

The Anhadnaad Universe

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Abstract

Current Science considers that 95% universe is made of Dark energy and Dark Matter which are completely unknown entities and can't be detected directly. Current Science also does not believe in independent existence of Consciousness on its own. It rather consider it as an outcome of electrical interaction in brain cells which means there are as many consciousnesses as the number of brains in the entire universe. But my theory considers that there is only one consciousness in the entire universe or I must say that the entire universe exists in the mind of the One and only Consciousness which is the most fundamental of all and exists on its own. For clarity sake we can term it as The Supreme Consciousness (Param Atma or Parmatma). The infinite space around us is the mind of the Supreme Consciousness in which the entire universe exists as a thought which initiates with the onset of a primordial vibration called Anhadnaad 'the Unstruck Sound'. Anhadnaad expands as a four dimensional hyper spherical wave in all directions of 4D space (acting as a medium for propagation) at speed of $299792458 \text{ ms}^{-1}$. Particles originates as one dimensional warpings along hyper axis (H-axis the 4th spatial dimension) in 4D space caused by each and every To and Fro oscillation of Anhadnaad acting as creator as well as guiding wave for all the particles of the entire universe. Quantum Mechanics is founded on the principle of wave-particle duality, describing matter and radiation as exhibiting both particle-like and wave-like behavior. In contrast, the Pilot Wave Theory postulates that real waves physically guide real particles.

Keywords: consciousness; anhadnaad; classical; qoa (quantum of action); h-axis (hyper axis representing the 4th spatial dimension)

INTRODUCTION

To conceive this idea let us have an analogy with one dimension less than the actual Reality we live in. Imagine a 3D spherical wave expanding along Z-axis of 3D space and pushing point particles of 2D plane like universe to set them into oscillatory cum translational motion along Z-axis. This type of motion of point particles produces 3D spherical waves (called particle waves) in 3D space which manifest as 2D concentric circular waves on 2D plane like universe through which these particles tend to interact (in the form of various fundamental forces) with each other to get arranged into so called 2D but actually 3D bodies in 3D space. These bodies made of point particles may have any but fixed extensions in 2 basic dimensions and only subatomic sized but varying extension in 3rd dimension of space due to oscillatory motion of particles along Z-axis of 3D space. So basically all bodies are 3D in

nature but appear as 2D due to very small but varying extension of their particles in 3rd spatial dimension. This entire 2D plane like universe is being guided along Z-axis of 3D space by a monochromatic 3D spherical wave. In this 2D plane like universe, so called 2D bodies made of point particles although are collectively moving through 3rd spatial dimension but none of them have any means other than Anhadnaad to enter into 3rd spatial dimension because all the measurable fundamental forces in this 2D plane like universe act orthogonal to 3rd spatial dimension of 3D space.

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In this type of reality, infinite number of pairs of universes can exist on opposite sides of the point of origin of 3D spherical waves expanding on opposite sides of Z-axis. Particles of the universe being guided along +Z-axis exist as matter particles while the particles of the other universe being guided along -Z-axis exists as antimatter particles or vice versa. But this kind of Reality is impossible to exist because for this to exist, all the point particles must originate together to form 2D plane like universe in 3D space which is not possible at all.

Now to conceive the actual Reality we live in, we must understand that there is a 4D hyper spherical wave expanding along H-axis of 4D space and guiding the point particles to set them into oscillatory cum translational motion along H-axis. This type of motion of point particles produces 4D hyper spherical particle waves in 4D space (which manifest as 3D concentric spherical waves in 3D observable universe) through which these particles tend to interact with each other. Being the daughter waves, these particle waves are quite weaker than the mother guiding wave 'Anhadnaad' which is pushing all the particles of the universe along H-axis of 4D space. Each and every particle of the entire universe moves simultaneously along H-axis with each and every stroke of 4D guiding wave Anhadnaad. There is no other force stronger than or even equally potent to Anhadnaad which can move some of these particles more quickly along H-axis relative to others. This is the reason why we can't perceive the 4th dimension of space because we all are moving collectively and simultaneously in the 4th dimension. For us there are only 3 dimensions to move around freely. We can measure any sort of motion within these 3 dimensions only. This type of reality creates a 3D observable universe for us in which all interactions between particles occur in 3D space orthogonal to the H-axis and manifests as fundamental forces of nature which help them to get arranged into various so called 3D but actually 4D bodies in 4D space. These bodies made of point particles may have any but fixed extensions in 3 observable dimensions but only subatomic sized varying extension in hyper dimension due to oscillatory motion of particles along Hyper-axis. So basically all bodies are 4D in nature but appear as 3D due to very small but varying extension of their particles in 4th spatial dimension. This 3D appearing 4D universe is being guided along H-axis by Anhadnaad in such a way that everything is collectively moving through 4th spatial dimension but none of them have any means other than Anhadnaad to enter into 4th spatial dimension relative to other bodies because all the fundamental forces (except mother 4D Anhadnaad force) in this universe act orthogonal to the 4th spatial dimension to keep everything confined in 3D space.

In this type of reality, a single pair or infinite pairs of universes can spawn on opposite sides of H-axis at the point of origin of 4D hyper spherical waves. Particles of the universe being guided along +H-axis exist as matter particles and the particles of the other universe being guided along -H-axis exists as antimatter particles or vice versa for each other. Nothing made of matter can move to antimatter universe or vice versa. This is the reason why antimatter is missing in our universe.

Postulates

1. Consciousness is the most fundamental reality. Universe is just like an unfolding thought in the mind of supreme consciousness which initiates in the form of primordial hyper spherical wave called Anhadnaad. What is consciousness?

Consciousness is the primordial creative energy which exists on its own and always has a mind associated with it in which creations occur on its own through the onset of primordial vibration 'Anhadnaad'. Only Consciousness itself can observe its creation. We all share the same one and only consciousness. We all can observe and also we all are the creator of the Reality we live in.

Let Us Have a Thought Experiment

I am a conscious being and I have a mind in which I can visualize a thought. When I explain my thought to my friend, he says it is just a thought not reality at all and If it is real then take me there. But I can't. Then he explains his thought to me and same was my reply to him. Now suppose somehow we have the shared consciousness and obviously the shared mind and we have the same thought in our shared mind. Now our response to each other will be different. Now we will recognize what we visualize

in the thought as real. All of a sudden a thought becomes reality for both of us. Now we go to our common friend and explain the same thought to him but he says it is just your thought but not a reality. Now suppose we all are conscious beings and share the same one and only consciousness then the thought in the mind of shared consciousness will be real for all of us. This is the actual reality we all live in. We all are the creator of this reality but not fully awoken to realize it.

The mind of supreme consciousness manifests as 3D empty space all around us which is actually 4D in nature and can be waved and warped by the Consciousness itself through Anhadnaad. A point P in 4D space can be represented as P(x, y, z, H) where H is the 4th spatial dimension called hyper dimension. Our Universe appears 3D in nature which is moving as a whole through 4D space along hyper axis.

2. Particles, at the centre of origin of Anhadnaad, originate as freely movable warping along H-axis orthogonal to 3D space caused by the required threshold QoA of Anhadnaad at the centre of its origin. Particles always originate in pairs on opposite sides of the plane of origin of Anhadnaad wave having 180 degrees phase difference with each other. Particles being guided along +H-axis are called matter particles while the ones being guided along -H-axis are called antimatter particles or vice versa.

Particles move through space by a peculiar oscillatory cum translational motion induced by the Anhadnaad wave acting as guiding wave. The equation of motion is given below:

$$\frac{\partial Q_p}{\partial t} = \left(\frac{2\check{A}}{m_p} (\omega_A - \omega_p) \right)^{\frac{1}{2}} \quad (1)$$

Where m_p is the mass of the particle, ω_A is the angular frequency of Anhadnaad, v is the induced translational velocity of the particle along H-axis, ω_p is the induced angular frequency of the particle which is always higher than its natural angular frequency (ω_o) provided that the frequency of Anhadnaad (ω_A) is higher than natural frequency (ω_o) of any of the particle of this universe. \check{A} is the reduced Quantum of Action (QoA) which Anhadnaad imparts to a point particle and is given by $\check{A} = \check{A}/2\pi$.

All the particles of 3D universe are moving through 4th spatial dimension of space under the guidance of Anhadnaad which is expanding at $299792458 \text{ ms}^{-1}$ along hyper axis (H-axis). The quantum of action Anhadnaad imparts to a point particle is the minimum measurable action in this universe below which nothing measurable exists.

This motion of particles through 4th spatial dimension produces hyper spherical waves in 4D space which manifests as concentric spherical waves in 3D space and can be termed as particle waves because these are produced by the oscillatory motion of particles under the guidance of Anhadnaad. This motion is impossible to measure by someone confined in 3D space but its effects can be felt: like unidirectional flow of time, charge on particles and fundamental forces between particles etc explained later in the paper.

3. Anhadnaad induces invariant induced frequency in particles having invariant mass i.e. all electrons or all protons of the universe oscillate simultaneously at invariant frequency and remains in phase with each other as far as primary motion is concerned under the guidance of the common guiding wave 'Anhadnaad'.

Squaring both sides of the guiding wave equation, we get

$$v^2 = \frac{2\check{A}}{m_p} (\omega_A - \omega_p) \omega_p = \omega_A - \frac{m_p v_p^2}{2\check{A}} \quad (2)$$

It is clear from the equation (2) if a particle undergoes forced oscillation under the guidance of a guiding wave the frequency of its oscillatory motion always depends upon its mass and velocity. If that particle is replaced by some other particle of larger mass, the factor $m_p v_p^2$ reduces as increase in mass results in squared decrease in velocity of that particle as per the law of conservation of momentum [1]. Thus Higher the mass of a particle lower will be its translational velocity along H-axis away from the centre of origin of Anhadnaad and higher will be the frequency of its oscillatory motion along H-axis and vice versa.

‘Time’ is one of the manifestations of expansion of Anhadnaad along H-axis of 4D Space:

Expansion of Anhadnaad waves along H-axis in 4D Space causes unstoppable motion in each and every particle of this Universe. This unstoppable oscillatory cum translational motion of point particles along H-axis produces particle waves through which these particles continuously interact with each other to produce secondary motion in each other which is always orthogonal to H-axis and manifests as fundamental forces in 3D universe.

All this is happening without any measurable cause as far as 3D universe is concerned. It manifests as the passage of time. As this motion caused by Anhadnaad is unstoppable and also its direction can never be reversed so do the time. The evolution of the universe is being done by the expansion of Anhadnaad which creates the illusion of existence of an entity called Time.

INDUCED/ GUIDED MOTION OF A PARTICLE

Particles originate as freely movable point warping in 4D space along H-axis at the centre of origin of Anhadnaad as the QoA of Anhadnaad at its centre of origin is always greater than the threshold QoA required to produce warping in 4D space. Anhadnaad waves set these particles into oscillatory-cum-translational motion along the H-axis in which each and every particle of this universe is being pushed forward along H-axis and then it tends to come back towards its initial position but the frequency of Anhadnaad, being the highest in this universe, do not allow them to come back to their initial position and push them again and again along H-axis of space. This type of motion of a particle along H-axis is called primary motion in this theory which helps the particle to produce its own 4D hyper spherical called particle waves. The interaction of these 4D hyper spherical particle waves (appearing 3D spherical in 3D observable space) with neighboring particles produces secondary motion in them which is always orthogonal to H-axis and manifests as various fundamental forces of nature.

Deriving Steady State Guiding Wave Equation for the Particles

Every particle is receiving its energy from ‘Anhadnaad’ which causes:

- Oscillatory motion in particles along H-axis which help them to produce their own particle waves in space, through which they interact with each other in 3D space to produce secondary motion in each other.
- Translational motion in particles along H-axis as per the guiding wave equation because angular frequency of Anhadnaad is higher than the natural angular frequency (ω_o) of any of the particles of this universe.

Derivation

Total energy received by the particle from Anhadnaad waves as per Planck equation ($\hbar\omega_A$) = Energy by virtue of oscillatory motion of the particle as per Planck equation ($\hbar\omega_p$) + Induced Translational Energy (ITE) of the particle

$$\hbar\omega_A = \hbar\omega_p + \text{ITE}$$

$$\text{ITE} = \hbar(\omega_A - \omega_p)$$

$$\frac{1}{2}m_p v^2 = \hbar(\omega_A - \omega_p)$$

$$v^2 = \frac{2\hbar}{m_p}(\omega_A - \omega_p)$$

$$\frac{\partial Q_p}{\partial t} = \left(\frac{2\hbar}{m_p} (\omega_A - \omega_p) \right)^{\frac{1}{2}} \quad (1)$$

Where symbols have their usual meaning as already explained above.

INTERACTION BETWEEN PARTICLES

According to Max Planck, the Planck's constant (\hbar) is the minimum amount of action which is measurable in 3D space. As per my theory, that minimum amount of action which is measurable in 3D observable universe is the quantum of action (QoA) Anhadnaad imparts to a point particle. When a point particle being guided by Anhadnaad waves produces particle waves in 3D space, the QoA equal to Planck constant is reproduced which get evenly distributed on the spherical surface of the particle waves and immediately start reducing by obeying the inverse square law and goes below 'h' and the particle waves become the unmeasurable ghost waves.

When two particles come close to each other they interact with each other through these ghost waves in such a way that particle waves coming from one particle interfere with oscillatory motion of the other particle and vice versa.

Equation for interference between the particle waves produced by a particle and the oscillatory motion of the other particle and vice versa is given as below:

$$[\hbar e^{i(\omega_1 t)} + (\hbar/r^2) e^{i(\omega_2 t)}] + [\hbar e^{i(\omega_2 t)} + (\hbar/r^2) e^{i(\omega_1 t)}] = [\{ \hbar e^{i(\omega_1 - \omega_2)t/2} + (\hbar/r^2) e^{i(\omega_2 - \omega_1)t/2} \} + \{ (\hbar/r^2) e^{i(\omega_1 - \omega_2)t/2} + \hbar e^{i(\omega_2 - \omega_1)t/2} \}] e^{i(\omega_1 + \omega_2)t/2} \quad (3)$$

Where 'r' is the distance between interacting particles

As per the above equation:

Case1: if the interacting particles are matter and antimatter pair particles like an electron and a positron pair then:

1. Their induced frequency caused by Anhadnaad will be invariant thanks to their invariant mass and always higher than their natural frequency.
2. The phase difference between their oscillatory motions will always be 180 degree.

The resulting equation will be reduced to:

$$[\hbar e^{i\omega t} + (\hbar/r^2) e^{i(\omega t + 180)}] + [\hbar e^{i(\omega t + 180)} + (\hbar/r^2) e^{i\omega t}] = [\hbar \cos(\omega t) + \left(\frac{\hbar}{r^2}\right) \cos(180 + \omega t)] + \left[\left(\frac{\hbar}{r^2}\right) \cos(\omega t) + \hbar \cos(180 + \omega t)\right] = [\hbar \cos(\omega t) + (-\hbar/r^2) \cos(\omega t)] + [(\hbar/r^2) \cos(\omega t) + (-\hbar \cos(\omega t))] = \left[\hbar - \left(\frac{\hbar}{r^2}\right)\right] e^{i\omega_p t} + \left[\left(\frac{\hbar}{r^2}\right) - \hbar\right] e^{i\omega_p t}$$

This equation depicts that whenever the particle waves of a matter particle guide its counterpart antimatter particle or vice versa to impart the secondary motion in each other, the net resultant amplitude of QoA of guiding waves between them cancel each other subject to the distance between them.

In other words, both particles, which were exerting equal force in all directions in 3D universe during their primary oscillatory motion and going nowhere as far as secondary motion was concerned, can no longer do the same as there will be an imbalance of forces around them. Now both particles will exert equal force in all directions except in between them towards each other due to cancellation of the QoA through negative interference. This will result into total attraction between them in 3D universe orthogonal to H-axis as per the law of conservation of momentum which states that when a body exerts force in one direction it goes exactly in opposite direction in which it is exerting comparatively less force to conserve the momentum of the system [2]. The magnitude of attractive force between them will be inversely proportional to the distance between them.

Case2: If the both interacting particles are of same type i.e. both are electrons or both are protons then:

1. Their induced frequency always remains invariant thanks to their invariant mass.
2. The phase of their induced oscillatory motion always remain invariant no matter whatever the distance between them because all electrons or all protons are having invariant mass and are being guided collectively and simultaneously along H-axis by the same guiding wave called Anhadnaad.

The resulting equation of interference will be reduced to

$$[\text{\AA}e^{i(\omega_p t)} + (\text{\AA}/r^2)e^{i(\omega_p t)}] + [(\text{\AA}/r^2)e^{i(\omega_p t)} + \text{\AA}e^{i(\omega_p t)}] = [\text{\AA}e^{i(0)t/2} + (\text{\AA}/r^2)e^{i(0)t/2}]e^{i\omega_p t} + [(\text{\AA}/r^2)e^{i(0)t/2} + \text{\AA}e^{i(0)t/2}]e^{i\omega_p t} = [\text{\AA} + (\text{\AA}/r^2)] e^{i\omega_p t} + [(\text{\AA}/r^2 + \text{\AA}) e^{i\omega_p t}$$

This equation depicts that whenever the particle waves of an electron guides other electron or vice versa to impart the secondary motion in each other, there will be no cancellation of QoA occurs and the particle waves coming from both electrons towards each other will guide them away from each other in 3D observable universe just like Anhadnaad is doing in 4D space along H-axis. The magnitude of repulsive force between them, which depends upon the resultant QoA, is always subject to the distance between them.

Case3: If the interacting particles are of different types (i.e. one is electron and the other is proton) having different masses and different induced frequencies, the interference equation will remain same as the original one and beat formation will occur whose frequency will depend upon the difference in their respective induced frequencies as given below.

$$[\text{\AA}e^{i(\omega_1 t)} + (\text{\AA}/r^2)e^{i(\omega_2 t)}] + [\text{\AA}e^{i(\omega_2 t)} + (\text{\AA}/r^2)e^{i(\omega_1 t)}] = [(\text{\AA}e^{i(\omega_1 - \omega_2)t/2} + (\text{\AA}/r^2)e^{i(\omega_2 - \omega_1)t/2}) + ((\text{\AA}/r^2)e^{i(\omega_1 - \omega_2)t/2} + \text{\AA}e^{i(\omega_2 - \omega_1)t/2})]e^{i(\omega_1 + \omega_2)t/2}$$

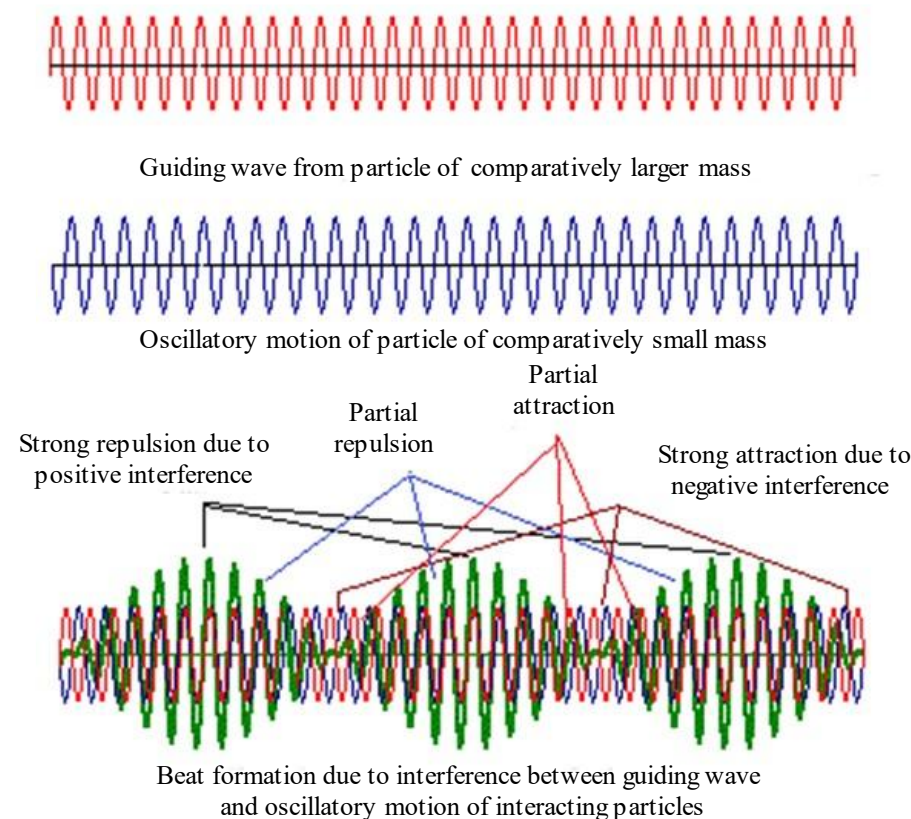


Figure 1. Representing the fundamental interaction between particles of unequal masses.

Due to Beat Formation, intermittent attraction and repulsion occurs between the interacting particles as explained in case 1 and 2 above. That is why particles of unequal masses tend to bound together without completely falling into each other. Higher the frequency of beat formation, higher will be the strength of binding force between them and vice versa. The magnitude of resultant QoA is always subject to the distance between the interacting particles. [2-5]

ELECTROMAGNETIC WAVES

When two or more point particles of unequal masses interact with each other in a very close proximity through their particle waves in an atom to induce secondary oscillatory cum translational motion in each other, a special type of spherical waves carrying tiny points (photonlets) on their curved spherical surface with QoA equal to or above the Planck Constant are produced as shown in Figure (1).

These tiny points having QoA equal to or higher than the Planck constant originate due to positive interference between particle waves coming from one partner and oscillatory motion of the other partner and vice versa as shown in the fig (1) and become measurable in observable 3D Universe orthogonal to H-axis while the remaining wave surface remains unmeasurable ghost wave. These tiny points can be termed as photonlets. Also the QoA of these photonlets varies as per the outcome of interference between the particle waves and the oscillatory motion of the interacting particles which results in beat formation as explained in previous section. These special types of waves carrying photonlets are called electromagnetic waves. Photonlets on these ghost waves carry the measurable energy and momentum from one particle to the other until their QoA go below the benchmark by obeying the inverse square law. Collection of these photonlets scattered over the spherical surfaces (not more than one photonlet on one wavefront) of the ghost waves which hits a target one after the other constitute a photon. Higher the number of striking photonlets per photon, higher is the measurable frequency of the electromagnetic wave. The actual frequency of all the electromagnetic waves being produced from the interaction between subatomic particles is always invariant but the measurable frequency of any electromagnetic wave depends upon the QoA of the interacting parent particles which produces it. Higher the QoA of the interacting particles, higher will be the number of photonlets per photon and higher will be the measurable frequency of that electromagnetic wave. It also suggests that all the electromagnetic radiations are in phase with each other because the interacting particles which produce them are always in phase with each other i.e. all electrons/protons are in phase with each other. It means whatever the intensity of a particular electromagnetic radiation is, its frequency being non additive in nature remains unaltered.

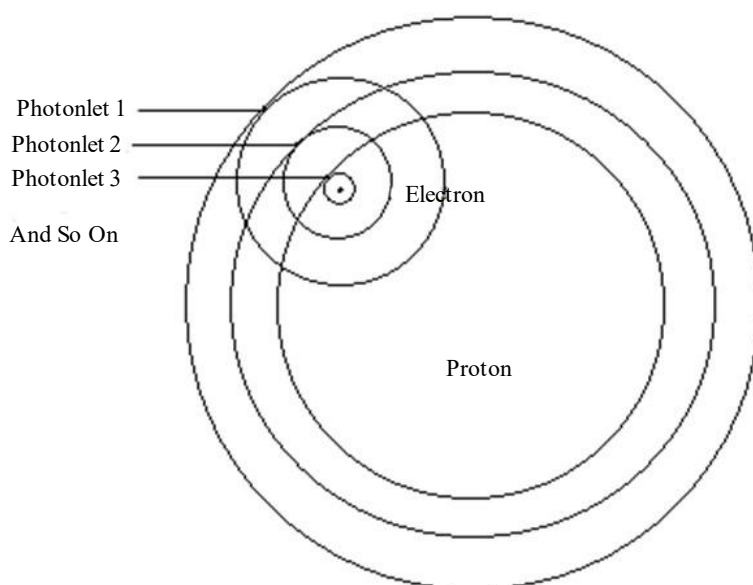


Figure 2. 2D Representation of 3D Photon made of series of photonlets (points where expanding spheres interfering each other to have QoA equal to or above Planck constant).

This representation of photon (as shown in Fig.1) can explain both particle as well as wave nature of electromagnetic waves. Photons are made of series of photonlets which come into being by the positive interference between the particle waves and the oscillatory motion of the subatomic particles in an atom and are represented by the tiny points on expanding spherical wave surfaces shown in the above figure 2. where Q_0A is greater than the magnitude of Planck's constant. Thus photons are actually tiny points (having $Q_0A \geq h$) riding on spherical ghost waves (having $Q_0A < h$) in empty non moving space. As electromagnetic waves are disturbance in empty non moving space, their speed is always constant and is a property of the medium through which they propagate. It does not depend upon the speed and direction of motion of particles/ bodies made of particles which produce it. The speed and direction of particles/ bodies made of particles can only affect their frequency.[6-10]

EXPLANATION OF BEHAVIOR OF ELECTRON, PROTON AND NEUTRON ON THE BASIS OF FUNDAMENTAL INTERACTION EXPLAINED IN PREVIOUS SECTION

1. As per the above equations, electrons can only bind with protons but can't be totally attracted towards them. The deflection of electron towards positive end of electric field is only due to its complete repulsion from negative end i.e. no complete attraction towards positive end.
2. Similarly protons can also only bind with electrons but can't be totally attracted towards them. The deflection of proton towards negative end of electric field is only due to its complete repulsion from the positive end i.e. no complete attraction towards negative end.
3. Neutrons behave as apparently neutral particles in an electric field because as per the equation given in previous section, neutrons can also only bind with electrons as well as protons but can't be totally attracted towards them or vice versa. That is why neutron does not deflect towards any end of the electric field whatever its strength may be.
4. In case of proton neutron interaction, protons also can only bind with neutrons. Their relative natural velocity induced by Anhadnaad is very small thanks to their very small mass difference which is a favorable factor to bring them close to each other. But the binding forces between them are still very weak. The reason behind this is the very low frequency of beat formation between them due to very small difference between their induced frequencies thanks to their very small mass difference again. But the forces between particles also obey the inverse square law. In a very high temperature conditions which are available in the cores of stars, the kinetic energies of the interacting particles become so high that protons and neutrons come very close to each other where binding forces between them become very strong thanks to the inverse square law of forces. This is how protons and neutrons bind strongly with each other to form nuclei heavier than hydrogen in the cores of stars. Only protons individually can never bind with each other on their own due to complete repulsion between them. This is the reason why the presence of neutrons is must for the formation of nuclei higher than that of hydrogen.

EXPLANATION OF VARIOUS PHENOMENA LIKE PHOTOELECTRIC EFFECT, UV CATASTROPHE, COSMOLOGICAL RED SHIFT, ENTANGLEMENT AND QUANTUM SPIN ETC. ON THE BASIS OF MY THEORY

Photoelectric Effect

Photoelectric effect is the outcome of induced secondary motion of bounded electrons of different metals induced by electromagnetic radiation. Equation for the same is given below:

$$\frac{\partial Q_p}{\partial t} = \left(\frac{2\hbar}{m_p} (\omega - \omega_0) \right)^{\frac{1}{2}} \quad (4)$$

In this equation all the parameters involved in primary motion of electrons are replaced with corresponding parameters involved in secondary motion of electrons induced by incident electromagnetic radiations in an atom. Reduced Q_0A of Anhadnaad (\AA) is replaced with reduced Q_0A of incident electromagnetic radiation (\hbar), frequency of Anhadnaad (ω_A) is replaced with measurable frequency of incident electromagnetic radiation (ω) acting as guiding wave here and frequency of electrons (ω_p) induced by Anhadnaad is replaced with natural frequency of electrons (ω_0) in space Figure 3.

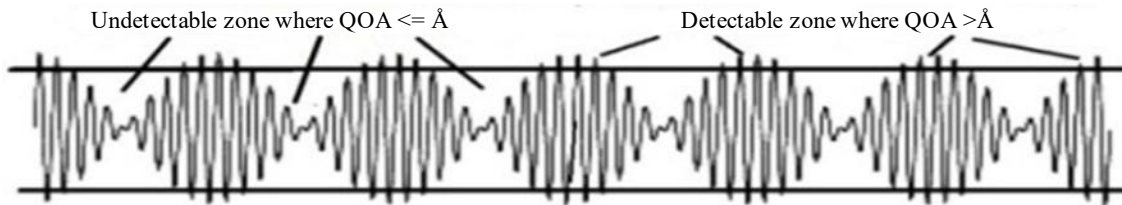


Figure 3. Low Energy EM radiation with less number of wave fronts in detectable zone i.e. carrying less number of photonlets per beat.

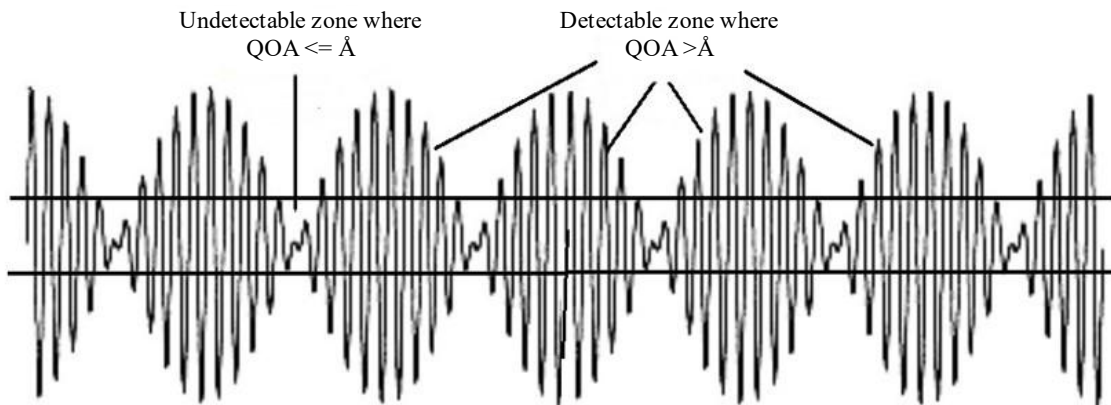


Figure 4. High Energy EM radiation with large number of wave fronts in detectable zone i.e. large number of photonlets per beat.

In case of primary interaction, the frequency of Anhadnaad (ω_A) is the highest in this universe which always produces non-zero velocity of primary motion in all the particles of the universe. On the other hand, electromagnetic waves are made of photonlets whose QoA always varies as explained earlier. Due to this, electromagnetic waves can't interact with any particle the way Anhadnaad do. To induce the required velocity in any particle, the measurable frequency of electromagnetic wave becomes very important. When it reaches in UV range of spectrum the number of photonlets per photon become high enough which is very much required to induce the required threshold velocity in an electron to enable it to escape from its parent atom to cause the photoelectric effect.

From equation (4)

$$v^2 = \frac{2\hbar}{m_p} (\omega - \omega_0)$$

The above equation will always return positive value for velocity of bounded electrons as ' ω ' (actual frequency of any electromagnetic wave) is always greater than ' ω_0 ' (natural frequency of electron in space) because proton is heavier than electron thereby have higher frequency. But this positive velocity at measurable frequencies lower than UV range is always not enough to knock off the electrons from their atoms even at very high intensities because the push being generated by the incident photonlets at lower frequencies work for very short intervals intermittently with larger gaps in between which allow the electrons to recoil back towards the nucleus until the next burst of the photonlets hit them. But when it reaches UV range, the length of the photon (beat) carrying photonlets increases enough which knocks off the electrons from the nucleus easily. In this way a single high frequency photon can knock off a single electron but even a large number of low frequency photons together can't knock off a single electron due to their smaller lengths with larger gaps in between Figure 4

Ultraviolet Catastrophe

When internal energy of a body increases, it results in increase in magnitude of QoA of the oscillatory motion of all the particles of that body which manifests as:-

- a. Increased temperature of the body.
- b. Overall increase in measurable frequency of emission from the surface of the body due to increase in net QoA of all the particles of the body as explained in previous section.

The relationship between temperature and frequency of emission from the surface of black body remain almost linear until the frequency of emission from the surface of the body reaches the ultraviolet range of spectrum where temperature keeps on increasing while increase in frequency of emission almost stops resulting in sudden fall in intensity of emission in UV region of spectrum and beyond.

The reason is, when the frequency of emission from the surface of black body reaches UV range of spectrum, its electrons gain enough kinetic energy (as explained in previous section of photoelectric effect) that they start escaping from their parent atoms. This disturbs the overall process of stimulating emission from the surface of the black body which results into sudden fall in frequency of emission from the surface of the body in UV region and beyond as these escaped electrons can't produce any high frequency electromagnetic waves. Also these escaped electrons can't constitute an electric current thanks to their waivered directionless motion at high temperature. This is also a reason why very high temperature (high speed waivered directionless motion of electrons) resists the flow of current in a conductor.

It is further clarified and affirmed when we observe that photoelectric effect in all the materials occurs in UV range of spectrum [3]. The work function of carbon black used in black body experiment is 4.81 electron volts which corresponds to the frequency of 1.1630529×10^{15} Hz (falls in UV range). We can calculate the corresponding frequency of work function of any material by using Einstein's equation of photoelectric effect given below:

$$E = hf - \phi \quad (5)$$

ϕ is the work function of black body material and is given by the equation:

$$\phi = hf_0$$

When we put the value of work function in above equation we get the threshold frequency (f_0) of all the elements exactly in UV range of spectrum. This makes it clear that it is the process of escaping of electrons at UV range which is responsible for the phenomenon of UV catastrophe.

Cosmological Red Shift

Unlike other guiding waves, the electromagnetic radiations are the special type of guiding waves carrying tiny points on their spherical surfaces whose QoA not only reduced by obeying the inverse square law but also varies internally in every beat as explained in previous sections thanks to interference. Due to this, when electromagnetic waves are coming from a long distance, the QoA of some of its marginal photonlets reduces by obeying the inverse square law and get transformed into ghost waves which results in reduction of overall measurable frequency of the radiation. This is the reason why electromagnetic radiation coming from distant objects get red shifted, no matter from which direction they are coming to us. Higher the distance higher will be the magnitude of red shift.

Entanglement and Quantum Spin

All particles in the universe are governed by their mother guiding waves. Particles with invariant mass that are guided by a common wave naturally remain entangled with one another. Einstein famously referred to this phenomenon as "spooky action at a distance," and he was correct in noting that no communication is required for entanglement to occur; it is simply a consequence of the fundamental structure of the universe. Faster-than-light communication is therefore impossible. Particles with non-zero mass, such as electrons or protons, exhibit oscillatory motion, moving forward and backward, which gives rise to two distinct states that rapidly alternate. In quantum mechanics, these states are

interpreted as spin-up and spin-down, with the particle considered to exist in both states simultaneously until measured, at which point it collapses to one observed state. However, according to the third postulate of this theory, all particles of the same type (having invariant mass) oscillate at the same invariant frequency and remain in phase with one another at all times. This synchronization is the underlying reason for entanglement. If measuring equipment is set up such that there is no time lag—or a time lag equal to an integer multiple of a complete cycle of the guiding wave—between the measurement of two entangled particles, both will always be measured in the same state, either spin-up or spin-down. Conversely, if the time lag corresponds to half a cycle (or its odd multiples) of the guiding wave, then measuring one particle as spin-up ensures that the other will be measured as spin-down, and vice versa. This precise correlation in measurement outcomes for particles of invariant mass guided by a common wave explains the phenomenon known as quantum entanglement.

PREDICTIONS AND SUGGESTED EXPERIMENTS

1. My theory predicts that neutrons must repel each other just like protons or electrons.
2. So called negative muon (the matter particle) can make exotic atom with so called negative electron. In fact, all particles having unequal masses can make exotic atoms with each other. It is only the human convention to call one partner as negative and the other as positive. In muonic hydrogen if muon is considered as negative partner then in muonium (the exotic atom made of muon and electron) the same muon (not the anti muon), being heavier partner and located at the centre, can be considered as positive partner. Similarly in Tauonium (the exotic atom made of tau and electron) tau (not the anti tau) being the heavier partner and located at the centre, can be considered as positive partner.

CONCLUSION AND DISCUSSION

According to this theory, the creation and destruction of the universe is a continuous process, occurring at the speed of light through the initiation or cessation of Anhadnaad. The universe has the potential to generate an ever-expanding “zoo” of particles, depending entirely on the energy available during pair production. When a minimum threshold energy is present, particles can reproduce additional matter and antimatter pairs through oscillatory motion exceeding a certain quantum of action, which explains why pair production cannot occur in empty vacuum. Faster-than-light communication remains impossible, and quantum entanglement is simply a consequence of the underlying structure of the universe. Electromagnetism arises as a first-order interaction between particles, resulting from the interference of guiding waves (or particle waves) and the oscillatory motion of interacting particles, whereas gravity manifests as a second-order interaction between bodies composed of charged particles as a whole. Particles interact primarily through their guiding waves, including electromagnetic waves, which can influence acceleration or deceleration, while photons themselves act purely as guiding waves, passing through each other without interaction, thereby maintaining constant velocity. Furthermore, the commonly accepted interpretation of the cosmological redshift is challenged in this framework, as the phenomenon is explained by entirely different mechanisms within the context of this theory.

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