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Radiations Accumulation and Rapid Transition of Particles inside the Black Holes

Sabir Sadiq

Kurdistan Space Agency, Shiladoze, Duhok, Iraq, Kurdistan

ABSTRACT: In the present work, I shall explain in detail the black hole particles, and singularity tunnel waves that spread out from the deep heart of a black hole, and acting directly on the acceleration and deceleration of particles and accretion disc that surrounding a black hole. The Black hole sphere is a condensed sphere of matter and energy that distorted steeply around the singularity. Black hole singularity has a powerful gravitational field, electromagnetic field, singularity tunnel waves, and tidal disruption force to tear apart the fraction of matter from an external surface of stars and celestial objects in the distant places. Materials are dragged rapidly from an external surface of the celestial objects towards the surface of a black hole and orbit it in the region called an accretion disc. Accretion disc is a ring of a luminous and hotter state of the matter and energy where energetic particles are collided and fused together violently to produce condensed ball of matter and energy that named a nuclear fusion ball. Nuclear fusion ball capable orbits the black hole singularity with a speed lower and higher than the speed of light according to conservation law of an angular momentum. Singularity tunnel waves could be distributed quickly through the compacted fabric of a black hole and acting directly on the attraction and repulsion of a nuclear fusion ball to orbit the centre of a black hole or pull it strongly to fall down rapidly into the centre of a black hole. In fact, the nuclear fusion ball is spinning up very quickly, and its surface temperature increases extremal to create new compacted object from its dense core named a super particle. Super particle is a dense and smooth ball of an excited type of matter and energy that produced during rapid transition of the black hole particles in the turbulence region that located between singularity and accretion disc which named an event horizon. Radiation could be trapped and accumulated inside a black hole because it has limited speed, Photon Energy, frequency, and wavelength.

KEYWORDS: Black hole Particles; Singularity Tunnel Waves; Fabriton Particles; Photon Particles; Angular Momentum of Particles; Particles Fusion; Superparticles.

1. INTRODUCTION

The physics of a black hole is the science that study formation, evolution, and the structure of a black hole. Black hole entropy and black hole thermodynamic are two important subjects of the black hole Physics [1][2]. The Physics of Black hole particle is the new branch of physics and astronomy that developed to describe the weird particles were formed and annihilated inside a black hole, particular super particles. Black hole divided into two types are high mass black holes and low mass black holes. Black holes could be formed from ultimate death of stars or from escaped super particles. The remnant core of a planetary nebula named a white dwarf that developed to produce black dwarf for the star similarly the mass of a Sun [3]. Neutron Stars and Stellar mass black holes are formed from ultimate death of high mass stars [4]. High mass star exploded as hot and luminous ball of plasma that named the supernova. Low mass black holes and high mass black holes could be formed from super particle that formed inside a black hole under violent gravitational field and tidal disruption force of a black hole singularity. Low mass singularity and low mass black hole may able to produce super particle with lower mass, new low mass black hole and singularity may be formed from such escaped super particle.

High mass black hole has larger event horizon radius and capable of accreting much enough amount of matter and energy to form super particles with high enough masses and energy, an escaped super particle has the chance to be super massive black hole or high mass black hole. Black dwarfs and stellar mass black holes have the capacity to collect material from their surroundings to become larger in radius and massive more. An active galaxy contained at its heart powerful supermassive black hole [5][6]. Intermediate mass black holes and upper mass black holes are abundant widely in the Universe [7]. Nuclear fusion ball in the heart of a dead star will collapse inward urgently to produce dense singularity ball with a density more than ($2\ x\ 10^{60}\ kg/m^3$), angular momentum and kinetic energy of a nuclear fusion ball will increase rapidly to form new super particle and singularity. An escaped super particle able to be a black hole singularity for its new born black hole. The radius of a black hole singularity or survived super particle is not zero, but very small such as the radius of atom or subatomic particles. Singularity has higher density and contracted size, because

much amount of mass and energy are compacted into such tiny point, in dimension D >3, where the curvature grows large near the singularity condition [8]. In the heart of any black hole contains a dense ball of singularity. Singularity is the compressed heart of a black hole, and event horizon is its external edge that covered it from outside. Black hole consists of two main regions are dense sphere of a singularity that located in the centre of a black hole and curved event horizon ball that covered a singularity from outside. Accretion disc is an external belt of hot and dense state of black hole particles that orbit a black hole singularity actively when a black hole tearing fraction of materials from companion stars or any other celestial objects. Stellar mass black hole has a bright ring of plasma in its outer edge that named accretion disc [9]. Atoms, elementary particles, matter, antimatter, Dust particles, and gaseous molecules orbit the black hole singularity rapidly, the probability of friction, and collisions increased in an accretion disc that led to glow materials and increase their temperature to thousands, millions and billion degrees Celsius. Black hole tears amount of mass and energy from the companion stars and any celestial object that passed in its border under its tidal disruption force. Tidal force or tidal disruption event is the phenomena that occurred when black hole tears additional mass from its companion stars and celestial object that increased the luminosity of a black hole and its mass. Accretion disc is hot ring of plasma and energetic particles which delivered temporary around the black hole.

Main objectives of this study to calculate an orbital speed **v** and angular momentum **L** of the black hole particles, and super particle which orbits the black hole singularity with a speed lower or higher than the speed of light in the vacuum.

2. BLACK HOLE PARTICLES

Black Hole particles is a crucial subject in the black hole physics that helped us to understand the illusion and mystery of materials and particles in the structure of a whole black holes. Black hole is a sphere of compacted material that distorted steeply around the singularity, it consists of an ordinary matter, particles, and dark matter. An ordinary matter in the structure of a black hole divides into gas, dust, atoms, molecules, and subatomic particles. Dark matter particle is only single type of particle named a Fabriton particle. Fabriton particles of a black hole are combined and stressed together to narrow and critical distance even light particles failed to pass through them easily. Black hole singularity widely pressed on the Fabriton particles to push on one another and make them to be combined together in very tiny point and become compressed in the narrow distance. An event horizon of a black hole could be filled with a dense staff of particles, especially Fabriton particles that obstacle the motion of photon particles, ordinary matter, and all subatomic particles. The compacted staff of matter inside an event horizon prevents the motion of most photon particles and captured on them to stay freeze for a longer time. Particles are strongly captured inside an event horizon for a longer time. Black hole matter and particles are divided into dust particles, gas particles, Photon particles, antimatter, subatomic particles, Super Particles, Fabriton particles, compacted fusion ball, and dense singularity ball that located in the heart of a black hole. All particles of a black hole combined together to build the smooth structure of a black hole and its powerful gravitational field saved the mass of a black hole permanently from any possible evaporation. [10] Thermal emission decreases the mass of a black hole and released most of its particles into space during evaporation, any primordial black hole of mass less than the mass of mountain or less than about trillion kilograms would have evaporated by now. Black hole has variable types of matter, and particles in its entire structure.

2.1 Fabriton Particles

Fabriton particle is a dark matter particle that distributed in the whole structure of a Universe and inside the celestial objects. Researchers confirmed the existence of Dark Matter only from the gravitational effect and its ratio making up about 27% of the mass of universe, dark energy completed 68% and the ordinary matter we know and that makes up all atoms, stars, planets, black holes and galaxies only accounts about 5% of the content of a visible universe [11]. Dark matter consists of dark matter particle which called fabriton particle. Fabriton particle is a dark matter particle that formed and existed in nature before the formation and evolution of a visible Universe, stellar system, an ordinary matter, and particles. The space is not free vacuum 100%, it is filled with Fabriton particles. Fabritons particles are formed to complete the perfect vacuum in the whole Universe, stellar system, planetary system, atomic system, and large space of galaxies. The existence of Fabriton particle in nature is so important as the benefit of water for life and chemical reaction inside human body. Fabriton particles able to complete the large space of Universe beside subatomic particles, atoms, and photon particles to save the connection of Universe and save its general balance. Single Fabriton particle named a dark matter particle. Two and more Fabriton particles are combined together in one dimension to form dark matter string. Many Fabriton particles are connected together in two dimensions to produce dark web. Many Fabriton particles are combined together in three dimensions to build up cosmic dark fabric. Cosmic dark fabric is the fabric of Cosmos that distributed inside the structure of atoms and visible Universe to keep the dynamical and statical balance of a whole Universe. Black hole structure is filled with Fabriton particles that combined together in three dimensions to cover the black hole singularity. Fabriton particles are mostly combined tightly around the black hole singularity and kept the singularity surface to be hidden and not be shown by unaided eyes. Cosmic dark fabric has great density and appeared as compact gravitational sphere around the singularity, it is warping steeply around the black hole singularity because of a huge density, gravity, and stress of

the singularity ball. Fabriton particles strongly pressed on one another in critical distance and vacuum that forbid photon particles to leave an event horizon of a black hole. Cosmic dark fabric is a gravitational sphere of Fabriton particles that warped steeply around the singularity ball, and kept the photon particles in the region between external surface of a singularity ball and internal surface of event horizon sphere. Photon particles have limited energy and momentum to build a tunnel in the compacted fabric of event horizon, as a result it is failed to leave an external surface of a black hole singularity. Most particles will be accumulated inside a black hole. Fabriton particle given to the black hole a dark and black colour, because it is cold particle and kept photon particles to be trapped inside an event horizon. Subatomic particles, atoms, and antimatter are building block of an ordinary matter. An ordinary matter has the effect on the formation and evolution of a black hole and whole celestial objects.

2.2 Gas and Dust Particles

Black hole has strong tidal force, it is able to tear gas and dust particles from external surface of any stars or celestial objects were passed to be combined in closer points to the surface of a black hole. An Evidence of a Gas and dust particles in the accretion disc of a supermassive black hole is strongly suggested by recent observations, the Supermassive black hole has the mass thousands and millions time the mass of a Sun [12]. Black hole able to grow largely since collecting gas clouds from its surrounding [13]. Gas and dust particles are crucial particles existed inside the structure of a black hole, and feeding it to grow and expand. Gas and dust particles have great role during formation and evolution of a black hole. Black hole singularity was formed from ultimate death of stars during gravitational collapse of stars. Nuclear fusion sphere in the heart of star was collapsed inward to produce a black hole singularity, and external surface of a star will explode outward to form hot and luminous ring of plasma around the collapsed star. Star itself consists of gas and dust particles that participated in the formation of a black hole during final steps of its life. Gas and dust molecules in the structure of stars and celestial object may fall down deeply into the black hole when stars or any celestial object passed beside the black hole or orbit it closely. Black hole will tear amount of mass from its companion star and nearby celestial objects. Black hole may devour total mass of Stars and celestial objects. Gas and dust particles may feed a black hole to grow and expand widely. Black hole couldn't be formed or expand without fuel of gas and dust particles. Accretion disc is a hot and luminous ring of gas and dust particles that formed around the hungry black hole.

Accretion disc is an external boundary of a black hole contained mostly of gas and dust particles. Luminous accretion disc will appear the exact location of a black hole when electromagnetic radiations and hotter particles are ejected from such hot disc. Gas and dust molecules will collide together to increase the temperature of accretion disc. Black hole has enough mass, density, gravity, and momentum to capture and pulls in high enough amount of gas and dust particles from its surrounding to grow and glow. The radius of a black hole will increase, and the density of a black hole singularity may increase during collecting additional amount of gas and dust particles from its surrounding. Scientists could determine the position and momentum of a black hole, when a black hole devouring fraction of gas and dust particles from its surrounding that led it to glow with emitted radiations, neutrinos and energetic particles. Powerful Gamma rays, x- rays, and UV radiations are spread out from an accretion disc of a black hole that helped scientists to observe the location, size, and mass of a black hole.

2.3 Super Particles

Super particle is an energetic particle that formed in a violent environment, particular inside a black hole, it is formed from powerful collision of an ordinary matter inside accretion disc under stress and powerful gravitational pull and gravitational waves of a black hole singularity. Dust and gas particles orbit the black hole actively according to conservation law of angular momentum. Subatomic particles, dust, and gas particles may collide together inside an accretion disc to produce heavy and energetic particle that named a super particle. Mass, density, energy, angular momentum, thermal energy, and kinetic energy of super particles are incredibly high to reach the deep heart of a black hole or leave the surface of black hole forever. The position and momentum of Super particles changeable. Super particle may orbit a black hole singularity, collide with a singularity, or escape from the capture of a black hole towards the space. Super particle may orbit the black hole singularity in accretion disc region or inside an event horizon to collect additional mass and energy from its surrounding, and become massive more, as a result it has enough mass, density, energy, and momentum to penetrate through the compacted fabric of a black hole, and colliding with a black hole singularity in the core of a black hole. Super particle will feed the black hole singularity and feeding it to become denser. Super particle will crash and annihilate partially during its strong collision with a singularity ball. Probably 10 or 1000 super particles are colliding with a singularity surface at once, this phenomenon named a super particle rain. Super particle started to be formed in the edge of a black hole as condensed ball of collided particles; it maybe moves actively to reach the deep heart of a black hole. Nuclear fusion ball could be crashed inward to create super particle under powerful gravitational field, singularity tunnel effect, and intense electromagnetic force of a black hole singularity. Super particle has another chance to leave the black hole and travels towards the space, because the rotational energy and momentum of super particles overwhelming the gravitational force and electromagnetic field of a black hole singularity. Most super particles are able to escape from an external surface of a black hole to become free massive particle in the large space of Universe.

Super particle may become a black hole singularity when kept on its mass, radius, density, energy, gravity, electromagnetic field, thermal energy, and momentum to warp the cosmic dark fabric steeply and started to collect an additional mass from its surrounding. Super particle properties are similar to the properties of a black hole singularity. Momentum and energy of Black holes and super particles are variable according to their masses, radius and spinning speed. Super particle has different linear momentum, angular momentum, and spinning speed according to its position from singularity. Black hole singularity resident at the core of each black holes, gas and dust particles orbit the black hole singularity with a huge speed and enormous angular momentum. The angular momentum of a particle with mass m that moves in a circular path with radius r and with a speed v. An angular momentum of a particle depends on its mass m, speed v and its distance r from the rotation axis [14]. Following main equations of a linear momentum and angular momentum of Particles:

$$\boldsymbol{p = mv} \quad \textbf{(1)}$$
$$\boldsymbol{l = r\,x\,p} \quad \textbf{(2)}$$
$$\boldsymbol{l = r\,x\,mv} \quad \textbf{(3)}$$

Where $\boldsymbol{p}$ is a linear momentum, $\boldsymbol{m}$ is mass, $\mathbf{v}$ is velocity, $\boldsymbol{r}$ is radius, and $\boldsymbol{l}$ is angular momentum. Super particles have enough speed and momentum to orbit the black hole singularity safely in any point inside a black hole. Linear momentum and angular momentum of super particles are incredibly high when orbit the singularity in the deep heart of a black holes. Super particle orbits the black hole singularity with huge speed and momentum to collect an additional mass from its surrounding, it may increase on its mass and energy to be powerful and energetic. Unfortunately, most of gas, dust particles and subatomic particles are failed and annihilated to orbit the black hole singularity continuously in deep heart of a black hole, because the density and mass of an ordinary matter not high enough to afford such powerful tidal forces and turbulences of a black hole singularity. Black hole singularity has most powerful rotational energy, turbulences, electromagnetic force, and gravitational waves propagation throughout the compacted fabric of a black hole, it may tear everything in its road. An ordinary matter and energy are annihilated and crashed rapidly when faced such powerful turbulences and waves that formed from a black hole singularity. Super particle is only survivor particle that able to orbit the black hole singularity, leave it easily or reach the deep heart of a black hole. Super particle has its own powerful conditions to survive from any direct collision and rapid annihilation during its interactions with a singularity, it has high density, rotational energy, momentum, and powerful electromagnetic force to save itself from any direct collision with a surface of a singularity and prevented its mass from evaporation. Pressure, temperature, density, and tidal force of a black hole may increase steeply when particle reaches the deep point inside the black hole, it is a main reason that most particles are crashed and dissipated inside the black hole. Photon particles are accumulated and subatomic particles are annihilated inside the deep heart of black hole, particular in the region much closer to the surface of a singularity.

2.4 Photon Particles

Photons have lower energy and momentum, and capable deliver most of their energy and momentum to a point on a material targeted directly [15]. Photon has duale particle and wave properties; it is able to travel throughout the fabric of a Cosmos with huge speed. The speed of photon particle in space precisely constant and about 300,000 kilometers per second. The speed of photon particle decreased with a decrement of its energy and momentum since passed throughout the dense state of matter or interacted with an ordinary matter. Photon particle is a particle that immersed and accumulated inside a compacted fabric of a black hole. Photon particle is still tiny and weak particle that formed in the nature from an annihilation of an ordinary matter. It may be formed from a particle that annihilated inside a black hole, particular the super particles and subatomic particles. An ordinary matter may face powerful turbulences and tidal disruptions when felled down into lower region of a black hole, especially inside an event horizon region. Dust and gas particles may orbit the black hole urgently, and maybe annihilate during multiple violent collisions and frictions. The Speed of an object may increase widely to collide together violently, and the temperature of an evaporated subatomic particles will increase to thousands and trillion kelvins during such collision. Dust and gas particles could be crashed and radiated as photon particles. Dust, gas and subatomic particles in the accretion disc and inside an event horizon of a black hole may emit photon particles. An event horizon is not a dark and black entirely, it is filled with an annihilated subatomic particles and energetic super particles that radiate radiations with different frequencies. Dust and Subatomic particles could be trapped in the deep heart of black hole, but super particle has enough mass and energy to travel through the condensed fabric of a black hole. Super particle will radiate energy as photon particles during its rapid journey through the dense matter of a black hole, especially in the event horizon region. Super particle may lose huge amount of energy during its journey. Black hole consists of Fabriton particles, subatomic particles, dust and gas particles. The photon particles are absorbed, reflected, refracted, transmitted, and accumulated for a longer time inside the distorted fabric of a black hole. Subatomic particles and super particles are main source of photon particles, but Fabriton particles are still great obstacle in the journey of photon particles. Photon particles are accumulated inside the event horizon zone because photon particle has minimum energy and momentum. Light particles can't leave the black hole directly, as a result the black hole has dark sphere of compacted matter named an event horizon. Light particles may leave the black hole singularity inside the tunnel that formed during the rapid transition of super particle

throughout the condensed fabric of an event horizon when it is collided with a singularity surface.

Most photon particles could be trapped, accumulated and dissipated inside the black hole, particularly inside the tunnel vacuum that located between the external surface of a singularity and an internal surface of an event horizon. Tunnel vacuum located between a black hole singularity and event horizon of a black hole where an ordinary matter and photon particles are trapped there for unknown time. Dark fabric matter and energy was warped and condensed very steeply around the black singularity. Photon particle lack an additional energy and speed to leave the black hole singularity. Photon particles are reflected and bounced actively between a singularity surface and event horizon. Light particle has limited speed, frequency, and energy to leave an external surface of a black hole singularity or pass through the compacted fabric of a black hole. Fabriton particles are collided and combined together to increase the mass and density of a black hole. Fabriton particles are pressed on one another in three dimensions to build much denser and darker fabric of a black hole. Photon particles have lower opportunity to travel safely throughout such compacted fabric of a black hole. The speed, frequency, momentum, and energy of photon particles are incredibly low to travel throughout such compacted fabric. Light speed incredibly high in the space and able to penetrate throughout the matter with less dense. The photon particle interacts with a matter to produce electricity. The Sun is the main source of energy in our planet the Earth, it is providing for people the clean energy, as a result Solar photons support the life on our planet the Earth [16]. Light will travel from the Sun and reaches the surface of Earth during 8 minutes. Following main equations of light speed and photon Energy:

$$c = f\lambda \qquad (4)$$

Where c is a speed of light in m/s, speed of light in vacuum very high and equals to $3\ x\ 10^8$ meters per second, f is the frequency of electromagnetic waves in Hz, λ is a wavelength in meters.

$$E = mc^2 \qquad (5)$$

Where E is a light energy in joules, mass of an object that converted into light energy and travels with a speed of photon particles in vacuum according Einstein's equation of energy, c is the speed of photon particle in space. Radiation particles have different wavelengths, frequencies, momentum, and energy.

$$E = hf \qquad (6)$$

Where Ea radiation energy in joules is, h is a Planck's constant, $(h = 6.63\ x\ 10^{-34}$ J. S), and f is a radiation frequency. An energy of Photon particle will increase when frequency of photon particle increased rapidly and its wavelength decreased. High energy photon particles may penetrate throughout the fabric of Cosmos easily. Gamma rays, X-rays, and UV radiations have high energy and frequency to pass throughout the materials with lower density easily. Radio waves, microwaves, infrared, and visible lights have lower energy and frequency, and less opportunity to pass through the thickness of dense materials. Cosmic dark fabric was distorted steeply around the black hole singularity, and the vacuum between Fabriton particles are incredibly lower, even particles with high energy and frequency may be failed to penetrate throughout the compacted fabric of a black hole. Black hole disc is a dark sphere of curved matter and energy which combined around the singularity, because most photon particles are failed to leave the surface of a black hole singularity. Photon particle was accumulated and captured inside the dense fabric of a black hole, it needs an additional time and energy to leave it in the future. Photon particle may leave black hole when super particle was carried it and escaped from black hole. Photon particle may leave a black hole through temporary tunnel that formed during super particle transition through the compacted fabric of a black hole. In fact, photon particles do not have enough energy and momentum to leave the center of a black hole easily.

3. TANGENTIAL VELOCITY OF BLACK HOLE PARTICLES

Mathematical models proposed that the supermassive black hole surrounded by Dark Matter envelopes may be used to investigate the nature of the central object, where particles travel in the gravitational field of a Schwarzschild black hole [17]. Supermassive black hole has larger event horizon radius which million times the radius of a Sun and Stars. Black hole particles quickly orbit the heart of a supermassive black hole in a distant region from its centre. Lower mass and higher mass Black holes are contained in their centre much compacted body that named a singularity. Black hole particles are energetic particles capable orbit the black hole singularity with the speed lower or higher than the speed of light. Speed of light in the vacuum is 300,000 Kilometers/second. Super particle is denser type of particle that needs an additional mass, momentum, energy, and speed to orbit the black hole singularity in the region much closer to the heart of a black hole. An object needs the centripetal force to keep in a circular motion is called the centrifugal force $\mathbf{F}_c$. Black hole particle with mass **m** keeps in a circular motion at a distance **r** from the center of a circle with velocity v, Centrifugal force $\mathbf{F}_c$ as written as below:

$$\mathbf{F}_c = \frac{mv^2}{r} \qquad (7)$$

$$\mathbf{F}_g = G\,\frac{M\,x\,m}{r^2} \qquad (8)$$

Where $\mathbf{F}_g$ is a gravitational force between super particle with mass **m** and singularity with mass **M** at a distance **r, G** is a Gravitational Constant, it is constant in any place in the Universe, **G = 6.673 x 10^{-11} N m^2/kg^2.** It is a familiar

observation that an object revolving in a circle exerts a force away from the center of rotation. Black hole particles and accretion disc of a black hole with mass **m** in the distance **r** rotating around the black hole singularity according to balancing and equaling between the Centrifugal Force in Equation (7) and Gravitational force F_g in equation (8):

$$F_c = F_g, \qquad \frac{\boldsymbol{mv^2}}{\boldsymbol{r}} = G\frac{\boldsymbol{M\,x\,m}}{\boldsymbol{r^2}} \quad , \quad \frac{\boldsymbol{v^2}}{\boldsymbol{r}} = G\frac{M}{r^2},$$

$$\boldsymbol{v^2} = G\frac{M}{r},$$

An Orbital velocity (v) is the velocity at which a body revolves around the other body in the uniform circular motion. The spinning velocity depends on the distance between the particles and the center of mass of a singularity. Eventually the tangential velocity **v** of black hole particle that orbits the black hole singularity at distance **r** was derived from above equations:

$$\mathbf{v} = \sqrt{\frac{GM}{r}} \quad \textbf{(9)}$$

Where **v** is called tangential velocity or orbital velocity. Super particle orbits the black hole singularity actively. The speed of super particle is very high to orbit the singularity continuously and safely in much closer point of a black hole center. The speed, momentum, and rotational energy of super particle increased widely when orbits the singularity in closer point from the Centre of a black hole. Tangential velocity **v** of super particle depends on the mass of singularity **M**, and distance between singularity and super particle **r**. Theoretically, we know the mass of Solar Mass Singularity ($\boldsymbol{M = 2\,x\,10^{30}\,kg}$), and Distance Between Solar mass singularity and Super Particle ($\boldsymbol{r = 200\,m}$), by using equation (9), we get the value of tangential velocity of super particle that orbits the singularity in such distance is ($\boldsymbol{v = 816884324.736\,m/s}$). The mass of a solar mass singularity steeply compressed into the size of a hydrogen atom, and its density equals to ($3.2\,x\,10^{60}\,kg/m^3$) when all mass of Sun converted to a black hole singularity that combined in very tiny point in the size of a hydrogen atom. Super particle is a particular type of particle that has enough capacity to orbit the black hole singularity closely or travel against any powerful gravitational waves and turbulences to reach the deep heart of a black hole.

4. SINGULARITY TUNNEL WAVES

Black hole singularity has powerful gravitational field, tighten electromagnetic lines, and active singularity tunnel waves that acting directly on the squeezing and stretching of an event horizon sphere, and accretion disc belt to accelerate and decelerate the black hole particles in order to produce super particles during extremal collisions, fusion, and rapid transition. Black hole singularity formed from dead heart of collapsed stars and from an escaped super particle from parent black hole. Black hole singularity could be produced from much powerful collapsing inward the particular type of matter and energy from dead heart of stars and from survived super particle that created inside an event horizon of a black hole. Nuclear fusion ball in the heart of star will convert to singularity under extremal condition. Collided and fused ball in the accretion disc of a black hole will face powerful tidal disruption force and condensed electromagnetic field of a singularity when it falls down inward to the heart of a black hole and it changes rapidly to form new dense and smooth body named a super particle. In fact, the survivor super particle will become a new singularity in the heart of new born black hole. Powerful Singularity tunnel waves are coming quickly from deep heart of a black hole, and it helped us to understand the nature of matter and energy that squeezed and stretched around a dense singularity ball. Tremendous amount of mass and energy combined violently in the very tiny point in the size of atom or elementary particles according to angular momentum and energy to create the singularity Ball. Black hole singularity has powerful attraction and repulsion force where matter and energy inside an event horizon that covered the singularity ball from outside could be squeezed and stretched actively during rotational energy and momentum of a black hole singularity. Material inside an event horizon is a good medium to transfer singularity tunnel waves and an energy into outer space.

Gravitational waves that produced from rapid rotation of a Black hole singularity maybe distributed throughout an event horizon. Singularity tunnel waves is a good candidate will help scientists to detect the complex nature of a singularity ball and general structure of an event horizon region. Hidden information and critical details that come out from the deep heart of a black hole which carried out by gravitational waves of a black hole singularity may help scientists to study the general properties of a black hole. Photon particles have limited speed and energy to come out from the deep heart of a black hole. An Event horizon of a black hole is compressed strongly and violently that prevented the photon particles to leave the surface of a singularity directly. Photon particles are absorbed and dissipated inside such compacted fabric of matter and energy inside a black hole for a longer time. Naked singularity studied here by quantum effects in gravitational collapses [18]. Quantum mechanics has great contribution in the description of a black hole singularity. According to quantum mechanics information preserved inside a black hole. Hawking radiation emitted from the black holes with naked singularities and the singularity itself does not destroy information according to Quantum Theory [19]. Singularity tunnel waves are powerful attraction and repulsion waves that produced by black hole singularity which resident in the heart of a low mass and high mass black holes. Singularity tunnel waves will help us to calculate the mass, radius, density,

rotational energy, and angular momentum of a black hole singularity precisely. Singularity has very tiny size and huge density that squeezed in very tiny point in the size of atom or subatomic particle. Rotational Energy and angular momentum of a black hole singularity are incredibly high may able to distort and vibrate the compacted fabric of a black hole.

Black hole Singularity has different Masses such as primordial mass singularity, planetary mass singularity, Stellar mass singularity, solar mass singularity, galaxy mass singularity, galaxy cluster mass of singularity, and cosmic mass singularity, all singularities have the size and radius similarly the size of atom or subatomic particles. Singularity has quicker spun up and powerful rotational energy which able to produce a pure tunnel and vacuum around itself to a curve dark fabric matter tightly and attract ordinary matter and subatomic particles in the accretion disc of a black hole [20]. The singularity is a black hole cleaner, and its powerful machine. It is spinning up rapidly to attract and repulse materials around itself and build up a clear tunnel and vacuum energy in the heart of its black hole. Materials are in turbulences and rapid motions continuously to complete the space and tunnel vacuums in the structure of a whole cosmic fabric to save the general balance of a Universe. Singularity has tiny radius and huge density, as a result the dark fabric matter and energy are strongly compacted, squeezed and stretched around the singularity sphere. Singularity orbits itself very quickly to form a tunnel vacuum that stressed on materials in the edge of black hole to fall down urgently into the centre of a black hole, otherwise the singularity able to make powerful repulsion waves in the event horizon fabric that pushed on dark fabric matter and energy, and materials in the edge of a black hole to stretch out and get away from the centre of a black hole. Singularity has enough capacity to build up the vacuum and pure tunnel in the compacted fabric of a black hole that pulls materials inward into the centre of a black hole, otherwise it has enough power to vibrate the compacted fabric of a black hole and repulse on materials in the black hole to get way and escape from the centre of a black hole actively. The attraction and repulsion force of a black hole singularity which occurred on the form of squeezes and stretches inside the structure of a black hole named the singularity tunnel waves. Materials, gas, dust particles, subatomic particles, and super particles are fall down into the centre of a black hole or able to escape from the black hole singularity with the speed much higher than the speed of light.

Tidal disruptions of a black hole singularity much higher to tear apart the gas, dust particles, and atoms, as a result the atoms are collided and evaporated inside the edge of a black hole. The singularity tunnel waves are capable of shaking black hole particles actively and increasing their surface temperature to travel with a speed much higher than the speed of light particles, as a result, this particle becomes a hot and energetic particle that can pass through an event horizon of a black hole and swimming at near distance from the surface of a singularity in the deep heart of a black hole. The particle that travels with a speed higher than the speed of light may gain the condition of superparticles. The mass, density, thermal energy, speed, rotational energy, and mechanical energy of a superparticle could be high enough to make the particle escape from the ultimate death and direct collision with a black hole singularity. The superparticle is the only harder particle capable of colliding with a black hole singularity and feeding it to grow rapidly, and it is the only particle that may be able to survive the direct collision and crunching entirely when passed successfully beside an external surface of a black hole singularity. Any type of matter and energy inside a black hole may face powerful singularity tunnel waves, turbulences, strong attraction and repulsion forces, and powerful pressure that tear apart atoms and molecules inside an accretion disc of a black hole. Different states of Materials in the accretion disc are collided together strongly, evaporated, increased with their friction temperatures, accreting together, and increased their temperature to produce much hotter type of plasma. Accretion disc is a hot belt of plasma that orbits the black hole singularity urgently, as result the probability of a collision and friction between atoms, materials, and particles incredibly high in this region, energetic Particles and fused atoms will become denser to drop into the event horizon of a black hole. Much denser state of matter and energy will face powerful attraction and repulsion forces from the black hole singularity to be combined and compressed steeply inside an event horizon of a black. The fused particles and compacted matter inside an event horizon of a black hole will become much hotter, denser, and energetic to produce super particle that able to orbit the black hole singularity in much closer point into the centre of a black hole or fall down into the very centre of a black hole.

5. PARTICLES FUSION

Black hole is a compacted sphere of matter and energy. It has the capacity to build up temporary tunnel in the cosmic fabric to tear mass from celestial objects. The tidal disruption force of black holes exceeded the laws of nature. It may capture amount of matter from companion stars and planets during its journey in the galaxy. Gas and dust particles may fall down urgently into the accretion disc of a black hole. Material in the accretion disc orbits the black hole singularity with huge speed [21]. Gas, dust, and subatomic particles could be collided violently, and fused strongly in the accretion disc of a black hole or inside an event horizon. Black hole has powerful attraction and repulsion force that able to tear apart celestial objects in its border or any object that falls down directly into its capture. Black hole sphere that named an event horizon of a black mostly instable in its size and density, it is squeezed and stretched under the effect of changeable rotational energy and momentum of a black hole singularity. In fact, attraction and repulsion force of the black hole sphere changeable permanently. The dynamic of

attraction force and repulsion force on the surface of a black hole will increase and decrease rapidly that led to pull and push celestial objects differently. Gas, dust particles, molecules, and atoms will orbit the black hole urgent in the accretion disc region. Black hole singularity has powerful gravitational field that attract and repulse materials and atoms inside an accretion disc, where an accelerated atoms and particles may collide together strongly to increase its thermal energy, as a result the accretion disc is a hot plasma belt of an energetic type of matter and energy. Atoms, molecules, and any type of an ordinary matter could be ripped apart during their powerful collisions and friction processes, for this reason an accretion disc of a black hole contained mostly of hot plasma state of matter and different types of energetic particles. Tidal disruption force of a black hole singularity so strong, and capable of making powerful energetic type of matter and particles. Most powerful and energetic type of particles and atoms recollide together and fuse together to be much denser and hotter. Nuclear fusion processes and particles fusion could be started under high pressure and temperature of a black hole. The black hole has powerful gravity, density, pressure, and temperature that support nuclear fusion condition. Low mass atoms are fused together to produce high mass atoms, and release fraction of its mass as radiations and energetic particles. Hydrogen atoms are fused together in the heart of main sequence stars to form helium atom. In the heart of massive stars, helium, carbon, and more heavy atoms could be fused to release tremendous energy and save the hydrostatic balance of stars. Hydrostatic balance is a phenomenon that prevented main sequence star from explosion when thermal energy and gravitational energy in the balance. The star may explode as supernovae when its fuel run out entirely in the final steps of a star's life, the remnant core of a dead star named a black hole [22]. Fraction of mass from fused matter may convert into photon energy according to eqn. (5), the speed and frequency of light particles are so high. Denser fused state of matter and particle may able to keep its stability and density to fall down directly into the evet horizon region or orbit the black hole singularity in much closer location from singularity. Denser fused matter and particles much able to orbit the black hole singularity with a speed lower and higher than the speed of photon particles, during its journey the fussed and compacted sphere of matter able to collect additional mass and energy inside an event horizon region to be powerful and massive in the future. Black hole singularity has powerful attraction and repulsion force that stressed on the fused matter to be denser, hotter and motivated.

An event horizon of a black is a compacted sphere of matter and energy, it is the place where many actions occurred here, denser fused matter able to collect additional mass and energy to grow more like a rolling snowball. The density of matter and energy inside an event horizon region incredibly high, and much difficult for immersed atoms and fused particles to escape from such tighten fabric of matter and energy. Denser fused state of matter has enough chance to combine additional mass from its surrounding to be denser and hotter. Tangential velocity of such immersed and fused material inside an event horizon region is lower and higher than the speed of light particles, because gravitational force and repulsion force of a black hole singularity much higher than any force that existed and detected in the nature. Dense fused ball of matter inside an event horizon able to orbit the centre of a black hole to collect light particles, subatomic particles, and excited atoms to become much denser, hotter, and massive. Most types of matter, and energy could be captured, arrested, and bounded inside an event horizon, the fate of such matter may be dropped into the centre of a black hole or leave it, even it may be collected by super particles or denser sphere of new compacted matter. In fact, inside an event horizon of a black hole maybe filled with a fraction of ordinary matter and photon particles, and mostly consist of fabriton particles. Fabriton particles are dark matter particles and cold enough to be stabilized in such violent environment. Black hole singularity is surrounded from outside by mostly the dark fabric matter, and the fraction of immersed ordinary matter and photon particles. An escape velocity inside an event horizon region and from external surface of a black hole singularity exceeded the speed of light largely. Denser fused particles have the spherical shape of dense fused state of matter and energy that combined in very tiny point named the nuclear fusion ball or nuclear fusion sphere. Nuclear fusion ball will become smaller in size and denser more when dragged rapidly into the heart of a black hole. The fused Atoms and particles in the structure of a nuclear fusion ball may expose to additional gravitational pressure and electromagnetic field stress to be crashed inward and contracted steeply to smaller size. The denser and smaller ball of matter will fall down deeply into the centre of a black hole.

6. PARTICLES TRANSITION

Particles inside a black hole may change its state of matter during rapid transition. Quantum teleportation and cosmic teleportation are two phenomena could be occurred in the violent nature of a black hole. The particles have the capacity to travel inside a black hole with a speed lower and higher than the speed of light. The black hole has a super density and powerful gravitational field, even light can't escape from its capture easily. As black holes gobble up any type of matter and energy in their surroundings, they also release out powerful jets of hot plasma containing electrons, protons, positrons, and intense beam of high energy photons. Furthermore, black hole singularity has huge density, gravity and drags particles in the edge of a black hole with a speed higher than the speed of light. Unlucky particles fallen down into an event horizon of a black hole or collide with a singularity, it is no return zone, and the ultimate death and prison for matter and energy. Celestial objects are collided together with ultra-relativistic velocities in the vicinity of the

horizon of extremal rotating black holes [23]. Compact objects with star masses capable have much chance of collisions near supermassive black holes [24]. Fusion conditions of particles are founded in the black hole, where a cosmic fabric matter and energy has high density, gravity, and thermal energy to fuse particles in the accretion disc and inside an event horizon zone, particular inside event horizon the matter and energy squeezed and stretched, as a result particles do not have enough chance to leave such violent environment.

Particles pulled steeply to be squeezed and hotter. Black hole particles are collided and fused together in the edge of a black hole under high pressure and temperature conditions to form new compact object named a nuclear fusion ball of particles. Dense fused ball of particles that called nuclear fusion ball has enough mass, density, rotational energy, angular momentum, thermal energy, and powerful kinetic energy to travel into the deep heart of a black hole or leave the black hole to spread out into the space forever as super particle. Nuclear fusion ball may orbit the black hole with a speed much higher than the speed of light, it has the ability to swim deeper into the heart of black hole much closer to the singularity. Mass, density, and rotational energy of a nuclear fusion ball will increase rapidly to form new denser and powerful object named the Super particle. Super particle has the radius of atoms or subatomic particles, but its mass and density incredibly high similarly the mass of stars and planets. Super particle formed from much compacted and smaller type of nuclear fusion sphere of the fused particles in the accretion disc and event horizon region of a black hole. Tidal disruptions of a black hole singularity high enough to form nuclear fusion ball in the edge of a black hole and super particles in the deeper heart of a black hole. Black hole is a violent celestial object, and the great particle compactor in the nature. It could urgently tear apart Atoms, molecules, gas, and dust particles, also nuclear fusion could be initiated inside the black hole to form nuclear fusion sphere and super particles. The size of a nuclear fusion ball much higher than the size of a super particle, but its density lower than the density of a super particle, as a result rotational energy of the super particles much higher than rotational energy of a nuclear fusion ball. Super particles could orbit the black hole singularity in much closer point to the centre of a black hole, but the density and rotational energy of a nuclear fusion ball not high enough to reach the closer point of a black hole centre. Nuclear fusion ball could be contracted in the internal region of an event horizon to form super particle from its dense core. Nuclear fusion ball has normal density to orbit the black hole centre in the edge of a black hole where singularity tunnel waves are normal to keep nuclear fusion ball stable and survived from any further contraction. Nuclear fusion ball will face powerful gravitational waves and tidal disruption force when it is immersed deeply into the heart of a black hole. The radius of a nuclear fusion ball may decrease, and its angular momentum and energy will increase rapidly to swim against the singularity tunnel waves, its density will increase urgently to become a super particle to fall down into the deep heart of a black hole and collide with a singularity. The super particle is a remnant core of a nuclear fusion ball that formed inside a black hole during its violent transition against powerful singularity tunnel waves of a black hole. The surface temperature of a nuclear fusion ball will increase rapidly during its rapid rotation and transition into the heart of a black hole, and its core density will increase violently to produce super particle with higher density and smaller size. The nuclear fusion ball started to form in the edge of a black hole when enough mass of gas and dust particles are collided and fused together to produce it, and its journey to the heart of a black hole will make it to be contracted steeply under massive gravity pressure to produce new massive object that named a super particle.

The super particle was formed from ultimate death of a nuclear fusion ball. All forces of nature are combined in the black hole singularity, it has an atomic size, but its power similar the power of stars, planets, galaxy, and Universe according to its mass and radius. The journey of a nuclear fusion ball started in the edge of a black hole when it is formed from enough number of fused particles, and its life time ended in the deep heart of a black hole when its dense core converted into the super particle. The external surface of a nuclear fusion ball may evaporate inside an event horizon of a black hole to accelerate its dense core to produce super particle. The surface temperature of a nuclear fusion ball incredibly high that pressed on the core of a nuclear fusion ball to be denser and orbit on itself with a speed much higher than the speed of light to break the compacted fabric of a black hole, and reach the deep heart of a black hole urgently. The thermal energy of a nuclear fusion ball will convert into kinetic energy and rotational energy to accelerate its journey and produce super particle from its remnant core that dropped urgently into the deep heart of a black hole. Thermal energy of the nuclear fusion ball is the mechanism of the formation and rapid transition of a super particle into the deep heart of a black hole. High mass black hole may able to tear larger amount of mass and energy from its surrounding, and capable of making maximum number of super particles at once. Nuclear fusion ball or super particle may lose or gain some of mass during their travel inside the black hole. An Event horizon of a black hole is filled with photon particles, gas, dust, and subatomic particles, normally an event horizon of a black hole is a dark and bright region of a black hole, it is the place of rapid formation and annihilation of many types of massive objects such as nuclear fusion ball and super particles. Eventually, the formation and transition of any type of the celestial objects need to gain and lose any fraction of matter and energy. An event horizon of a black hole is denser region of matter and energy where transition of particle much needed to additional energy to complete on its journey.

7. DYNAMICAL BALANCE BETWEEN SINGULARITY AND BLACK HOLE PARTICLES

Dark fabric matter and energy is distributed in the whole structure of a visible Universe and kept it from evaporation. An event horizon of a black hole is filled with a dark fabric matter and energy that curved steeply around the black hole singularity. Powerful singularity tunnel waves come outward from the deep heart of a black hole, and capable of accelerating particles to orbit the centre of a black hole with a speed higher than the speed of light. Celestial objects are teared apart when passed beside the black hole and its evaporated particles are pulled inward to orbit the black hole. Accretion disc is a ring of hot and energetic particles that orbit the black hole in its outer edge. Particles are moving in circular orbit around the black hole, angular momentum and energy of such particles are changeable in their orbits [25]. Dark fabric matter and energy widely distributed in the whole structure of a solar system where slightly distorted around the Sun, and its family of total planets, natural satellites, comets, and asteroids belt orbit it in different places with variable tangential speeds. The Cosmic dark fabric matter and energy dramatically saved the general balance of an entire solar system and prevented it from any reasons of evaporation [26]. Atoms, planetary system, stellar system, galaxy, and black holes are holding together strongly by a gravity and cosmic dark fabric. Black hole singularity has huge mass, density, rotational energy, gravity, and powerful attraction and repulsion forces, and condense electromagnetic field. It has the ability to tear apart celestial objects, and stress on black hole particles to form a denser sphere of a nuclear fusion and super particles. Black hole particles able to orbit the centre of a black hole in an outer surface of a black hole where the density and gravity of a black hole lower than its core, but compacted objects such as nuclear fusion sphere and super particle could be dragged and immersed deeply to orbit the singularity inside an event horizon of a black hole. Black hole particles have different properties, mass, density, energy, and momentum. Light particle may able to orbit the black hole singularity with a photon speed. Gas, atoms, molecules, and dust particles orbit the black hole in the accretion disc region rapidly. Accretion disc is the hot plasma belt of energetic particles that orbits the black hole in its outer edge. Friction, and violent collisions among energetic particles in the accretion disc led to produce nuclear fusion ball of the squeezed state of a matter and energy. Particles fusion in the accretion disc and inside an event horizon produced much compacted object which orbits the centre of a black hole in the accretion disc and inside event horizon. Super particles have enough mass, density, tangential velocity, spinning speed, momentum, rotational energy, thermal energy, and kinetic energy to penetrate through the compacted fabric of a black hole. Super particle has enough power to break the compacted gravitational wall of an event horizon and falls down deeply into the heart of a black hole. It probably collides directly with a singularity or pass beside it into space to become independent celestial object. The mass, and size of a black hole singularity larger than super particle slightly. Super particle able to pass throughout the heart of a black hole in much close distance from an external surface of a black hole singularity to spread out into space and start with collecting additional matter from its surrounding and become a new singularity for its new black hole. In fact, the survived super particle may become a new singularity for new born black hole, because the mass, density, radius, electromagnetic field, and energy of survived super particle same as the black hole singularity.

The singularity and black hole are produced from remnant core of the collapsed stars and from survived super particles. An ordinary type of matter and energy able to orbit the black hole and lose fraction of its mass into light particles, as a result an event horizon of a black hole is filled with accumulated radiation particles. Photon particles have minimum energy, frequency, and larger wave length, as a result photon particles are mostly accumulated inside the compacted fabric of a black hole, and become captured inside the event horizon of a black hole for longer time. Dark fabric matter and energy could be distorted and stretched strongly by black holes, white dwarf stars, and neutron stars. Furthermore, the Dark fabric matter and energy steeply being compacted and bounding inside an event horizon of a black hole, even light pulled inward and accumulated here for longer time, as a result an event horizon will appear as a dark compacted sphere of matter and energy around the dense ball named a singularity [27]. Hawking radiation is the radiations spread out from external edge of a black hole that confirmed an evaporation of a black hole, it reduces the mass and rotational energy of a black hole, and decreases its mass to be vanished entirely. Energetic Particles with Positive energy much able to leave a black hole during its evaporation. Hawking radiation seen by observers both outside and inside the true horizon of a black hole [28]. In the inner event horizon particles need additional energy and acceleration to orbit the black hole singularity or leave it forever. The speed of gas and dust particles in the accretion disc critically lower to leave it, particular particle able to leave a black hole with a speed of light. In 1983, the General Conference on Weights and Measures officially defined the speed of light in space constant to be $c \equiv 299{,}792{,}458$ m/s, it is the speed to leave a black hole and used to determine the radius of a black hole [29]. Particles inside event horizon able to orbit the singularity quickly, and higher than the speed of photon particles thousands of times. Compacted objects like super particles able to travel easily inside the event horizon, otherwise most of photon particles and radiations are accumulated and dissipated in such condensed region. Black hole particles could orbit the black hole singularity urgently and strongly, because of the powerful singularity tunnel waves that attract and repulse black hole particles quickly to save the dynamical balance of the whole black hole. Singularity tunnel effect pressed on particles and pulls them

inward into the heart of a black hole, otherwise the powerful singularity gravitational waves are pushed on particles to spread out into space. The dynamical balance between singularity and black hole particles perfectly prevented the black hole from evaporation, and saved on its general balance. Following the formula of an equation that used to draw the effect of a black hole Singularity and Particles transition on the formation of such powerful distortions and turbulences that appeared in the structure of a Cosmic Fabric:

$$z = \frac{\coth(x^2+y^2) * \tan(x^2+y^2)}{2000} - \frac{1}{\cosh(x^2+y^2)} \qquad \textbf{(10)}$$

Where Suppose (-pi < x < pi, -pi < y < pi), or it can be written in following mathematical form: $-\pi < x < \pi$, $-\pi < y < \pi$.

By using MATLAB Program, and using Eqn. (**10**) to draw the effect of a Black hole singularity on the forming a pure tunnel and powerful gravitational waves in the compacted fabric of a Black hole. Dark fabric matter could be squeezed and stretched continuously under the stress and rotational energy of a Singularity that located in the centre of a black hole, and the rapid motion of black hole particles in the edge of a black hole. High mass singularity able to distort the larger radius of a supermassive black hole and accelerate huge number of particles in the edge of such massive black hole. High mass singularity, and denser black hole singularity has powerful tunnel waves, and larger event horizon radius. Supermassive black hole contained in its centre much massive and denser singularity that pulls and repulse particles in thousands or millions of kilometers away from its centre. Black hole singularity located at the heart of a black hole and black hole particles orbit it urgently inside an event horizon and accretion disc zone. Singularity tunnel waves that spread out from centre of a black hole are acting directly on the acceleration and deceleration of particles in the edge of a black hole and inside its event horizon. The luminosity and brightness of the black hole particles are shown clearly inside an event horizon and accretion disc in the following figure.

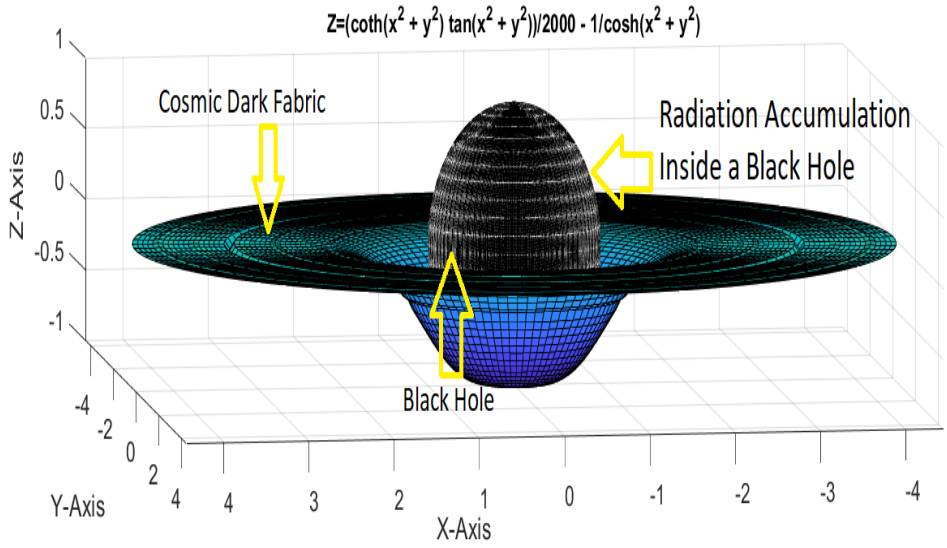

Figure 1 Black Hole Particles Orbit the Singularity

8. RESULTS AND DISCUSSION

The story of a black hole started during a big bang theory when whole Universe was squeezed in the point similarly the size of proton that named a big bang singularity. Hawking writes in details about cosmological phenomena such as the Big Bang event and black holes, he studied two major theories, the general relativity and quantum mechanics, that modern scientists use to describe the dynamic of Universe, he tried to unifying theory that describes everything in the Universe elegantly [30]. Scientists are still search for unification law of the universe to unify the Universe in the single theory which suitable to explain everything and discuss whole cosmological phenomena. Black hole singularity has huge density, powerful gravitational and electromagnetic field, it is able to crash objects and devour them instantly. Particles in the accretion disc are collided together, and dropped into the event horizon to be fused steeply under high pressure, and fast rotation dynamic to immerse deeply towards the centre of a black hole to produce powerful particle that named a super particle. Black hole singularity and black hole particles have different masses, density, gravity, radius, an orbital velocity, and angular momentum. Black hole particle has the capacity to orbit the black hole singularity in the edge of a black hole or swims deeply inside the event horizon. An orbital speed and spinning speed of particles may increase rapidly at point much closer to the centre of a black hole. Super Particle able to travel throughout the compacted fabric of a black hole that started on its journey from accretion disc and could be collided directly with a singularity in the heart of a black hole. Normal particles can orbit the black hole in its edge, but nuclear fusion ball, and Super particles have enough mass, energy, density,

momentum and reduced radius that smaller than the radius of a black hole singularity, as a result they able to orbit the centre of a black hole or immerse violently into the nucleus of a black hole. The density, internal energy, and angular momentum of a black hole singularity will increase rapidly when its external surface bombarded with powerful particles named the super particles. Super particle is only particular type of particle that formed from remnant core of a fusion ball, and able to collide with the surface of a singularity to increase its mass, density, rotational energy, angular momentum, internal energy, magnetic energy and its surface temperature. The radius of a black hole with the same mass as that of the Earth is approximately 8.87 millimetres, and escape velocity from its surface same as the speed of light. Black hole singularity with a mass of Earth's Planet is $(6\ x\ 10^{24}\ kg)$ and its radius similar to the radius of atomic nucleus or proton is about ($1\ x\ 10^{-15}$ m), if an object with a mass (2 kg) orbits it at the distance (20 m), it possesses a tangential velocity (4474259.7 m/s) and an angular momentum is about (178970388 $kg.m^2/s$).

Black hole with a mass same as the mass of our star the Sun, it has a radius 3000 m, and escape velocity from its surface equals the photon speed. Solar mass singularity equals to $(2\ x\ 10^{30}$kg), its radius similar to the radius of hydrogen atom ($5.3\ x\ 10^{-11}$m), and an escape velocity from its external surface exceeded the speed of light. If a black hole particle with a mass (20 kg) orbits solar mass singularity at the location (500 m), it possesses a tangential velocity (516643010.2 m/s) and an angular momentum is about (5166430102000 $kg.m^2/s$).

Mass, Radius, and density of a black hole and its singularity are changeable, stellar mass black hole has larger radius and high enough mass. Black hole singularity formed violently from ultimate death of a high mass stars with masses (3 or 150) times the mass of a Sun. Tangential velocity and angular momentum of an object or super particle possesses because of its position in a gravitational field or in a distance r on the surface of a black hole singularity. Black hole singularity with a mass of a star $(2\ x\ 10^{31}\ kg)$, and its radius similar to the radius of atom (231 pm). If a black hole particle with a mass (20 kg) orbits stellar mass singularity at location (231 m), it possesses the higher tangential velocity (2403640817 m/s) and an angular momentum is about (11104820574540 $kg.m^2/s$).

Supermassive black hole could be detected in the active galactic nuclei, more than 200 supermassive black holes (SMBHs) with mass 10 million or 10 billion times the mass of a Sun at redshift z > 6 have been discovered by recent observations of high-redshift quasars [31]. Unravelling the formation mechanism of supermassive black holes (SMBHs) with mass billions of times the mass of a Sun and low mass stars is one of the big challenges in modern astrophysics and cosmology [32]. In fact, the supermassive black hole contained in its heart very squeezed singularity with a mass of million stars $(2\ x\ 10^{36}\ kg)$, and its radius similar to the radius of an atom (126 pm), but the radius of a such supermassive black hole is reached (millions kilometers). If a black hole particle with a mass (5000000 kg) orbits the heart of a supermassive black hole at distance (300 m), it possesses in its travel the greatest tangential velocity (666983258160.7 m/s) and an angular momentum is about (1000474887241050000000 $kg.m^2/s$).

Supermassive black hole able to grow more, and its radius become larger when devouring additional mass from its surrounding, and its heart bombarded by several super particles to produce new larger type of black holes named Supergiant black hole. Supergiant black hole has mass hundred or millions of times the mass of a Milky way galaxy, and its radius exceeds a light year. Supergiant black hole contained in its core a massive singularity with a mass about $(2\ x\ 10^{43}\ kg)$, and its radius similarly the radius of an atom (70 pm). Supergiant black hole has larger event horizon that distorted around its singularity, also it has the denser, and hotter collected material in its accretion disc which orbits it in the distant place. If a condensed object with a mass (5000000000 kg) orbits the heart of a supergiant black hole at far distance (5000000000 m) from the singularity, it possesses the greater tangential velocity (516643010211.113 m/s), and huge angular momentum is about (1291607525527782500000000000000000 $kg.m^2/s$). Super particles rain occurred when maximum numbers of super particles are dropped urgently into the core of a black hole. Supergiant Black hole will grow to form new larger and powerful black hole that named the cosmic mass black hole. Dark fabric matter and energy could be distorted and rippled quickly when celestial objects and ordinary matter interacted with it and passed through it to build up temporary gravitational tunnel waves and transfer the entire energy of the Universe as gravitational waves [33]. Dark fabric matter and energy is the atomic and cosmic fabric that has been distributed through entire universe and atoms to keep them more cohesive and homogeneous. A black hole singularity is a denser ball of matter and energy that squeezes the mass of stars and galaxies into a point the size of an atom or subatomic particle. Singularity has huge density and tremendous weight; it is immersed deeply into the fabric of the cosmos.

Furthermore, a Black hole singularity with a mass of a visible Universe $(2\ x\ 10^{53}\ kg)$, and its radius similar to the radius of an atom (20 pm) resident at the centre of a cosmic mass black hole. Cosmic mass black hole has a larger event horizon radius about millions or billions light years. If a compacted black hole particle with the mass of a star ($2\ x\ 10^{31}$ kg) orbits the cosmic mass singularity from longer distance $(4\ x\ 10^{9}\ m)$, it gains huge tangential velocity about $(5.776\ x\ 10^{16}\ m/s)$, and its angular momentum incredibly high around $(4.6208\ x\ 10^{57}\ kg.m^2/s)$.

Eventually, a Black hole singularity with a mass of a compacted Universe $(2\ x\ 10^{60}\ kg)$ formed in the region where most of parallel Universes were produced there. Before the big bang accident, the Universe was a tiny point of steeply

squeezed type of matter and energy, and its radius similar to the radius of proton particle (1 fm). If a compacted object with the mass of galaxy ($2\ x\ 10^{41}$ kg) rotates the cosmic singularity from distance ($9.46\ x\ 10^{15}\ m$), it possesses huge tangential velocity about ($1.187\ x\ 10^{17}\ m/s$), and its angular momentum incredibly high and fantastic about ($2.247\ x\ 10^{74}\ kg.m^2/s$). Gravitational acceleration **g**, gravitational potential energy of the dropped particles, and escape velocity of an object on the surface of a such compacted singularity ball incredibly huge and weird. Tangential velocity **v** and angular momentum **L** of the black hole particles with clear mass **M** and from distance **r** of the surface of a black singularity could be calculated mathematically by using eqn. (3) and eqn. (9).

Table 1: Angular Momentum and Orbital Speed of The Black Hole Particles That Orbit the Singularity

Singularity Mass (M)	**Particles Distance** (r)	**Orbital Speed of Particles** $\mathbf{v} = \sqrt{\frac{GM}{r}}$	**Angular momentum of the Black hole Particles** $L = r\ x\ mv$
$\mathbf{6\ x\ 10^{24}\ kg}$	20 m	$4474259.7\ m/s$	$178970388\ kg.m^2/s$
2 x 10^{30} kg	500 m	$516643010.2\ m/s$	$5.16\ x\ 10^{12}\ kg.m^2/s$
2 x 10^{31} kg	231 m	$2403640817\ m/s$	$1.11\ x\ 10^{13}\ kg.m^2/s$
2 x 10^{36} kg	300 m	$666983258160.7\ m/s$	$1\ x\ 10^{21}\ kg.m^2/s$
2 x 10^{43} kg	5 Mkm	$516643010211.113\ m/s$	$1.29\ x\ 10^{31}\ kg.m^2/s$
2 x 10^{53} kg	$4\ x\ 10^9\ m$	$5.776\ x\ 10^{16}\ m/s$	$4.62\ x\ 10^{57}\ kg.m^2/s$
2 x 10^{60} kg	$9.46\ x\ 10^{15}\ m$	$1.187\ x\ 10^{17}\ m/s$	$2.247\ x\ 10^{74}\ kg.m^2/s$

9. CONCLUSION

Black hole particle is a new field of astronomy and physics that describes the particles that formed, passed, and annihilated inside a black hole. Black hole particles are divided into Fabriton particle that named a dark matter particle, photon particles, gas molecules, dust particles, nuclear fusion ball of condensed and hot states of matter, super particles, and the singularity sphere that located at the core of any black holes. The black hole sphere is the sphere of energetic particles that gravitationally bounded together strongly around the dense ball of singularity. In this study concluded that the black holes are formed from dead heart of the collapsed stars or from super particle that escaped immediately from ultimate collision with the surface of a black hole singularity. High mass stars may produce the black hole after collapsing violently on its heart. Black hole singularity is the dense ball of condensed matter and energy that formed from collapsed heart of a dead stars, and from survived superparticle. An event horizon of a black hole consists of the squeezed fabriton particles and condensed type of black hole particles. Photon particles could be accumulated and captured inside the zone of an event horizon for a long time, but an ordinary matter will face additional pressure, powerful singularity tunnel waves, and tidal disruption force to be much fused and condensed in order to form super particle during its rapid transition into the heart of a black hole. Superparticles could be formed inside a black hole, and capable of traveling with a speed much higher than the speed of light to collide directly with a black hole singularity or pass beside it rapidly to give birth to a newborn black hole singularity. Angular momentum and tangential speed of the black hole particles could be calculated mathematically in this study. Nuclear fusion ball and super particle are formed inside the black hole under high tension and tidal disruption of a black hole singularity. Radiations accumulation and energetic particles transition inside the black holes are confirmed the power of singularity tunnel waves and its effect on the formation, transition, and annihilation of strange particles under the powerful gravitational field and intense electromagnetic force of a black hole singularity.

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CONFLICT OF INTEREST

I declare that I have no conflict of interest

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