] There should be different event horizons for:-

(a) protons & neutrons

(b) electrons & positrons

(c) neutrinos

(d) electro-magnetic radiation,

in this order, going in towards the centre of the black hole (if the “mass form” is “fixed”).

EXTRAPOLATION OF LOGIC

TBA

CONCLUSIONS

See above.

Particle Creation by Black Holes S. W. Hawking [excerpt]

<https://www.brainmaster.com/software/pubs/physics/Hawking%20Particle%20Creation.pdf>

As the mass of the black hole decreased, the area of the event horizon would have to go down, thus violating the law that, classically, the area cannot decrease [7, 12]. This violation must, presumably, be caused by a flux of negative energy across the event horizon which balances the positive energy flux emitted to infinity. One might picture this negative energy flux in the following way. Just outside the event horizon there will be virtual pairs of particles, one with negative energy and one with positive energy. The negative particle is in a region which is classically forbidden but it can tunnel through the event horizon to the region inside the black hole where the Killing vector which represents time translations is space like. In this region the particle can exist as a real particle with a time like momentum vector even though its energy relative to infinity as measured by the time translation Killing vector is negative.