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Dynamical Phenomena of the Superparticles

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ABSTRACT: In the present study, the transition speed, time travel, acceleration, potential energy, kinetic energy, and mechanical energy of the superparticles could be determined. Superparticles maybe formed from dragged and condensed matter in the depths of a black hole under extreme conditions. If enough mass of Ordinary matter and energy has been dropped quickly from an accretion disc of a black hole and exposed to the powerful tidal force of a black hole singularity to be violently vibrated, concentrated, and squeezed steeply to form ultra-massive particles named superparticles. Superparticles have different types and undergo violent dynamical phenomena. The superparticles have been classified into four categories: Turbulent Superparticles, Superparticle Clusters, Fused Superparticles, and Survived Superparticles. The speed of superparticles exceeds the speed of light to escape from the singularity and become seeds for newborn black holes. A black hole can grow by collecting mass from its surroundings or by merging with two or more black holes. In mainstream astrophysics and general relativity, degeneracy pressure is overcome by gravity during gravitational collapse, meaning no stable degeneracy pressure—from "fermionic particles" or any other hypothetical entities—can prevent the formation of a point-like or ring-like singularity at the center of a black hole. In theoretical astrophysics, the idea is that quantum gravity introduces a final, fundamental layer of superparticles' degeneracy pressure that halts a black hole's collapse, replacing the infinitely dense point singularity with a stable, finite physical structure.

KEYWORDS: Black Hole Growth; Turbulent Superparticle; Superparticle Clusters; Fused Superparticle; Survived Superparticle; Mechanical Energy of the Superparticles.

1. INTRODUCTION

The black hole is a compressed system of matter and energy that is combined around the singularity ball and superparticles in random motions around it. Ordinary matter and energy are compressed to form a black hole singularity, and dark fabric matter and energy are condensed violently around it. Fabriton particles are available in the structure of atoms, cosmic objects, and space of the visible universe, to hold everything cohesively. The black holes, atoms, stellar systems, planetary systems, galaxies, and cosmic webs may evaporate and collapse urgently since the absence of dark matter and dark energy. Dark matter and energy are essential for building the visible universe, celestial objects, and black holes formation. The air is important for birds to live and fly. The water and the sea are crucial for fish to swim and survive. Dark matter and energy are an essential medium for holding the universe together and exchanging energy among celestial objects. The concept of black hole physics was developed through mathematical equations and geometric figures in the past, and through modern telescopes and radio telescopes in recent times experimentally. Astronomers estimate a supermassive black hole, the "Sagittarius A", with a mass of 4.3 million solar masses located in our Milky Way. Scientists recognized that it is an invisible object that could be located in the same place as the radio source, according to the rapid orbital motion of stars [1]. Black hole gravity and thermodynamics are two important branches in the development of the concept of black hole physics [2,3,4,5,6,7]. In the past, Astronomical evidence for the existence of black holes started and confirmed with the discovery of variable X-ray emitting binary stars in the Milky Way galaxy by (Giacconi et al. 1962; Giacconi 2003) on the one hand, and of quasars (Schmidt 1963) on the other [8]. The formation of black hole seeds in the early Universe and massive black holes that have been observed could have existed in the first thousand million years after the Big Bang event, were proposed by astronomers in recent times [9]. Minkowski space, black hole horizons, and cosmological horizons are studied in gravitation and quantum field theory in curved spacetime [10].

In modern research, Wormholes are theoretical tunnels through spacetime, and an inflation theory, primordial black holes, and multidimensional gravity have been discussed [11]. The physics of black holes has developed from Jacob Bekenstein's realization that the black holes have entropy, and the loss of information in black hole evaporation proposed by Stephen Hawking [12]. The origins of the universe stem from the Big Bang event, and it is expanding continuously to form galaxies, heavy elements from fusion processes in the core of stars, and make planets as abodes for living creatures [13]. Quantum gravity unifies quantum mechanics with general relativity to describe the dynamical properties of black holes [14]. Mathematics is a universal language and has progressed in recent times. Riemannian geometry and Einstein's equations in relativity enhanced our concept of a black hole [15]. There are several pieces of evidence that Black holes (BHs) certainly appear to exist, including plasma jets shot from the center of M87, expected to be generated by a supermassive black hole [16]. Stellar orbits have been observed around a supermassive black hole Sagittarius A* at the center of our galaxy, the Milky Way [17]. Gravitational waves have been detected recently by LIGO from the collision of two black holes [18]. The Event Horizon Telescope has imaged a supermassive black hole with a mass of approximately 6.5 billion solar masses at the center of the galaxy M87, which is a giant elliptical galaxy located in the constellation Virgo [19]. Black holes have a mass about 100 to 100,000 times the mass of the Sun, called intermediate-mass black holes [20]. The black hole with a mass of 10 or 20 solar masses has been formed from remnant cores of collapsed stars. Most black holes are formed by gravitational collapse in a supernova event [21]. A new theorem on space-time singularities is presented that space-time singularities are to be expected if either the universe is spatially closed and steeply warped, or there is an 'object' undergoing powerful relativistic gravitational collapse [22]. The Kerr solution to the Einstein field equations is characterized by two main parameters, the angular momentum per unit mass and the mass [23]. Most scientists believe that our Universe is expanding from a hot and dense state of matter and energy, and exploded during the Big Bang event [24]. It means that the universe was a massive singularity before explosion. The singularity is a white and smooth sphere of the condensed state of matter and energy [25]. The singularity could be immersed deeply into the heart of a black hole because of its huge mass, tiny size, and super density.The main objectives of this study are to calculate the speed **v** and the Mechanical Energy of the Superparticles **ME**.

2. SUPERPARTICLES CLASSIFICATIONS

The Superparticles are the strangest and strongest types of particles that have been created in the depths of a black hole. The black hole is a much violent environment and is capable of producing such powerful particles. However, superparticles are an illusion among the scientific community, but such particles have extremely had been formed in such a compact world under violent conditions. They are mostly formed near the edge of a black hole singularity where dark fabric matter is steeply distorted and vibrated. Fabriton particles have been squeezed beside one another, even photon particles are struggling to escape from the external surface of a singularity. An emptiness among Fabriton particles could be reduced to a critical condition, electromagnetic spectrum suspended here, even tiny and powerful particles are struggling to pass and travel continuously among them. The distance between two fabriton particles is reduced and stretched continuously to a picometer ($d = 10^{-12}\ m$), Bohr Radius or lower than it, as a result even gamma rays trapped inside a black hole. The gamma rays and x-rays have higher frequencies, energy, and shorter wavelengths, but their wavelengths are larger than the vacuum and the distance that exists between the fabriton particles. The space among fabriton particles started to decrease from its edge to its core, typically in the core of a black hole the space among fabriton particles is extremely narrower and reduced steeply to trap photon particles for longer time, and produce compact objects such as superparticles. Fabriton particles are oscillating quickly due to compression and rarefaction that occurred to transfer the energy of the singularity tunnel waves. The superparticles have been formed from the collapsed matter in the deepest zone, nearby the singularity [26]. The Most of the mass of a black hole is concentrated in the heart of a black hole inside a singularity sphere, in the internal shell of an event horizon, and in the form of superparticles. The singularity is a denser state of matter and energy that resides at the center of a black hole, and the dark fabric of matter has been warped steeply around it. However, a fabriton particle has a lower mass and smaller radius as compared to subatomic particles, but its density an enormous to survive in the deepest zone of a black hole. Superparticle is another state of matter and energy which dragged and immersed into the nearest distance from the external surface of a singularity.

A black hole singularity has huge mass and energy, it is spinning rapidly, squeezes and stretches the dark fabric matter and entire particles around itself. The tidal force of a singularity is high enough to tear apart most particles, and its gravitational pull is extremely high; even Celestial objects and atoms may disappear immediately when trapped and dragged into the depths of a black hole. An object with a lower mass and density is floating and spinning in an external shell of an event horizon, it is spinning up and down continuously. The Superparticles can travel into the deepest point of a black hole, because they have enough mass, energy, speed, momentum, and density to travel and fall against ripples and turbulent waves of a singularity. Powerful ripples and gravitational waves were emanating from the heart of a black hole due to the rapid spinning of a singularity ball inside the condensed fabric of a black hole. Fabriton particles have a higher concentration state and collision opportunity inside an internal shell of an event horizon, as a result, photon particles have fewer chances to escape from the external surface of a singularity ball. Most of the particles lack additional mass, energy, and momentum to pass through a noise zone of the fabriton particles that distorted extremely around a singularity. Superparticle is a powerful type of black hole particle that contains enough mass, density, and spinning energy to break the potential barrier of a black hole singularity. Black hole singularity has a tiny radius, maximum density, spinning speed, rotational energy, and huge kinetic energy. Powerful singularity tunnel waves come out from the deepest point in the heart of a black hole to scan the entire structure of a black hole and release information. Dense and energetic Superparticles in the size of atoms or subatomic particles could be formed due to powerful tidal force of a singularity, tremendous density of an event horizon zone, and accelerated particles in the accretion disc. Superparticles have enough capacity and energy to reach the heart of a black hole or leave the black hole at once. Superparticles have many classes according to their transition, collisions, interaction with one another, and with a singularity. Superparticles had been classified into four main types such as: Turbulent Superparticle, Superparticles Clusters, Fused Superparticle, and Survived Superparticle.

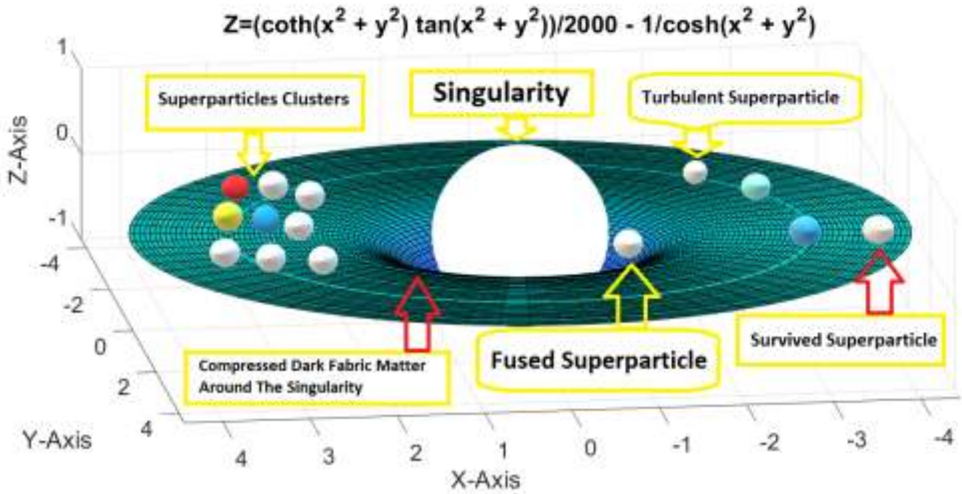

Fig. 1. Superparticles Classifications

2.1 Turbulent Superparticle

The Turbulent superparticle is an excited sort of the superparticle. It is travelling throughout an event horizon between a black hole singularity and an accretion disc. A turbulent superparticle was formed from that matter that was dragged into the depths of a black hole. If an object or any amount of mass were swallowed by a black hole, it could be annihilated at an accretion disc or spiral inward urgently due to the powerful gravitational field of a black hole. Powerful gravitational waves are emanating from a black hole's nucleus and are capable of tearing apart atoms in an accretion disc. Gravitational waves of a black hole may accelerate atoms in an accretion disc to collide together violently and tear them apart. Most of the atoms and molecules in an accretion disc had collided strongly and annihilated rapidly. The violent collisions and friction among particles sustain the brightness of an accretion disc. Thermal energy and temperature of an accretion disc increase to millions and billions of degrees Celsius. The powerful collision among atoms and molecules in an accretion disc started to form a nuclear fusion ball similar to the nuclear fusion ball that produces energy for stars. The black hole is a place where nuclear fusion started to form heavy atoms under violent conditions. The nuclear fusion ball has enough mass, density, and spinning speed to be dragged into an event horizon of a black hole. An object that falls into an event horizon may be floating and spinning randomly for a longer time inside a black hole. The black hole singularity has powerful gravitational tunnel waves to attract and repulse objects nearby it. Photon particles have fewer opportunities to escape from the external surface of the dragged object inside an event horizon, as a result, the black hole pressure and gravitational waves together increase the density and temperature of a nuclear fusion ball. The gravity is overwhelming the thermal pressure of a fusion ball, as a result, the fusion ball could be squeezed inward and travel randomly inside an event horizon to produce a superparticle from its condensed core. Turbulent superparticle is moving inside a black hole to capture photon particles, molecules, and subatomic particles inside a black hole to grow and glow step by step. It could be the brightest, an energetic, and an excited type of superparticle. The turbulent superparticle loses some of its mass and releases much powerful photon particles due to its rapid transition inside the violent environment of a black hole. The external surface of a turbulent superparticle has been stretched out beyond itself, and you can see its naked condensed heart due to its rapid spinning and transition into the depths of a black hole. The surface temperature of the Turbulent superparticle increases instantly to trillions of degrees Celsius. The turbulent superparticle is one of the hottest and condensed objects in the whole universe. The fire emanating from the outer surface of the disturbed superparticles is a poisonous fire capable of directly killing and disintegrating the human body. Photon particles probably escaped from the external surface of the superparticle can travel into the edge of a black hole and be released into space. The dark fabric matter had been condensed around the super particles; even photon particles with higher energy and momentum could be absorbed, reflected, refracted, and suspended inside a black hole for decades. We are lucky and happy since we live away from such a violent world!

The story of the superparticle could start from a nuclear fusion ball that has been squeezed violently inside an event horizon due to singularity tunnel waves and gravity overwhelming. The nuclear fusion ball is exposed to huge thermal pressure and gravity in the event horizon region. The tussle between gravity and thermal pressure has squeezed and stretched a nuclear fusion sphere randomly. The gravity of a black hole deformed and reduced the size of a fusion ball to fall quickly into the depths of a black hole. The singularity tunnel waves, internal energy, and thermal energy of a fusion ball were increased the size of a fusion ball to raise it again. The nuclear fusion ball is diving into the heart of a black hole and rising continuously. The process of floating and spinning for a fusion ball may be repeated for a longer time due to quantum effects and gravitational waves' participation. The fusion ball could be squeezed violently and accelerated to a speed higher than the speed of light to produce a compacted object that is named a superparticle. Most of the turbulent superparticles had been formed from the collapsed hearts of the fusion balls. Fusion ball is the main source of a superparticle formation, and it is a sphere of a compacted state of matter and energy to gives birth to the new superparticle. The turbulent superparticle has huge power to travel into the nearest point from the external surface of a black hole singularity to tear apart photon particles from its surface and tides it violently. Turbulent superparticle is spinning and moving beside a singularity with a speed higher than the speed of light, and its surface is squeezed and stretched due to an interaction with compacted fabriton particles in the deep of a black hole. An internal shell of a black hole has a higher density than its edge, as a result, internal gravitational lensing of a black hole is extremely powerful as compared to its edge. Fabriton particles could be compressed near the edge of a singularity. Photon particles could be reflected from the external surface of black hole nuclei. As a result, inside an external event horizon, you can see the heart of a black hole as a distorted ball of steeply state of matter that accumulated around the singularity. Black hole singularity, superparticles, fabriton particles, and trapped photon particles are holding one another as a dense ball of matter and energy to attract and repulse any object that enters a black hole or moves near its surface. You can move, swim, spin, and float continuously since you are embedded in an external shell of a black hole, but you can’t be dragged into the singularity directly, even to be squeezed as a superparticle. We have great hope to use a black hole for shortcut travel in the future. It is safe to travel through it in the external event horizon zone, because the density of an external event horizon is lower than the density of an internal shell of a black hole. The time travel may become realistic when humans are prevailed on the power of a black hole. Turbulent superparticles have a strong gravitational field and powerful electromagnetic force to attract one another and form clusters. Superparticles are accumulated and combined strongly to form superparticles clusters.

2.2 Superparticles Clusters

The superparticle clusters may be a second type of superparticles. The black hole has a dense core, and objects may orbit each other in its heart. Superparticles may be formed when two or more superparticles are held at the bottom of a black hole. At first, two or more superparticles may collide and combine violently in the deep of a black hole to build up the superparticle cluster. Superparticle was formed from the collapsed heart of a compacted matter, typically from the remnant core of a nuclear fusion ball. Superparticle clusters have powerful binding energy, they are holding one another strongly to enhance the stability of a black hole. Superparticle has the smallest size and a huge density. The mass of a superparticle is lower or higher than the mass of stars and planets. Superparticle cluster contains the mass of several stars and planets that have been combined to form a cluster. Stars behave like particles in the deep of a black hole when they crashed under gravity to become superparticles. A black hole can shrink a star to the size of subatomic particles. A superparticle could be formed when an object with the mass of a star or a planet is dragged into the depths of a black hole and squeezed under its powerful gravitational field. The radius of a superparticle is similar to the radius of subatomic particles or atoms, but its mass or density is incredibly high as a singularity. Superparticles cluster formed as atomic molecules and compounds of material. Two or more atoms hold together to form molecules and compound matter. Two or more superparticles are holding one another in the deep of a black hole to create superparticle clusters. The binding energy of atoms and atomic nuclei is weakened to be broken when faced with any stress or thermal pressure, otherwise, the binding energy among superparticles is strongest, and they hold one another strongly, as a result required the greatest force and energy to break it and shift them together. However, the singularity tunnel waves are strong, but lack of additional energy to break the binding energy of the superparticle clusters. The holding force among superparticles is high enough to hold them together tightly, and necessary to form superparticle clusters. Super Particles have an enormous force and binding energy to keep them cohesive permanently in the cluster.

The gravitational force among superparticles may be the strongest. An electromagnetic force is another powerful force of nature is holds superparticles, plus the gravitational force. The gravitational force appeared among superparticles due to their masses, gravitational tunnel waves, and distorted fabriton particles. The dark fabric matter is a medium between superparticles that enhances the stability of superparticles in the cluster. Electromagnetic lines, photon particles, and photon energy worked as an electromagnetic force to hold the superparticles strongly, as the gravitational force. You can see the external surface of the superparticles when you passed through a black hole or when diving into the depth of a black hole, because the tidal force of a black hole singularity and the tidal force of superparticles are high enough to tear apart photon particles from the surface of any types of superparticles. The superparticle has a bright and luminous surface because the photon particles have enough chance to escape due to gravitational tunnel waves and the tidal force of superparticles. The density of a superparticle is similar to the density of a black hole singularity, Fortunately, the superparticle is living in the violent and turbulent environment at the bottom of a black hole, where its surface is permanently exposed to much violent waves of the black hole particles. However, the gravitational tunnel waves of the particles inside a black hole are strong and violent, but not high enough to remove the band among superparticles in the cluster. Singularity tunnel waves are emanating from the heart of a black hole permanently and collide steeply with the external surface of the superparticles in the cluster. Superparticles can absorb a fraction of the energy of the singularity tunnel waves that lead to heating the surface of superparticles, remove some photon particles from their surfaces, shift them away slightly in the cluster and in its position since stretched and squeezed, and accelerate the superparticles to move away from the core of a black hole. The powerful gravitational force and electromagnetic force among superparticles in the cluster will recapture and arrange the entire superparticles in cluster and hold them tightly. Superparticle cluster is living in a violent and turbulent world at the bottom of a black hole. The surface temperature of a superparticle increases rapidly, and a huge number of photon particles are emitted from its surface. An external surface of a superparticle has extreme brightness and luminosity.

Superparticles have powerful spinning speed, angular momentum, kinetic energy, internal energy, and thermal energy. The great squeezed mass and giant density of a superparticle enhance its stability and extend its lifetime. The particle with a lower mass and density could be annihilated at immediately since it entered the black hole. The superparticle cluster plays a crucial role in forming supermassive black holes and supergiant black holes. The black hole singularity and the distorted fabric of matter and energy that surrounds it are not enough to increase the event horizon radius to make larger types of black holes. Eventually, huge number of superparticles, and specifically superparticle clusters are available in the depths of Supermassive black holes and supergiant black holes. Superparticles are the main reason for forming, growing, and expanding the size of black holes. The Superparticle clusters may increase the radius of an event horizon. Supermassive black holes and supergiant black holes have huge numbers of superparticle clusters at their hearts and a massive singularity ball at their hearts. The maximum number of fabriton particles could be distorted steeply around maximum numbers of superparticle clusters and high mass singularity to produce a black hole with the largest radius and a violent accretion disc. Superparticle clusters are essential to form huge monster black holes. Super Particles are the only particles that have the power to collide with a singularity to increase its mass and density. The superparticle may collide and crash immediately, as a result, the mass, density, internal energy, entropy, and surface temperature of the black hole singularity increase instantly. The high-mass black hole has a massive singularity at its core, and powerful superparticles have been formed inside it. The gravitational force and electromagnetic forces are high enough among superparticles clusters to protect them from evaporation, and keep them cohesive. The binding energy of the superparticles in the cluster is most powerful energy have been found in the whole visible universe. The binding energy is required to the cosmic power to break up the combination of the superparticles. Superparticles hold together gravitationally in the depth of a black hole. All forces of nature are combined together to form and hold the black hole singularity and superparticles clusters.

2.3 Fused Superparticle

The fused superparticle, a third type of super particle, collides violently with a black hole singularity and collapses instantly. The black hole singularity is a white and smooth sphere that contains a tightly bound state of matter and energy, covered on the outside by compacted dark matter of fabriton particles, and accelerated ordinary matter and energy. The singularity is a dense state of matter and energy, as a result, it is at the heart of a black hole. It is spinning trillions of times per a femtosecond and possesses powerful gravitational tunnel waves to attract and repulse any state of matter and energy from its external surroundings. Dark fabric matter and dark energy of the fabriton particles have been compressed around a singularity, even photon particles failed to leave its surface. The singularity sphere has a denser core and slightly lower surface density, as a result, photon particles may leave its external surface due to its rapid rotations and increase in thermal energy. The space as a tunnel may be formed between the external surface of a singularity and distorted dark fabric matter in the lower shell of an event horizon, as a result, photon particles bounce at this tunnel vacuum to release into space after an external surface of a singularity has been bombarded by superparticles. A photon particle has limited photon energy, momentum, frequency, and wavelength. The photon requires higher energy to form a tunnel in the condensed fabric of matter, to escape from a prison of singularity. Superparticle can form a temporary tunnel through its rapid transition to merge with a singularity, and trapped photon particles may escape through such a tunnel.

The fused superparticle is the first type of particle that may collide with a singularity to feed it and make it grow. It can remove several photon particles from its surface due to such violent collisions. The surface temperature, an internal energy, mass, density, gravity, spinning speed, spinning energy, kinetic energy, and momentum of the black hole singularity will increase enormously after being bombarded by superparticles. The singularity is a prison of matter and energy; even photon particles may be trapped and accumulated there for a longer time. Fabriton particles may be shifted out to be distorted steeply around the singularity and build up a tight tunnel that forbids the photon particles and the crushed matter from escaping in the prison of a singularity. The singularity has powerful gravitational lensing and is capable of crushing any state of matter and energy. The gravity of a black hole singularity is high enough to drag superparticles and densitize them entirely. Most of the superparticles had collapsed due to rapid collision with a singularity ball. The singularity is a place of crashing materials and photon particles traptions. It is difficult for superparticles to survive successfully inside the powerful gravitational field and concentrated electromagnetic fields of a black hole singularity. The superparticle that escaped and survived from a powerful capture of a singularity due to failed bombardment is named a surviving superparticle. An escaped superparticle has enough mass, density, energy, and spinning speed to become a singularity for a newborn black hole. Superparticles are forming inside a black hole and feeding it to grow and expand until they make supermassive black holes and supergiant black holes with the largest event horizon and a violent accretion disc. The superparticles are an extreme answer to the growing reason for black hole mysteries.

2.4 Survived Superparticle

The surviving superparticle is a fourth type of super particle has escaped directly due to its failed collision with a parent black hole singularity. The singularity may be collided with by several superparticles, and other superparticles may escape from such a violent collision because the size of a singularity is not big enough to be immediately collided with all superparticles at any time. The gravitational field and electromagnetic force of a singularity are not high enough to attract and trap all attacking superparticles at once, as a result, several superparticles are escaping from its capture. The black hole singularity has a compacted sphere of fabriton particles around itself, and powerful gravitational tunnel waves emanating from it, as a result, most of the superparticles struggle to reach the depth of a black hole. The singularity has an enormous spinning speed and super-spinning energy that attracts and repels dark matter particles (fabritons) and superparticles at its outer edge. The fabriton particles have been concentrated and warped around a black hole singularity to build up a much powerful gravitational wall, and protect the singularity from any further collisions by superparticles. The surface of a singularity from outside is surrounded steeply by a denser and powerful shell of condensed dark matter. Most of the particles have been trapped and condensed at the edge of a singularity. The photon particles are concentrated between the external surface of a singularity and the internal surface of an event horizon, the photon particles taking the Google years to escape in the singularity capture. As a result, the black hole singularity can grow to make a higher mass black hole and violent new singularity. The spinning speed, spinning energy, thermal energy, and singularity tunnel waves, and the thermal energy of a black hole singularity increased extremely due to being bombarded its surface and its core by superparticles. The singularity is violently attracting and repelling fabriton particles and any type of black hole particles at its edge.

The black hole singularity could be bombarded by several types of superparticles at once, this phenomenon is called the superparticle rain. The superparticle with enough mass, density, velocity, linear momentum, spinning speed, and energy capable of passing beside a singularity to give birth to a newborn singularity. The surviving superparticle has the capacity and enough density to produce a new type of black hole. Escaped superparticles have lower or higher masses, as a result, the tiny and great types of black holes may form from such surviving superparticles. The dropped bombarded superparticle is crashing at once, and the surviving superparticle has the singularity density conditions to give birth to the new black hole. The black hole is a monster of the crashed and condensed state of matter and energy, as a result, it is forming aggressively due to violent phenomena of nature. Photon particles are colliding and reflecting with the internal shell of an event horizon continuously, and fail to escape into the event horizon and release into space, because the dark fabric matter has been condensed and warped steeply around the singularity. The distance among fabriton particles is very narrow, and the wavelength of photon particles is very large; as a result, most of photon particles fail to escape from the external surface of the singularity. The fabriton particles have been concentrated and compressed steeply around the singularity, even superparticles are struggling to travel throughout them near a singularity. Most of the photon particles, subatomic particles, and superparticles have been trapped and condensed inside an internal shell of an event horizon. An internal shell of an event horizon is the distorted and condensed ball of fabriton particles, photon particles, subatomic particles, and superparticles that surrounds the singularity, which is hosted in the core of a black hole. Most of the photon particles have been trapped, concentrated, and condensed inside an event horizon of a black hole to produce new subatomic particles, and feed the superparticles to grow enormously. The survived super particle is a newer method of producing newborn super particles and black holes. Scientists believed that the black hole is formed from the remnant core of a collapsed star. Already, the black hole could be formed from the collapsed hearts of stars and escaped superparticles. The surviving superparticle is the second step in making a black hole and feeding the black hole singularity during collisions.

3. BLACK HOLE GROWTH

The black hole is a celestial object that can grow or evaporate like any other cosmic object. Black holes can grow through two primary mechanisms: collecting mass in accretion discs and black hole mergers. Accretion of a black hole may consume matter from nearby objects, including gas, stars, planets, satellites, and even other black holes. Violent collisions occur when two or more types of black holes merge and combine into a single, larger, massive, and more violent black hole. Escaped Superparticles may pass throughout an event horizon of a black hole to collide with its singularity and make it grow rapidly. An escaped superparticle has enough mass, density, and power to travel against the singularity tunnel waves and violently merge with a parent singularity, and crash to be part of it. Supermassive black holes and supergiant black holes grow by collecting additional mass from their surroundings or merging multiple black holes. The Supermassive black hole with the largest event horizon and higher mass may be located at the center of most active galaxies. Scientists believe that the growth of high-mass black holes occurs through both of these processes, although the finite mechanism is still being investigated. The photon particles, subatomic particles, atoms, super particles, and molecules may collide with a black hole's surface from all directions and feed it continuously. The black hole can grow by collecting mass from its edge and merging black holes directly. The black hole can gather enough mass and energy from its companion stars and its nearby nebulae to grow vastly. A high-mass star can be crushed inward under gravitational pressure due to a supernova event to give birth to a new black hole with the highest mass, largest event horizon, and density. The collapsed star may form a black hole that grows rapidly when accompanied by several stars in the location of the supernova event. The black hole can tear enough mass and photon particles from its companion star to increase its mass, size, internal density, gravity, and thermal pressure. Most of the stripped mass and photon particles from the nearby celestial object had been collected by a black hole. Boco proposed, and Scientists Investigate the formation and growth of supermassive black hole (BH) seeds in dusty star-forming galaxies, relying on the number of neutron stars, primordial BHs, and stellar-mass black holes participating in the seed growth [27]. Recent Theoretical models proposed that the spin of supermassive black holes at active galactic nuclei drives relativistic jets [28].

A black hole is a dense and compact type of violently crushed astronomical object under inward gravitational collapse; even its gravity prevents light and anything from escaping. The dark fabric matter and energy had been warped steeply around the singularity, even the space among fabriton particles was reduced to a critical level, and even photon particles are struggling to penetrate through the compacted fabric of a black hole. Most of the photon particles had been trapped and accumulated inside a black hole for decades. Photon particles have limited wavelengths, energy, and frequencies; as a result, they struggle to escape from a black hole's capture. The black hole is not dark as a whole; its event horizon is filled with trapped photon particles, subatomic particles, and compacted superparticles. You can see photon particles emanating from the external surfaces of superparticles, annihilated atoms, and crashed molecules in the depths of a black hole. The black hole with the largest event horizon radius has enough chance to trap many photon particles, subatomic particles, and superparticles; as a result, the superparticles feed the black hole to grow enormously. The superparticles can survive in the danger zone near the black hole singularity for decades. Photon particles and subatomic particles have limited mass and energy, and may be repelled outside the event horizon due to powerful singularity tunnel waves. The singularity tunnel waves are emanating from the core of a black hole; they are attracting and repelling any state of matter and energy at its edge. The superparticles have enough mass, density, spinning speed, energy, and momentum to survive in the depths of a black hole and collide with a singularity to give it additional mass and energy.

The trapped photon particles and accreting molecules in an accretion disc from its edge may be dragged inward to the depth of a black hole to form the newer, denser, and concentrated state of matter and energy that is suitable for the environment of a black hole. Superparticles can grow by dragging particles from the edge of a black hole. Most of the photon particles and crashed atoms in the depths of a black hole can be trapped and accumulated around the superparticles to make them grow and glow. The superparticle has enough mass, density, gravity, and attraction force to gather additional mass from its edge in the depths of a black hole. The turbulent superparticle can gather mass and emit photon particles with higher energy. The superparticle clusters can accumulate a huge amount of mass and a number of photon particles from their edges to grow and glow as the brightest stars in the darkness of the sky. The merged and fused superparticle can capture amount of mass and energy before its collision with a singularity. The surviving superparticle may tear apart amount of mass and photon particles from a black hole singularity after its transition into the depth of a black hole and releases into space to give birth to a newborn black hole singularity. The black hole can grow and evaporate due to its mechanisms of formation, growth, and annihilation. The accumulated particles of matter and photons can be dragged into the depths of a black hole to be trapped and compressed into a new condensed state of matter and energy. A few numbers of photon particles and accumulated particles of dust and gas molecules can escape from a black hole's capture and be released back to space after decades of collisions, reflections, and refractions through condensed fabriton particles. The trapped photon particles, gas, dust particles, nuclear fusion ball of particles, and superparticles have been drawn into the core of a black hole to enhance its stability, increase its mass, density, and enlarge its event horizon. The accreting matter by an accretion disc and merging black holes are the main factors for black hole growth in the future. The collected matter and energy from any mechanisms of growing could be accumulated, compressed, and dragged to the depth of a black hole or collided with a singularity as merged superparticles. The superparticles' dynamics is the best mechanism for keeping the black hole expansion continuously in the decades after its formation from collapsed stars and escaped superparticles. The superparticles can produce newborn black holes and can feed them to grow vastly.

A black hole could be formed from the collapsed heart of a star or a surviving superparticle. But the black hole can grow by collecting mass from its surroundings during tidal disruption events or the collision of superparticles with a singularity. The phenomenon where stars are torn apart violently by the powerful gravitational forces of supermassive black holes has been observed and studied in recent times [29]. The supermassive black hole, such as TON 618, is one of the most massive known black holes with a mass of 66 billion solar masses. A tidal disruption event may occur when a star like Sirius A passes close to it. Sirius A is a gigantic star, approximately 2.1 solar masses. Supermassive Black Hole TON 618 is estimated to be hosted at the center of a Quasar. One of the most massive and popular types of black holes is a supermassive black hole with a mass of 66 billion solar masses found in the quasar TON 618 [30]. This giant monster has enhanced the concept of black holes and increased the ambition of astronomers in space exploration. This monster can devour the solar system at once. Tidal disruption events may occur when a star moves close to a supermassive black hole and is torn apart by its powerful tidal forces. The stream of evaporated stellar material is partially captured and dragged inward by the black hole, forming an accretion disk that emits electromagnetic radiation and the hottest plasma jet. Black hole jets are powerful beams of plasma, a superheated, ionized gas, that are expelled from the innermost edge of black holes that escaped at speeds approaching the speed of light. These jets are formed from the swirling mass of gas and dust surrounding the black hole, and maintain a narrow beam shape over vast distances, even for millions of light-years. A supermassive black hole can shred and devour immediately the star that passes at its nearest point to its surface. Most of the quasars develop to give birth to new stars and form galaxies, or their accretion disc are devoured entirely by supermassive black holes that are hidden at the center of such quasars. Supermassive black hole can grow due to collecting mass and energy from accelerated particles in the accretion disc or from collapsed stars in the galaxy disc. Most of the particles could be collided and fused together to form compacted nuclear fusion ball in the accretion disc, and it falls down into the event horizon zone due to its heavy weight. The nuclear fusion ball has a tiny radius and huge compacted mass in it to be heavier and denser. The nuclear fusion ball is spinning and spiralling violently to reach the edge of a singularity. It is moving with a speed higher than the speed of light, and its remnant core has squeezed steeply to form the superparticle. The superparticle is a denser and powerful type of particles has been formed in the entire history of a universe and black hole. The superparticle can reach the heart of a black hole to collide with a singularity or pass beside it immediately. The collided and fused superparticle enhanced the stability and sustainability of the black hole singularity. The black hole can grow step by step since it is collecting mass from its surrounding, and making superparticles to enlarge its gravitational field and accretion disc. Supermassive black holes and supergiant black hole can be formed from survived superparticles, and collapsed stars, but their mass, and event horizon radius increased since collecting additional mass from its external edge.

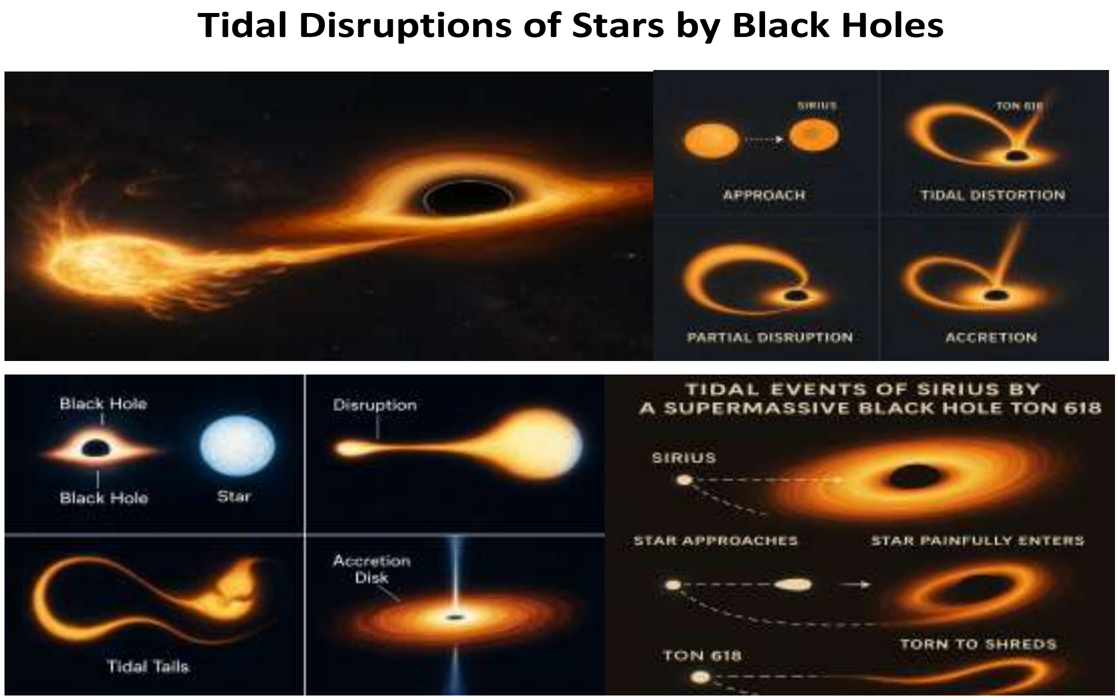

Fig. 2. Tidal Disruptions of Stars by Supermassive Black Hole TON 618

4. MECHANICAL ENERGY OF THE SUPERPARTICLES In this part, the mechanical energy equation could be derived to calculate the mechanical energy of black hole particles, specifically super particles. A black hole is a fantastic system of warped and turbulent matter and energy. The Singularity contains most of the mass **M** of a black hole; as a result, it is located at the center of a black hole. The superparticle with mass **m** from a distant location **r** falls freely, under Gravitational acceleration **g**, onto the external surface of a black hole singularity shown below:

$$F = mg = ma = m\frac{dv}{dt} \quad (1)$$

$$W = Fd = \int_{r_i}^{r_f} F dr \quad (2)$$

$$v = \frac{dr}{dt} \quad (3)$$

$$W = \int_{r_i}^{r_f} Fdr = \int_{r_i}^{r_f} ma\,.dr$$

$$W = \int_{r_i}^{r_f} m\frac{dv}{dt}.dr = \int_{r_i}^{r_f} mdv.\frac{dr}{dt} = \int_{v_i}^{v_f} mv.dv$$

$$W = Fd = m\left(\frac{1}{2}{v_f}^2 - \frac{1}{2}{v_i}^2\right)$$

Rewrite and arrange eqn. (1), eqn. (2) and eqn. (3) yields to:

$$W = Fd = \frac{1}{2}m{v_f}^2 - \frac{1}{2}m{v_i}^2 \quad (4)$$

$$W = \Delta KE = KE_f - KE_i \quad (5)$$

Where, **W** is a work done, **F** is a force**, d** is a displacement, **r** is the radius and orbit of objects. Gravitational acceleration **g** of the free fall objects with mass **m** on an external surface of an object with a higher mass such as singularity **M** as shown as below:

$$F = mg \quad (6)$$

The powerful Gravitational tunnel waves of a black hole singularity are acting steeply on the acceleration and deceleration of the black hole particles inside an accretion disc and the entire event horizon.

$$F = G\frac{Mm}{r^2} \quad (7)$$

From equalizing equation (6) and equation (7) to get:

$$g = G\frac{M}{r^2} \quad (8)$$

F is a gravitational force, **G** is a gravitational Constant, **G** is constant in any place in the entire Universe, $\mathbf{G = 6.674 \times 10^{-11}\ N\ m^2/kg^2}$, and **r** is its radius or **r** is the distance between the two point-like masses.

Superparticles fall down from distant locations to collide with a singularity and converting their potential energy into turbulences, thermal energy, internal energy and kinetic energy. To get the total work done **W** by an external force **F** of a black hole singularity to bring point mass **m** from an initial point in the infinity distance ($r_i = \infty$) to the final distance($r = r_f$)**,** for example **r** is the distance between a black hole singularity of the two mass points, the force is integrated with respect to displacement as shown as below:

$$W = \int_{\infty}^{r} Fdr \quad (9)$$

Substitute equation (7) into equation (9) yields to:

$$W = \int_{r_i}^{r_f} G\frac{Mm}{r^2}dr = \int_{r_i}^{r_f} GMm\,r^{-2}\,dr$$

$$W = \Delta GPE = -GMm\left(\frac{1}{r_f} - \frac{1}{r_i}\right) = -(GPE_F - GPE_i) \quad (10)$$

Where GPE_F is a final potential energy of an object, GPE_i is the initial potential energy of an object at infinity is zero. If ($\frac{1}{r_i=\infty} = 0$) is an initial radius that equals to an infinity**,** thereafter rewrite equation as below:

$$W = -G\frac{Mm}{r} \quad (11)$$

Since the work done **W** is stored as its potential energy **PE**, the gravitational potential energy at point which is at distance **r** from the source mass is given by:

$$GPE = -G\frac{Mm}{r} \quad (12)$$

Gravitational potential energy of an object in a distance **h** from the external surface of a black hole singularity could be calculated by following equation:

$$GPE = mgh \quad (13)$$

Where, **GPE** is a gravitational potential energy, **m** is the mass of an object at distance **h** from the surface of a singularity. The conservation of a mechanical energy states that in a closed system with only conservative forces like a gravity, the total mechanical energy is the sum of kinetic energy and potential energy remains constant, meaning energy conserved and can be transformed between kinetic energy and potential energy forms, but the total amount stays the same when superparticles move beside a black hole singularity at the nearest and farthest points from its surface. Mechanical energy is the sum of a potential energy and kinetic energy as following:

$$Mechanical\ Erenerg = \Delta GPE + \Delta KE \quad (14)$$

Law of Conservation of The Mechanical Energy: The total amount of mechanical energy in a closed system, in the absence of dissipative forces such as friction and air resistance, remains constant. This means that potential energy can become kinetic energy, or vice versa, but energy cannot “disappear”. The conservation of energy for an ideal closed system states that the initial mechanical energy of an object ME_i equals its final mechanical energy ME_f. Substitute eqn.(5), and eqn.(10) at eqn.(14) yields the:

$ME = -(GPE_F - GPE_i) + (KE_f - KE_i)$. Then $\Delta GPE = \Delta KE$ according to the conservation law of a mechanical energy, thus the total mechanical energy is zero.

$0 = -(GPE_F - GPE_i) + (KE_f - KE_i)$, therefore $(GPE_F - GPE_i) = (KE_f - KE_i)$.

$$ME_i = ME_f$$

$$-GPE_i + KE_i = -GPE_f + KE_f$$

$$\left(-\frac{GMm}{r_i}\right) + \frac{1}{2}m{v_i}^2 = \left(-\frac{GMm}{r_f}\right) + \frac{1}{2}m{v_f}^2$$

$$mgh_i + \frac{1}{2}m{v_i}^2 = mgh_f + \frac{1}{2}m{v_f}^2$$

By Using conservation of mechanical energy to find final velocity of the dropped superparticle at the surface of a singularity. The escape velocity of an object from the surface of a star or planet could be calculated when potential energy and kinetic energy are equalized [31]. According to conservation law of a mechanical energy the gravitational potential energy equal to kinetic energy of a dragged or escape object from an external surface of the stars, planets, black holes, and black hole singularity yields the:

$$\boldsymbol{v} = \sqrt{\frac{\boldsymbol{2GM}}{\boldsymbol{r}}} \quad \textbf{(15)}$$

$$\boldsymbol{\Delta} s = \boldsymbol{v_i t} + \frac{\mathbf{1}}{\mathbf{2}} \boldsymbol{a_{avg}} t^2 \quad \textbf{(16)}$$

$$\mathbf{d} = \frac{\mathbf{1}}{\mathbf{2}}\left(\boldsymbol{v_i} + \boldsymbol{v_f}\right) \boldsymbol{t} \quad \textbf{(17)}$$

$$\boldsymbol{v_f}^{\mathbf{2}} = \boldsymbol{v_i}^{\mathbf{2}} + \mathbf{2}\, \boldsymbol{a}\, \boldsymbol{\Delta} s \quad \textbf{(18)}$$

The distance between first and final position of an object is ($d = \boldsymbol{\Delta} s = \boldsymbol{\Delta} x = \boldsymbol{\Delta} y$), time of travelling is $\boldsymbol{t}$, and the average of a gravitational acceleration is ($\boldsymbol{a_{avg}} = \boldsymbol{a}$**).** **Problem 1:** the superparticle with a mass (m=4000 kilograms) falls rapidly from rest at infinity collided directly on the surface of a solar mass singularity with a mass of Sun and radius of hydrogen atom, calculate the velocity of a superparticle, its gravitational acceleration, its initial and final potential energy, its initial and final kinetic energy, and its initial and final mechanical energy **?**. To solve and analyze this problem step by step, we need to use extreme physics, and an equation of gravitational physics, specifically Newtonian mechanics. By using the equation.(8) to calculate the gravitational acceleration of a superparticle with a mass ($m = 4\; x\; 10^3\; Kg$) that falls on the surface of a solar mass singularity ($M = 1.989\; x\; 10^{30}\; Kg$) and its radius equal to the radius of a hydrogen Atom or Bohr radius ($r = 5.3\; x\; 10^{-11}\; m$), the gravitational acceleration on the surface of a solar mass singularity extremely high about ($\boldsymbol{a} = \boldsymbol{g} = 4.724\; x\; 10^{40}\; m/s^2$). The rate of change in velocity of a superparticle that started from rest ($\boldsymbol{v_i} = \mathbf{0}\; \boldsymbol{m/s}$ **)**, by using eqn. (**15**) to calculate final velocity of a dropped superparticle on the surface of a singularity ($\boldsymbol{v_f} = 2.238\; x\; 10^{15}\; m/s$), and its final kinetic energy ($\boldsymbol{KE_f} = 1.002\; x\; 10^{34}\; J$) . To calculate final velocity, just substitute mass of a solar singularity **M** and hydrogen radius **r** in eqn.(**15**).This speed exceeds the speed of light, so quantum mechanics, and relativity breaks down here. At infinity the initial Gravitational Potential energy of a superparticle is zero, $\left(\boldsymbol{GPE_i} = -\frac{\boldsymbol{GMm}}{\boldsymbol{r_i=\infty}} = \mathbf{0}\, \boldsymbol{J}\right)$**.** At final distance on the edge of a singularity ($r = 5.3\; x\; 10^{-11}\; m$), the final gravitational potential energy ($\boldsymbol{GPE_f} = -1.002\; x\; 10^{34}\; J$). An initial kinetic energy of a superparticle at rest is zero ($\boldsymbol{KE_i} = \mathbf{0}\, \boldsymbol{J}$**),** and final kinetic energy of a superparticle at impact time by the conservation of a mechanical energy ($\boldsymbol{KE_f} = 1.002\; x\; 10^{34}\; J$). The superparticle has been crashed when collided with a singularity, because it falls rapidly on the surface of a black hole singularity with higher speed, energy, and momentum. Initial mechanical energy is zero since ($\boldsymbol{ME_i} = \boldsymbol{KE_i} + \boldsymbol{GPE_i} = \mathbf{0}\, \boldsymbol{J} + \mathbf{0}\, \boldsymbol{J} = \mathbf{0}\, \boldsymbol{J}$**).** Final mechanical energy is zero since $\left(\boldsymbol{ME_f} = \boldsymbol{KE_f} + \boldsymbol{GPE_f}\right)$**,** then ($\boldsymbol{ME_f} = 1.002\; x\; 10^{34} J - 1.002\; x\; 10^{34}\; J = \mathbf{0}\, \boldsymbol{J}$**).** The total mechanical energy of a superparticle conserved after ($\boldsymbol{ME_i} = \boldsymbol{ME_f} = \mathbf{0}\, \boldsymbol{J}$ **).**

5. SPACE AMONG FABRITON PARTICLES

The space is not a vacuum 100%, it is filled with dark matter and energy. The Universe and black holes are filled with fabriton particles. The space in Atoms and the whole universe is precisely completed by fabriton particles. The celestial objects in the space of the universe and subatomic particles in the structure of an atom are held together gravitationally by fabriton particles [32]. The fabriton particles are available widely in the structure of atoms, cosmic objects, and black holes. The space is completed and built up cohesively and homogeneously by ordinary matter and dark matter. The universe is still growing and expanding due to dark matter and dark energy. The density of dark matter and concentration of the fabriton particles have been changed in different places of the visible Universe. Dark fabric matter of the fabriton particles could be squeezed and stretched around a celestial object according to their mass and density. The space among fabriton particles is larger in the free space, and the vacuum has been reduced between fabriton particles at the edge of a black hole and its singularity. The space between electrons and atomic nuclei is completed by fabriton particles. An atom is not a free space 99.99%, it is filled by fabriton particles, as a result an electron particles are bound by an atomic nucleus by gravitational force and electromagnetic force. An intermediate distance between two or more fabriton particles may be increased or decreased according to the mass and density of the cosmic objects. The space between two fabriton particles could be 1 picometer at the edge of a black hole and 2 zeptometres in its depths, specifically nearest to the edge of a singularity. An intermediate distance among fabriton particles of the black hole’s sphere had been reduced from its surface to its depth, as a result, the gravity of a black hole increased and is capable of collecting and reflecting the entire electromagnetic spectrum. The black hole has huge density, gravity, and power to capture photon particles with different wavelengths, lower and higher energy. Wavelengths of radiation for the entire electromagnetic spectrum could be trapped and accumulated in the event horizon of a black hole; as a result, the black hole becomes a dark and compact sphere. Radio waves, microwaves, infrared waves, and visible light have larger wavelengths; as a result, most of these radiations could be trapped inside a black hole and reflect off its edge easily.

Radiations with the largest wavelengths struggle to penetrate the depths of a black hole, because they have the largest wavelengths as compared to the space that exists among the fabriton particles. Ultraviolet wavelength, x-rays, and gamma rays have the shortest wavelengths, the highest energy, and the maximum number of frequencies. They have the highest energy and the shortest wavelength to penetrate the surface of a black hole or reflect from it. The mass, density, and gravity of the black hole have increased widely since accreting enough mass from its surroundings, and collecting a maximum number of photon particles from its external surface. Black holes can grow into ultra-massive giants and shape entire galaxy clusters through intense gravity and powerful energy output. Standard physics says black holes hide a gravitational singularity at their center, though quantum ideas suggest degeneracy pressure could stop a complete collapse into a true point. "Superparticle degeneracy pressure" is a highly speculative, new mainstream hypothesis suggesting that hypothetical supersymmetric particles could create an outward quantum pressure to stop a black hole core from collapsing into a true zero-volume singularity. It is the main reason that black holes can grow to the mass of galaxies and the visible universe [33, 34, 35]. The sphere of a black hole contracted and stretched continuously like the human lungs due to breathing. The space among fabriton particles increased and decreased continuously; as a result, the photon particles could penetrate the black hole from its edge to feed it, or come out from its depths during its longest journey, multiple absorptions, reflections, transitions, and refractions inside the compacted fabric of a black hole. The vacuum among fabriton particles is limited and lower than the wavelengths of the electromagnetic spectrum.

The photon particles have the largest wavelengths; as a result, they struggle to travel inside a black hole. The black hole is a dense ball of matter and energy, even photon particles have been trapped among its condensed fabriton particles for a longer time. The fabriton particles have been compressed and concentrated strongly around the black hole singularity; therefore, photon particles require Google years to escape from a singularity capture. The superparticles have high enough mass, density, energy, speed, spinning energy, and momentum to penetrate through the compacted gravitational wall of fabriton particles that exists around the singularity, and are capable of colliding directly with a singularity violently to feed it. Most of the superparticles can pass beside the singularity and tear part of the mass and number of photon particles from its surface. The photon particles on the surface of a singularity may back up to free space only during the dangerous journey of the superparticles into the heart of a black hole or colliding with a singularity directly. The photon particles at the edge of a singularity have little chance to back up into space; as a result, the singularity may grow since collecting mass from its surroundings by collapsing superparticles. Most of the superparticles may hit the core of a singularity violently and fuse with it to increase its mass and density. Dark fabric matter of the fabriton particles is distributed abundantly on a large scale of the universe to keep it from evaporation, and enhances its stability. The mass of dark matter could be hundred times the mass of ordinary matter in the sun and stars to keep them in balance.

6. RESULTS AND DISCUSSION

The superparticles are the most violent, ultra-massive and energetic particles that have been formed in the depths of a black hole, and they are capable of traveling through the black hole sphere easily to collide with a singularity directly. The space between fabriton particles was reduced, and the concentration of dark fabric matter and its density increased sharply. The superparticles, as the hottest and strongest particles, have been formed in the nature to break this barrier and pass beside the external surface of a singularity. The speed and mechanical energy of the superparticles broke the laws of physics in relativity and Quantum mechanics since they travel with a speed that exceeds the speed of light in space. The superparticle can move with a speed higher than the speed of light thousands or trillions of times; this is the main reason that only a specific particle can hit the singularity in the depth of a black hole. The singularity tunnel waves are capable of tearing apart most particles at their edge before reaching the deepest point in the core of a black hole. The singularity has powerful gravitational effects to suck mass from its edge, and the powerful ripple waves may come out from its rapid spinning, and it is repelling objects in its edge with a speed higher than the speed of light. The superparticle has a huge condensed mass and enough mechanical energy to fall into the deep point in the black hole's heart. The black hole heart is the violent region of the steeply condensed state of matter and energy. The singularity is a dense state of matter and energy that stabilizes at the heart of all black holes. The black hole can be formed from the remnant core of a supernova or a surviving superparticle. The collapsed heart of a massive star or a surviving superparticle may give birth to a newborn singularity and a black hole. The black hole singularity can grow to be denser due to bombardment by superparticles, and the event horizon of a black hole may expand outward via collecting further mass from its surroundings. The singularity and superparticles are a super-solid state of matter. They have a super liquid surface during rapid rotations and transitions.

The superparticle with a mass of $(m = 2\,Kg)$ falls rapidly from rest at distance $(\boldsymbol{r_i} = \mathbf{3}\,\boldsymbol{meters})$ to final position 2 millimeters $\left(\boldsymbol{r_f} = 2\,x\,10^{-3}\,m\right)$ from an external surface of a black hole singularity with a mass of hills $(M = 4\,x\,10^{7}\,Kg)$ and radius of 1 Autometer ($\mathbf{R} = 1\,x\,10^{-18}\,m$). The radius **R** of a black hole singularity needed to calculate the singularity density, its gravity, and escape velocity of an object from its surface or the speed of falling an object on its surface. The initial velocity of a superparticle is zero since it started its journey at rest $(\boldsymbol{v_i} = \mathbf{0}\,\boldsymbol{m/s})$. The final velocity of a superparticle nearby the edge of a singularity at distance $\left(\boldsymbol{r_f} = 2\,mm\right)$, very low, it is $(\boldsymbol{v_f} = \mathbf{1.634}\,\boldsymbol{m/s})$ according to **eqn.(15)**. An initial kinetic energy of a superparticle is zero since its initial velocity zero at rest state, and its final kinetic energy $(\boldsymbol{KE_f} = 2.672\,J)$. An initial gravitational acceleration of a superparticle at distance **3** meters is $(\boldsymbol{a_i} = \boldsymbol{g_i} = 2.97\,x\,10^{-4}\,\frac{m}{s^2})$, and its final gravitational acceleration at location **0.002** m is $(\boldsymbol{a_f} = \boldsymbol{g_f} = 667.43\,\frac{m}{s^2})$. At distance $(\boldsymbol{r_i} = \mathbf{3}\,\boldsymbol{m})$, the initial Gravitational Potential energy of a superparticle is $(\boldsymbol{GPE_i} = -1.782\,x\,10^{-3}\,J)$**.** At final distance on the edge of a singularity $\left(\boldsymbol{r_f} = 0.002\,m\right)$, the final gravitational potential energy $\left(\boldsymbol{GPE_f} = -2.674\,J\right)$. Initial mechanical energy is $(\boldsymbol{ME_i} = -1.782\,x\,10^{-3}\,J)$, $(\boldsymbol{ME_i} = \boldsymbol{KE_i} + \boldsymbol{GPE_i} = \mathbf{0}\,\boldsymbol{J} - 1.782\,x\,10^{-3}\,J =$

$-1.782\ x\ 10^{-3}\ J)$**.** Final mechanical energy is $\left(\boldsymbol{ME_f} = -1.782\ x\ 10^{-3}\ J\right)$, because the total mechanical energy of a superparticle is conserved after $(\boldsymbol{ME_i} = \boldsymbol{ME_f} = -1.782\ x\ 10^{-3}\ J\ )$**.** To calculate the time travel $\boldsymbol{t}$ of an object that moves from an initial position to a final position near the surface of a singularity, the following steps are taken: At the first step, I need to calculate the distance between the first and final positions of an object $\left(\boldsymbol{\Delta}s = \boldsymbol{dr} = \boldsymbol{r_i} - \boldsymbol{r_f} = 3m - 0.002\ m = 2.998\ m\right)$, and the second step, I have to calculate the average of gravitational acceleration $\left(\boldsymbol{a_{avg}} = \frac{(a_i + a_f)}{2} = 333.715 \frac{m^2}{s}\right)$, and the initial velocity of an object at rest is zero $(\boldsymbol{v_i} = \boldsymbol{0}\ \boldsymbol{m/s})$. Then substitute all above values in the eqn.(16) to determine time of travelling, thus the following equation is required to calculate the travelling time $\boldsymbol{t}$ of an object:

$(\boldsymbol{\Delta}s = \boldsymbol{v_i t} + \frac{\boldsymbol{1}}{\boldsymbol{2}}\boldsymbol{a_{avg}}t^2)$. Then substitute all values in this equation to find the time: $\mathbf{2.998\ m} = (0\ m/s)\ \boldsymbol{t} + \frac{\mathbf{1}}{\mathbf{2}}(\ 333.715\ m/s^2)t^2$,

$\mathbf{2.998\ m} = \frac{\mathbf{1}}{\mathbf{2}}(\ 333.715\ m/s^2)t^2$, then the travelling time is (***t=0.134*** seconds).

The superparticle with a mass of $(m = 2\ Kg)$ falls rapidly from rest at distance $(\boldsymbol{r_i} = \boldsymbol{3\ meters})$ to final position 2 millimeters $\left(\boldsymbol{r_f} = 2\ x\ 10^{-3}\ m\right)$ from an external surface of a black hole singularity with a mass of Jupiter planet $(M = 1.898\ x\ 10^{27}\ Kg)$, and radius of 2 picometer $(\ \mathbf{R} = 2\ x\ 10^{-12}\ m)$. The initial or final mechanical energy of a superparticle could be $(\boldsymbol{ME_i} = \boldsymbol{ME_f} = -8.436\ x\ 10^{16}\ J\ )$**,** and time of travel $(\boldsymbol{t} = \mathbf{6.15}\ \boldsymbol{x}\mathbf{10^{-12}}\ \boldsymbol{s})$**.** The superparticle with a mass of $(m = 20\ Kg)$ falls rapidly at distance $(\boldsymbol{r_i} = \mathbf{300}\ \boldsymbol{meters})$ to final position 2.5 meter $\left(\boldsymbol{r_f} = 2.5\ m\right)$ from an external surface of a black hole singularity with a mass of a black hole in Cygnus X-1 that has a mass of approximately 14.8 times the mass of our Sun $(M = 2.94372\ x\ 10^{31}\ Kg)$, and radius of Carbon Atom $(\ \mathbf{R} = 7\ x\ 10^{-11}\ m)$. The initial and final mechanical energy of a superparticle could be $(\boldsymbol{ME_i} = \boldsymbol{ME_f} = -1.3\ x\ 10^{20}\ J\ )$**.** The superparticle with a mass of the Earth's Planet $(m = 5.97\ x\ 10^{24} Kg)$ falls at distance $(\boldsymbol{r_i} = \mathbf{20{,}000}\ \boldsymbol{kilometers})$ to final position $\left(\boldsymbol{r_f} = 45\ m\right)$ from an external surface of a black hole singularity with a mass of a Milky Way Galaxy $(M = 2.98\ x\ 10^{42}\ Kg)$, and radius of Calcium Atom $(\ \mathbf{R} = 2.31\ x\ 10^{-10}\ m)$. The initial and final mechanical energy of a superparticle could be $(\boldsymbol{ME_i} = \boldsymbol{ME_f} = -5.95\ x\ 10^{49}\ J\ )$**.**

The superparticle with a mass of Sun$(m = 1.989\ x\ 10^{30}\ Kg)$ falls rapidly from rest at distance $(\boldsymbol{r_i} = \mathbf{400{,}000}\ \boldsymbol{kilometers})$ to final distance 30 meters from the surface of a black hole singularity with a mass of a supermassive black hole TON 618 that equals to 66 billion solar masses and radius of an iron atom$(\boldsymbol{R} = 1.26\ x\ 10^{-10}\ m)$. The initial velocity of a superparticle is zero since it started its journey at rest $(\boldsymbol{v_i} = \mathbf{0}\ \boldsymbol{m/s})$. The final velocity of a superparticle nearby the edge of a singularity exceeds the speed of light at distance $\left(\boldsymbol{r_f} = 30\ m\right)$, it is $(\boldsymbol{v_f} = \mathbf{7.62}\ x\ 10^{12}\ \ \boldsymbol{m/s})$**,** according to **eqn.(16)** the travel time of a superparticle is (1.05 microseconds). An initial kinetic energy of a superparticle is zero since its initial velocity zero, and its final kinetic energy $(\ \boldsymbol{KE_f} = -5.766\ x\ 10^{52}\ J\ )$. An initial gravitational acceleration of a superparticle is $(\ \boldsymbol{a_i} = \boldsymbol{g_i} = \ 5.48\ x\ 10^{13}\ m/s^2)$, and its final gravitational acceleration is $(\ \boldsymbol{a_f} = \boldsymbol{g_f} = \ 5.47\ x\ 10^{13}\ m/s^2)$. At distance $(\ \boldsymbol{r_i} = \mathbf{400{,}000}\ \boldsymbol{kilometers})$, the initial Gravitational Potential energy of a superparticle is $(\boldsymbol{GPE_i} = -4.357\ x\ 10^{52}\ J)$**.** At final distance the from an edge of a singularity $(\boldsymbol{r_f} = 30\ m)$, the final gravitational potential energy $(\boldsymbol{GPE_f} = -5.81\ x\ 10^{54}\ J\ )$. Initial mechanical energy is $(\boldsymbol{ME_i} = -4.357\ x\ 10^{52}\ J)$, $(\boldsymbol{ME_i} = \boldsymbol{KE_i} + \boldsymbol{GPE_i} = \mathbf{0}\ \boldsymbol{J} - 4.357\ x\ 10^{52}\ J = -4.357\ x\ 10^{52}\ J)$**.** Final mechanical energy is $(\boldsymbol{ME_f} = -4.357\ x\ 10^{52}\ J)$, because the total mechanical energy of a superparticle conserved after $(\boldsymbol{ME_i} = \boldsymbol{ME_f} = -4.357\ x\ 10^{52}\ J\ )$**. Eventually,** the superparticle with a mass of the 5 billion solar masses $(m = 9.945\ x\ 10^{39}\ Kg)$ falls at distance $(\boldsymbol{r_i} = \mathbf{30}\ \boldsymbol{million\ kilometers})$ to final position $\left(\boldsymbol{r_f} = 800\ m\right)$ from an external surface of a black hole singularity with a mass of a 30 trillion times the mass of an Andromeda Galaxy $(M = 8.9505\ x\ 10^{55}\ Kg)$, and radius of Silicon Atom $(\ \mathbf{R} = 1.11\ x\ 10^{-10}\ m)$. The initial or final mechanical energy of a superparticle could be $(\boldsymbol{ME_i} = \boldsymbol{ME_f} = -1.98\ x\ 10^{75}\ J\ )$. A black hole singularity or supergiant black holes can grow to the mass of the Visible Universe and exceed its mass and size, as it collects additional mass and energy from its surroundings. The visible universe was a superparticle that formed within a supergiant black hole in the past, before the Big Bang event began. The superparticle, similar to the mass of a visible universe, could be formed inside an event horizon of a supergiant black hole before the Big Bang event, and it was escaped as a surviving superparticle to form our visible universe. We are a superparticle that formed in the depths of a supergiant black hole. The mass of such a supergiant black hole is higher than the mass of trillions of our visible universe. A supergiant black hole is the greatest type of black hole that existed before the creation of our universe and multiple universes. Multiple universes and our visible universe are superparticles that could be formed in the accretion disc of a parent supergiant black hole. The parent supergiant black hole is a common center of creation and evolution for entire universes, including our visible universe. The parent supergiant black hole is the place where cosmic seeds for multiple universes and the visible universe were formed inside such a monster black hole. The superparticles escaped from it as surviving superparticles into space, and inflated there to form a newborn Universe, including stars, planets, galaxies, and black holes.

Table 1: Mechanical Energy of The Superparticles

Singularity Mass (M)	**Singularity Radius (R)**	Initial (r_i) and final (r_f) position of a superparticle ($r_i \to r_f$)	**Initial and final Mechanical Energy of The Superparticles ($ME_i = ME_f$)**
$\mathbf{4\ x\ 10^{7}\ kg}$	$1\ x\ 10^{-18}$ m	$3\ m\ to\ 2\ mm$	$-1.782\ x\ 10^{-3}\ J$
$\mathbf{1.898\ x\ 10^{27}\ kg}$	$2\ x\ 10^{-12}$ m	$3\ m\ to\ 0.002m$	$-8.436\ x\ 10^{16}\ J$
$\mathbf{1.989\ x\ 10^{30}\ kg}$	$5.3\ x\ 10^{-11}$ m	$\boldsymbol{r_i = \infty\ to}\ 5.3x\ 10^{-11}\ m$	0 J
$\mathbf{2.94\ x\ 10^{31}\ kg}$	$7\ x\ 10^{-11}$ m	300 m to 2.5 m	$-1.3\ x\ 10^{20}\ J$
$\mathbf{2.98\ x\ 10^{42}\ kg}$	$2.31\ x\ 10^{-10}$ m	*20,000 km to 45 m*	$-5.95\ x\ 10^{49} J$
$\mathbf{1.31\ x\ 10^{41}\ kg}$	$1.26\ x\ 10^{-10}$ m	400,000 km to 30 m	$-4.357\ x\ 10^{52}\ J$
$\mathbf{8.95\ x\ 10^{55}\ kg}$	$1.11\ x\ 10^{-10}$ m	30 million km to 800 m	$-1.98\ x\ 10^{75}\ J$

7. CONCLUSION

This study concluded that superparticles had formed inside the black hole and classified them into four categories: turbulent superparticles, superparticle clusters, attacked and fused superparticles, and surviving superparticles. Black holes and their singularity have been produced from the collapsed hearts of Stars and escaped superparticles. The black hole can grow and expand by collecting additional mass from its surroundings. A black hole grows rapidly when it tears enough mass from companion stars and celestial objects, or by merging black holes. The black hole is a compacted fabric of matter and energy; even the photon particles and subatomic particles struggle to penetrate through it. The space and an intermediate among fabriton particles are reduced to a critical level, even photon particles freeze together, and ordinary matter fuses to form superparticles or dense state of matter. The superparticles required higher speed, energy, momentum, and mechanical energy to travel from the initial point on the edge of a black hole to its final point at the edge of a singularity. The singularity tunnel waves are violent distortions and ripples that occurred in the fabric of a black hole, and they act directly on the formation, annihilation, acceleration and deceleration of the particles, and specifically superparticles. Superparticles have huge transition speed, momentum, and mechanical energy since dragged violently at a short time from the edge of a black hole singularity to the nearest point from its surface or its center with a speed exceeding the speed of light.

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Conflict of Interest

I declare that I have no conflict of interests

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