

Black-Holes

Black-Holes appear when a certain amount of mass pulled together by the Always Attractive spin2 Gravitational-Force F_G , results in this force $F_G = \frac{G m M}{r^2}$ on mass m attracted towards a Black Hole at

distance r with mass M to become so strong that even massless spin1 Photons, representing the Anti-Symmetrical EM-field i.e. "Light", cannot escape this Attractive Gravitational-Force of a Black-Hole.

Mass, i.e. Energy, Absorbed into a Black-Hole will never be able to leave this Black-Hole again, so the Gravitational-Force of a Black-Hole can only grow bigger as "time-passes". This is why after enough mass/energy is absorbed into a Black Hole all Elementary Particles so-called knot-together with an only increasing density.

As a direct result of required compliance to the Comprehensive Action Principle [CAP](#) all Elementary Particles can only be analyzed including the required spin2 Gravitational-Field! This is a spin2, i.e. mathematical Dual-effect: In the only Fermions, called "Matter-particles", allowing 4D-Spacetime analyses this CAP-demand requires all possible degrees-of-freedom to be analyzed in a [Dual](#) manner. Karl Schwarzschild only analyzed the GR Gravitational-Force on a Macroscopic-scale, i.e. for the paths of the planets of our solar-system around the sun in precessing elliptic orbits. However, he only analyzed point-particles (planets and sun) and their 2D-(z, t) motion, where z represents the coordinate in the direction-of-motion of an analyzed planet with respect to the sun (assumed to be at rest at the origin of the describing Inertial-frame). The discarded (x, y) degrees-of-freedom are easily included by analyzing the sun and planets as real extended objects with non-zero sizes as moving/rotating so-called "marbles"! In this way one-mathematical degree-of-freedom is accounted for in all possible 4D-Spacetime degrees-of-freedom.

However, compliance to the [CAP](#) must also be analyzed in the [Dual](#) Microscopic QM analyses! And this Second requirement of the [CAP](#) implies that Elementary Particles can NOT be described as Point-Particles anymore! Elementary Particles have to be described as [Ideal Harmonic Oscillating Waves in the 2D-plane Orthogonal to the described direction of motion of the analyzed Elementary Particle](#).

Describing [Elementary Particles](#) as Harmonic-Oscillating waves in the 2D-plane Orthogonal to the described direction of motion can only be described in the Complex so-called Hilbert-space, which is also ALWAYS used Not-Understood in ALL so-called Quantum Mechanical Analyses! There seem to be only [26](#) different Elementary Particles in our 3 Different Fermi-Families Universe, however other Universes may have other numbers $n > 0$ of giving the amount of different Fermi-Families.

After all [Elementary Particles](#) knotted together in their most-easily way, the Only Increasing F_G will finally become so strong to crush together the required Extensiveness of Elementary Particles into a Singularity! At this moment All Matter/Energy is crunched together into One-Single Mathematical-Point called the Singularity of the Black Hole.

We also have conservation of Energy, so After the Singularity of the Black Hole a Brand-New Universe comes to life in the form of a so-called [Big Bang](#)! At this moment the Black Hole seems to evaporate in the "Parent"-Universe, i.e. reduces into total Emptiness while it "Evaporates".

Why did Black-Holes also appear in the Pre-Big Bang period!?!

Before the First Big Bang, all possible [Elementary Particles](#) must also have been present in the only-possible infinite 4D-Spacetime available for all possible so-called Realities. The Pre-Big Bang situation however did NOT Start with a Big Bang, so this Pre-Big Bang period has average speeds equal to zero, so the only Attracting Gravitational Force F_G should have been the most-dominant in this Pre-Big Bang Reality. As a result the chance of occurring Black-Holes must have been the greatest in the Pre-Big Bang period. Most probably this to us Invisible Pre-Big Bang Reality/Universe still exists because the possibility of any

Universe to be Absorbed by a Black Hole Completely is ZERO! So the amount of Universes can Only Increase, however the Available Energy of any new Universe can ONLY Decrease!

However, we already get warned against Electrical-Power on our Mains Power-supply, and the Energies of Universes are of such High Quantities, which can in our mathematical Analyses only be investigated with the size called Infinity: “ ∞ ”! So even though the energy of each multiverse becomes smaller, the “older” (higher total-Entropy of) Everything becomes and the more different universes have come to life via a Big Bang, the total-amount of energy of any Universe can still be assumed mathematical to be infinite ∞ .

So, a Singularity of a Black-Hole results in the creation of a brand-new Universe with its own Natural-Constants (Light-speed, Gravitational constant G, constants of Planck, Elementary Particle masses, Electric charge, ...) via a so-called Big Bang:

Black-Hole	→	Singularity	→	Big Bang
Collecting Energy		Evaporating Black-Hole		A Brand-New Universe

As a footnote, I also wish to mention Grigori Perelman his 2003 Publications of his work discovered in NY at the Stonybrook university in the USA in co-operation with Prof. Dr. Richard S. Hamilton. In these three Publications Grigori Perelman also proved that Mathematical(closed)-Knots can only be described in the Easy-Imaginable Complete Non-Reducible 4D-Spacetime analyses! And these Analyses at-once result in a Complete Answer to the still not-understood Quantum Mechanics: QM can ONLY be analyzed CORRECT in a Complete Non-Reducible 4D-Spacetime set of analyses! i.e. it Directly ALSO describes all Possible Theories of Everything usually given as TOE!

And these mathematical-proven Facts at-once result into a description of the only POSSIBLE TOE's in which only the amount of different Fermi-Families n can be different for different TOE's:

<http://quantumuniverse.eu/Tom/CERN/TOE.pdf> => <http://quantumuniverse.eu/Tom/CERN/TOE2.pdf>

In the end all Characteristics of easy linear SR-analyzed QM can also be Analyzed in the only POSSIBLE 4D-Spacetime Analyses because: <http://quantumuniverse.eu/Tom/Point-Particles/Point%20Particles.pdf> can NOT be analyzed mathematically as Point-Particles, but Must be described as Ideal Harmonic-Oscillating Waves in the 2D-plane Orthogonal to the described direction of motion!!!

This is a Short explanation of so-called Black-Holes. It is given to correct the misleading explanation at ZME Science “not exactly Rocket Science”: 10 Physics-bending Facts about Black Holes, with YouTube movie at link: https://www.youtube.com/watch?v=OGn_w-3pjMc&feature=youtu.be

An Error about the appearing Singularity of a Black Hole is explained in this paper.

[Go-Back](#)

Best Greetings from Tom de Hoop

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