ANHADNAAD ENERGY FIELD THEORY OF UNIVERSE

Inspired from Gurbani

Author: S. Satnam Singh S/o S. Narinder Singh

Email Id: satson79@gmail.com

Address: 25-26, Krishna Nagar, Street Murabbe Wali, Tarn Taran Road, Amritsar.

Website: anhadnaaduniverse.com

Mobile No. 9501760705

ABSTRACT

The world we live in is a classical world in which if an object is at one place, it can't be at some other place simultaneously. But in quantum world a particle can exist at more than one place simultaneously. Is it an objective reality or our inability to measure the behavior of the quantum world. Einstein considered the quantum mechanics as an incomplete picture of the quantum world. According to him, there must be some hidden variables which are governing the behavior of subatomic particles. In this paper, author has tried to uncover those hidden variables. According to this theory, the Universe is being governed by the hidden energy field called Anhadnaad Energy Field (ANEF) which is responsible for its origin, existence and working. Anhadnaad is a spherical wave which originates from any random point in NIRGUNA (Aether) and expands at the speed of light in all directions. All the particles and the forces emerge from NIRGUNA with Anhadnaad through the phenomenon of DAR (Displacement Amplitude Resonance). Universe is either continuously being created or continuously being destroyed through Anhadnaad by the

Supreme Cosmic Consciousness of the Eternal existence which is the most fundamental reality. Knowing the exact nature of the infinite formless physical Eternal Existence is beyond our ability. In this paper author also has tried to reveal the hidden physics of the universe to explain the mysteries like origin of mass and charge in particles, nature and cause of gravity, unification of the fundamental forces of nature, matter/ antimatter asymmetry, arrow of time, quantum spin and entanglement, source of energy of the stars and so called accelerated expansion of the universe etc. with the help of a new theory, inspired from Gurbani, called Anhadnaad Energy Field Theory of the Universe.

Keywords and Abbreviations:

NIRGUNA, SARGUNA, Anahadnaad Energy Field (ANEF), Cosmic Frequency Limit (CFL), Displacement Amplitude Resonance (DAR).

ਮੂਲਮੰਤਰ
੧ਓ ਸਤਿਨਾਮੁਕਰਤਾਪੁਰਖੁਨਿਰਭਉਨਿਰਵੈਰੁ ਅਕਾਲਮੂਰਤਿਅਜੂਨੀਸੈਭੰਗੁਰਪ੍ਰਸਾਦਿ ॥

੧ (ONE)➔ THE NIRGUN SAROOP of HIM is 'The Unified Undivided Wholeness devoid of any particles. "੧" is the Infinite Continuous Isotropic Homogeneous Timeless Omnipresent Non-moving Formless Eternal Existence having SUPREME CONSCIOUSNESS "The Primordial Energy". "੧" represent the unbroken "Oneness" or "Wholeness" when no particles and no forces exist at all. Supreme Consciousness is the outcome of Unbroken Wholeness of NIRGUNA. This is the non-worldly property of NIRGUNA. But as far as worldly properties are concerned, NIRGUNA is devoid of all such properties which arise from particles and their interaction with each other. Supreme Consciousness is the primordial energy which is the ultimate source of all the energies as well as particles.

ੴ (**OANKAAR**)➜ the word "OAN" represents 'HIS NAAM' the primordial vibration and the word "KAAR" represent the creation and the working of the Universe brought about by the "OAN" the primordial vibration. Collectively, the word '**OANKAAR'** represents HIS NAAM in action. GURBANI SAYS "ਨਾਮ ਕੇ ਧਾਰੇ ਖੰਡ ਬ੍ਰਹਮੰਡ ॥ (SGGS p283)

ਨਾਮ ਕੇ ਧਾਰੇ ਆਗਾਸ ਪਾਤਾਲ ॥ ਨਾਮ ਕੇ ਧਾਰੇ ਸਗਲ ਆਕਾਰ ॥ (SGGS p283)

ਸਤਿਨਾਮੁ (**SATNAAM**)➜The primordial vibration is timeless (in fact it is the creator of TIME) reality.

ਕਰਤਾ (**KARTA**)➜ **T**he Supreme Consciousness of NIRGUNA is the causality of everything.

ਪੁਰਖੁ (**PURKH**)➜ **The** Omnipresence of NIRGUNA and HIS Consciousness.

ਨਿਰਭਉ (**NIRBHAO**)➜ Nothing is superior to HIM.

ਨਿਰਵੈਰੁ (**NIRVAIR**)➜ Nothing is equivalent to HIM.

ਅਕਾਲ (**AKAAL**)➜ Beyond the realm of Time. In fact the Time is the dynamism of the universe caused by the primordial vibration which is itself created by the Supreme Consciousness of NIRGUNA.

ਮੂਰਤਿ (**MOORAT**)➜is truly PHYSICAL (but beyond any direct observation/ measurement because only things made of particles and forces can be observed /measured). Gurbani says "ਰੂਪ ਰੰਗ ਅਰੁ ਰੇਖ ਭੇਖ ਕੋਊ ਕਹਿ ਨ ਸਕਤ ਕਿਹ ॥"

"MOORAT" means NIRGUNA has physical existence. But we are unable to perceive HIM through our senses because our senses can perceive only particles and their interactions.

a) We can see things when photon coming from some material object made of particles hit our eyes. But all the particles moves through the NIRGUNA and do not reflect back towards our eyes, then how can we see NIRGUNA.

b) All the other senses like smell, taste, hearing and touch requires some sort of interaction through particles but NIRGUNA is not made of any particles at all.

c) NIRGUNA vibrates when Supreme Consciousness undergo the process of creation through Primordial Vibration. In this way NIRGUNA (aether / void/ vacuum) is truly physical. Here the term physical is used to depict the very nature of the void which is otherwise considered as nothing. Void is devoid of particles before creation but after creation the particles exist as the localized disturbances in NIRGUNA while forces exist as the interaction of waves moving through NIRGUNA.

ਅਜੂਨੀ (**AJOONI**)➔ **B**eyond the cycle of birth/ death.

ਸੈਭੰ (**SAIBANG**)➔ ETERNAL.

ਗੁਰਪ੍ਰਸਾਦਿ (**GURPRASAD**)➔Only the Enlightened Master (True Guru) can guide you to achieve the unification with HIM.

ਅਚਲ ਮੂਰਤਿ ਅਨਭਉ ਪ੍ਰਕਾਸ ਅਮਿਤੋਜ ਕਹਿੱਜੈ॥ (ਜਾਪ ਸਾਹਿਬ) ➔ HE is "Non-Moving physical Reality" which produces all kinds of particles from within through a process which is explained in later section. He is an "Endless Ocean of Primordial Energy".

In Mool Mantra, Dhan Guru Nanak shows the glimpses of AKAAL PURAKH WHO has two Saroops (forms) but exists only in one form at a time either NIRGUNA or SARGUNA. The first word of the Mool Mantra is ੴ (ONE OANKAAR) which describes both the forms of AKAAL PURAKH. The word

ੴ (ONE OANKAAR) is a combination of two words ONE and OANKAAR. ONE represents the 'NIRGUNA' form and OANKAAR represents the 'SARGUNA' form of AKAAL PURAKH

NIRGUNA (Physical Vacuum):

ਚੱਕ੍ਰ ਚਿਹਨ ਅਰੁ ਬਰਨ ਜਾਤਿ ਅਰੁ ਪਾਤਿ ਨਹਿਨ ਜਿਹ॥ ਰੂਪ ਰੰਗ ਅਰੁ ਰੇਖ ਭੇਖ ਕੋਊ ਕਹਿ ਨ ਸਕਤ ਕਿਹ॥

ਅਚਲ ਮੂਰਤਿ ਅਨਭਉ ਪ੍ਰਕਾਸ ਅਮਿਤੋਜਿ ਕਹਿੱਜੈ॥ ਕੋਟਿ ਇੰਦ੍ਰ ਇੰਦ੍ਰਾਣ ਸਾਹੁ ਸਾਹਾਣਿ ਗਣਿੱਜੈ॥ (ਪਾਤਿਸਾਹੀ 10ਵੀਂ)

ਅਰਬਦ ਨਰਬਦ ਧੁੰਧੂਕਾਰਾ॥ਧਰਣਿ ਨ ਗਗਨਾ ਹੁਕਮੁ ਅਪਾਰਾ॥

ਨਾ ਦਿਨ ਰੈਨਿ ਨ ਚੰਦ ਨ ਸੂਰਜ ਸੁੰਨ ਸਮਾਧਿ ਲਗਾਇਦਾ॥ (SGGS p1035)

is infinite, continuous, isotropic, homogeneous, timeless, omnipresent, non-moving formless Eternal Existence devoid of particles and forces (no matter and no waves) having unique properties:-

1. Supremely Conscious by virtue of His unbroken continuous Oneness.

2. The Ultimate Source of Primordial Energy (Energy of Supreme Consciousness) which is the causality of everything.

3. Primordial energy can cause expanding disturbance (waves) as well as localized disturbance (particles) in NIRGUNA depending upon the amount of energy being utilized to cause the disturbance.

SARGUNA (Particles and Forces):

ਆਪੇ ਪਟੀ ਕਲਮ ਆਪਿ ਉਪਰਿ ਲੇਖੁ ਭਿ ਤੂੰ॥

ਏਕੋ ਕਹੀਐ ਨਾਨਕਾ ਦੂਜਾ ਕਾਹੇ ਕੁ॥2॥ (SGGS p1291)

ਨਾਮ ਕੇ ਧਾਰੇ ਖੰਡ ਬ੍ਰਹਮੰਡ॥ (SGGS p283)

ਨਾਮ ਕੇ ਧਾਰੇ ਆਗਾਸ ਪਾਤਾਲ॥ ਨਾਮ ਕੇ ਧਾਰੇ ਸਗਲ ਆਕਾਰ॥ (SGGS p283)

SARGUNA is NIRGUNA + the discrete manifestation of Primordial Energy within infinite continuous NIRGUNA caused by the Supreme Consciousness through the Anhadnaad (ਨਾਮ) with the phenomenon of DAR.

1. INTRODUCTION

ਪਸਰਿਓ ਆਪਿ ਹੋਇ ਅਨਤ ਤਰੰਗ॥

ਲਖੇ ਨਾ ਜਾਹਿ ਪਾਰਬ੍ਰਹਮ ਕੇ ਰੰਗ॥ (SGGS p275)
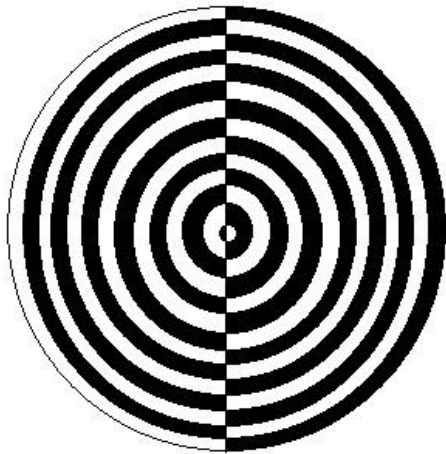
ਆਪਿ ਸਤਿ ਕੀਆ ਸਭੁ ਸਤਿ॥

ਤਿਸੁ ਪ੍ਰਭ ਤੇ ਸਗਲੀ ਉਤਪਤਿ॥

ਤਿਸੁ ਭਾਵੈ ਤਾ ਕਰੇ ਬਿਸਥਾਰੁ॥

ਤਿਸ ਭਾਵੇ ਤਾ ਏਕੰਕਾਰੁ॥ (SGGS p294)

ਕੀਤਾ ਪਸਾਉ ਏਕੋ ਕਵਾਉ ॥

ਤਿਸ ਤੇ ਹੋਏ ਲਖ ਦਰੀਆਉ ॥ (SGGS p3)

Supreme Consciousness is the primordial energy which is the cause of everything. SARGUNA begins with the primordial vibration caused by supreme consciousness at any random point in NIRGUNA (Physical void). Primordial vibration (Anhadnaad) has uppermost frequency which is the ultimate limit beyond which nothing can vibrate in NIRGUNA. Anhadnaad propagates through NIRGUNA in the form of spherical waves originating from the point source:

$$\Psi \ (x, \pm t) = Ae^{-i(kx+\omega t)} \ + \ Be^{i(kx-\omega t)}$$

Where 'k' is the wave number of Anhadnaad and 'ω' is the angular frequency of Anhadnaad. Above equation represents the time evolution of Anhadnaad originating from a random point source, the origin of the universe, in such a way that the first part ($Ae^{-i(kx+\omega t)}$) represents the time evolution in forward direction of time with positive '+t' i.e. in our side of the universe while the second part ($Be^{i(kx-\omega t)}$) represents the time evolution in reverse direction of time with negative '-t' i.e. the opposite side to our side of the universe in which time flow in reverse direction with respect to us. Presence of 'i' and '-i' in the equation representing the two opposite sides of the universe also give the total net angle of phase difference equal to 180 degree as 'i' caused the rotation by 90 degrees counter clockwise while '-i' caused the rotation by another 90 degrees clockwise thereby net angle of phase between opposite sides of the universe is 180 degrees. Anhadnaad propagates spherically in all directions at the speed of 2.99792458×10^8 ms^{-1} producing a hidden energy field called Anhad Naad Energy Field (ANEF) which can't be measured/ detected by any instrument as everything is the part of that common energy regime. Frequency of Anahadnaad is the peak frequency possible at which anything can vibrate in this universe.

Anhadnaad wind moves the particles without losing any energy/ momentum. Particles move forward only because time period of vibratory motion of particles is higher than the time period of vibratory motion of NIRGUNA. Anhadnaad does not care what the particles are doing in NIRGUNA i.e. particles do not interact back with Anhadnaad waves and remain mass less deformations in NIRGUNA as for as Anhadnaad is concerned. That is why all the heavenly bodies made of particles are being pushed away from the centre of origin of the universe without any effort by Anhadnaad wind. The amplitude of Anhadnaad reduces while going away from the centre of origin of the universe only due to the inverse square law of spherical waves. Due to continuous reduction of amplitude of Anhadnaad, the amplitude of vibratory motion of the particles also reduces which results into reduction of translational velocity of the moving particles causing the slowing down of the cosmic dance of the subatomic particles in all the atoms of the universe as they move away from the centre of origin of the universe which is one of the main reason of observation of red shift in all directions.

I.   What is Field / Particle

ਸੂਤੁ ਏਕੁ ਮਣਿ ਸਤ ਸਹੰਸ ਜੈਸੇ ਓਤਿ ਪੋਤਿ ਪ੍ਰਭੁ ਸੋਈ ॥

ਜਲ ਤਰੰਗ ਅਰੁ ਫੇਨ ਬੁਦਬੁਦਾ ਜਲ ਤੇ ਭਿੰਨ ਨਾ ਹੋਈ ॥

ਇਹੁ ਪਰਪੰਚੁ ਪਾਰਬ੍ਰਹਮ ਕੀ ਲੀਲਾ

ਬਿਚਰਤ ਆਨ ਨਾ ਹੋਈ ॥ (SGGS p485)

ਆਪੇ ਸੂਤੁ ਆਪੇ ਬਹੁਮਣੀਆ ਕਰਿ ਸਕਤੀ ਜਗਤੁ ਪਰੋਇ ॥ (SGGS p604)

A **Field** is a wave disturbance in NIRGUNA which expands spherically in all directions at the speed of light while a **particle** is a localized disturbance in NIRGUNA created by the same process in which a source vibrates with energy above the critical level. The so produced particles exist as localized disturbances which always spawn along with normal wave disturbance (guiding wave) and are movable in NIRGUNA but unlike normal wave disturbance the localized disturbance is in itself non-moving but can exhibit induced motion caused by the wave disturbances acting as a guiding wave. The fields as well as the particles are produced through the same process (explained later) with only difference is the amount of energy available.

7

II.   Creation of Particles

a) **Creation at the centre of origin of the Universe:** Centre of origin of the universe always vibrates at CFL and produces unknown large localized disturbances (particles) along with co-spawning guiding waves which move at the speed of light and carry these particles along with them in all directions in a straight line translational motion without vibrating forward and backward in time near the centre of origin of the universe but their speed reduce as they move away from the centre of origin of the universe. The reduction in speed is due to the decrease in energy per unit area of the co-spawning Anhadnaad waves and their motion become vibratory in nature (explained later).

b) **Creation everywhere else:** Particles elsewhere are being created by the secondary particles through the process of Displacement Amplitude Resonance (DAR) during their arbitrary dance around their companion secondary particle/ particles in a bounded state (atom).

III.   Particle Waves

Particle waves are produced by all secondary particles in NIRGUNA through their vibratory motion induced by the guiding waves. These waves constitute the fields around the particles. These are analogous to the Anhadnaad originating from the centre of origin of the universe obeying the same wave equation:

$$\Psi\,(x, \pm t) = Ae^{-i(kx+\omega t)} + Be^{i(kx-\omega t)}$$

IV.   Types of particles

ਅਚਲ ਮੂਰਤਿ ਅਨਭਉ ਪ੍ਰਕਾਸ ਅਮਿਤੋਜਿ ਕਹਿੱਜੈ॥

(ਪਾਤਿਸਾਹੀ 10ਵੀਂ)

Here Guru Gobind Singh Ji using term Prakash for Primary and Secondary particles which emerges from within the Achal (non-moving) NIRGUNA and saying that NIRGUNA is Amitoj means endless ocean of energy.

a) Primary Particles

A primary particle is an extra amplitude wave front produced by the secondary particles vibrating at DAR frequency in an atom through the process of DAR (Displacement Amplitude

8

Resonance). Whenever a secondary particle, going forward in time having some frequency (its base frequency) is forced to alter its motion under the influence of electromagnetic forces of nucleus to allow it to vibrate at DAR frequency (which is higher than base frequency) randomly during its cosmic dance around the nucleus. It results into the production of an extra amplitude wave front due to DAR. This extra amplitude wave front is called primary particle. Primary particles move at the speed of Anhadnaad, thereby having least possible mass in this universe which is considered as zero mass and just exist as force carrier. Anhadnaad waves are force waves and these particles enhance the magnitude of the force of Anhadnaad waves. Photons are made of series of primary particles. Energy of a photon depends upon the number of primary particles crossing through an imaginary curved spherical surface per unit time.

Light (EM waves)

The Anhadnaad/ particle waves have downward energy gradient as we move away from the center of their origin. Whenever a secondary particle, through the process of DAR, produces wave fronts having amplitude larger than the amplitude of a normal particle wave, a primary particle comes into being. EM waves are always produced by two or more interacting secondary particles in an atom. When two or more secondary particles interact through particle waves in an atom, they either repel or attract each other through a process which is explained in later section. During that process these interacting particles produces a secondary vibration in each other which occurs perpendicular to the direction of motion as well as the primary vibration of those secondary particles. This secondary vibration of the secondary particles is responsible for the magnetic component while the primary vibration is responsible for the electric component of EM wave. The so produced combination of two components of a single wave which always stay together and perpendicular to each other and moves at the same speed which is popularly known as the speed of light are called electromagnetic (EM) waves. Free moving particles can't produce EM waves (they can only produce particle waves). Atoms of every object, made of matter, are radiating energy in the form of electromagnetic waves all the time. When we

increase the energy/ speed of electrons around the nucleus, the frequency of occurrence of DAR also increases, resulting into increase in frequency of the emission of radiation. Maximum frequency at which an electron, captured in a nucleus, can release energy is given by

Frequency (f) = velocity/ wavelength

$f = 10^8 / 10^{-10}$

$f = 10^{18}$

Electrons in an atom can't emit beyond x-ray frequencies.

Not only electrons but also protons and neutrons release energy through the process of DAR. After the ionization or removal of electrons from the atom, the speed of nucleons around each other can be increased by heating to ultra high temperatures which is happening in stars and can also be achieved during the explosion of hydrogen bomb in which nuclear fission is used as energy source to increase the speed of nucleons of deuterium or tritium around each other to produce very high frequency radiations which is actually a very high frequency harvesting of free-flowing energy flowing throughout the universe through the process of DAR. Maximum frequency at which nucleons can release energy is given by

Frequency (f) = velocity/ wavelength

Here the minimum possible wavelength depends upon the size of nucleons and actual size of nucleons is not known but it is definitely far less than the measured sizes.

$f = 10^8$ / unknown number definitely less than 10^{-15} meter

f = unknown but upper limit is definitely more than 10^{23}

Therefore a nucleus can emit gamma rays with upper limit of frequency definitely more than 10^{23} Hz.

b) Secondary Particles

Particles belonging to this category are real particles having independent localized existence. These particles exist as some sort of complex extended deformations in NIRGUNA which are independently movable through induced motion in NIRGUNA. A parent secondary particle, say a nucleon when captured in a nucleus is forced to vibrate at higher frequencies intermittently due to the electromagnetic interaction with neighboring nucleons resulting into achieving their respective

DAR frequencies which causes the production of the extra large amplitudes of vibratory motion of the nucleons intermittently resulting into the production of not only the wave disturbances but also the localized disturbances in NIRGUNA on both sides of the nucleons just like what is happening at the centre of origin of the universe. This is how the secondary particles are being created in pairs in labs. The only difference between creation of primary and secondary particles is the amount of energy being available for the vibrating parent secondary particle. Electrons can't create secondary particles because they can't achieve such momentum which is required to produce the localized disturbance in NIRGUNA. That is why pair production occurs only in or you can say near a nucleus. It can't occur in empty vacuum. The size of a secondary particle is directly proportional to the amount of instantaneous extra energy supplied to the vibrating mother secondary particle during its creation. These localized excitations in the fabric of NIRGUNA always occur on both sides of the parent secondary particle having 180 degree lag of their vibratory motion with each other. This is how a secondary particle reproduces other secondary particles in matter/ antimatter pairs with the help of forces supplied by the primary particles coming from neighboring secondary particles. These particles exhibit unique vibratory motion which is explained in next section. Due to their vibratory motion, these particles move with the net translational velocity which is very much less than the velocity of Anhadnaad thereby exhibiting a property called mass. Electrons, protons, neutrons and all the other massive particles belong to this category. These particles move forward and backward in time so quickly with very high frequency. That is why they appear to exist in superposition of states of up and down spin. Whenever we measure their state, it comes up either moving forward in time or backward in time. The former is assumed as spin up state while latter is assumed as spin down state of the quantum mechanics or vice versa.

Mathematical equation behind the creation of Primary and Secondary Particles

When Anhadnaad moves through NIRGUNA the fabric of NIRGUNA compresses by moving forward and then relaxes by moving backward. While doing so, the secondary particles which are the part of the fabric of NIRGUNA (by virtue of being the localized disturbance in the fabric of NIRGUNA) also move forward and backward in the direction of advancement of the Anhadnaad. This kind of motion of a secondary particle through the fabric of NIRGUNA is called driven damped oscillatory motion in which a particle move in both forward as well as backward directions of time. The driven damped oscillatory motion of a secondary particle in NIRGUNA is given by the equation:

$$m\ddot{x} + r\dot{x} + sx = F_0 e^{i\omega t} \quad \ldots\ldots (1)$$

where 'm' is the mass of the secondary particle

'r' is the resistance offered by the NIRGUNA

's' is the spring constant of NIRGUNA and x is the displacement of secondary particle in NIRGUNA during its vibratory motion.

$$x = Ae^{i\omega t}$$

$$\dot{x} = i\omega Ae^{i\omega t}$$

$$\ddot{x} = i^2\omega^2 Ae^{i\omega t} = -\omega^2 Ae^{i\omega t}$$

By putting these values in equation (1) we get:

$$-m\omega^2 Ae^{i\omega t} + ir\omega Ae^{i\omega t} + sAe^{i\omega t} = F_0 e^{i\omega t}$$

$$-mA\omega^2 + irA\omega + sA = F_0$$

$$A(-m\omega^2 + ir\omega + s) = F_0$$

$$A = \frac{F_0}{-m\omega^2 + ir\omega + s}$$

From above equation when the frequency of vibratory motion of a secondary particle (during its cosmic dance around the nucleus in an atom) approaches the displacement resonance frequency (DAR), due to the brakes being applied on the secondary particle in question by the companion secondary particles then the amplitude 'A' of the vibratory motion of the secondary particle become maximum. This maximum displacement amplitude of the vibratory motion of a secondary particle in an atom for a given magnitude of force F_0 produces an extra large amplitude wave front in NIRGUNA which is known as primary particle. When the magnitude of the force F_0 further increases due to simultaneous action of large number of primary particles, coming from surrounding secondary particles, on a given secondary particle in question, a comparatively more energetic disturbance (instead of a lonely comparatively low energy spherical wave

12

disturbance i.e. primary particle) which is localized in nature is produced in NIRGUNA co-spawned with spherical guiding waves. This is how a secondary particle reproduces more secondary particles with the help of primary particles coming from the surrounding secondary particles.

V.   Cosmic Time or Time

Universe exists by virtue of primordial vibration in NIRGUNA which is induced by the Supreme Cosmic Consciousness and this vibration propagates in all directions as Anhadnaad. As the waves begin to propagate through void from the centre of origin, the Cosmic Time starts moving. Cosmic Time represents the dynamism of the universe i.e. the propagation of Anhadnaad through the void which induces motion in all secondary particles of the universe. If somehow Anhadnaad stops propagating, Time will also stop and the universe will cease to exist. Existence of the universe merely depends upon the flow of Time. In the absence of Anhadnaad, the particles will stop moving and lose the properties like charge and mass. In labs we have witnessed the absorption of matter antimatter pairs into the void

which is termed as annihilation. In our side of the universe matter particles have net movement forward in time while antimatter particles have net movement backward in time. Due to maximum phase difference of 180 degrees between them, they attract each other very strongly and continuously dance around each other (in a plane perpendicular to the flow of Anhadnaad) before they finally come into absolute physical contact with each other after fully cancelling out the particle waves of each other. The Guiding waves of both partners stop each other in time by pushing them from both ends resulting into flatness (i.e. disappearance of localized disturbances) in the fabric of NIRGUNA. In other words both particles cease to exist which is well known as *annihilation*. Reason of the emission of energy in the form of two gamma rays in opposite directions is not due to any transformation of mass into energy but due to Displacement Amplitude Resonance (DAR) of two dancing particles (matter-antimatter pair) around each other. Time produced by the vibration of the centre of origin of the universe is called Cosmic Time. Just like the centre of origin of the universe, each and every

secondary particle, by virtue of its vibratory motion, produces its own Time and depending upon the availability of energy, each and every secondary particle can produce more particles as well just like the centre of origin of the universe.

VI. Why secondary particles attract and repel each other

When a particle vibrates, it produces a field all around itself by producing spherical particle waves in all directions. When this field encounters another field/ fields produced by some other secondary particle/ particles then an interaction occurs between them as follows:

1. Each and every secondary particle exhibit two distinct motions in NIRGUNA (Aether). The primary motion induced by the Anhadnaad which move particles away from the centre of origin of the universe and the secondary motion is induced by the particle waves coming from other surrounding secondary particles which have no particular direction.

2. Particle waves of interacting particles go through each other without any interaction.

3. When a particle is all alone it produces particle waves in all direction with equal force and go nowhere as for as secondary motion is concerned. But whenever it interacts with any other secondary particle, they exhibit secondary motion as well along with primary motion.

4. When two or more particles interact with each other which are in phase with each other then the particle waves coming from the other particles induces the secondary motion which is perpendicular to the primary motion and the interacting particles begin to move away from each other.

5. When two particles interact with each other which are having phase difference with each other then the secondary vibratory motion they produce in each other also have the same phase difference with each other. This difference in phase does not allow these interacting particles to produce particle waves with equal force in all directions. Whenever the secondary particle try to produce particle waves the

14

coming particle waves from other particle create imbalance of forces with which it is producing the particle waves in all direction. Now both of these particles begin to produce the particle waves with less force in between each other compare to the direction away from each other which lead to attraction towards each other. If phase difference is 180 degrees then they ultimately collide with each other which occur in case of matter and anti matter particles. But when phase difference is less than 180 degrees then interacting particles dance around each other at a particular distance where attractive and repulsive forces balance each other.

This is how an electron is captured by a proton in an atom. Higher the phase difference between the vibratory motions of the two interacting particles higher will be the force of attraction between them.

2. Induced/ Guided motion of a secondary particle

When Anhadnaad moves through NIRGUNA the fabric of NIRGUNA compresses by moving forward and then relaxes by moving backward. While doing so, the secondary particles which are the part of the fabric of NIRGUNA (by virtue of being the localized disturbance in the fabric of NIRGUNA) also move forward and backward in the direction of advancement of the Anhadnaad. This kind of motion of a secondary particle through the fabric of NIRGUNA is called driven damped oscillatory motion in which a particle moves in both forward as well as backward directions of time. During this vibratory motion, a secondary particle move forward and backward in time again and again by the Anhadnaad wave fronts to repeat the same action again and again having net displacement of the mean position of vibratory motion of the secondary particles always forward in time because the time period of Anhadnaad is shorter than the time period of vibratory motion of any of the secondary particles in NIRGUNA. That is why particle moves forward in time with every moving wave front of the Anhadnaad. In other words the mean position of the vibrating particle keeps on moving forward in

time. The induced translational motion of a secondary particle is given by the following equations:

$$\frac{\partial Q_K}{\partial t}(t) = c\left(1 - \frac{\omega_P}{\omega_A}\right)(Q_1, Q_2 \ldots\ldots Q_N, t)$$

$$\frac{\partial Q_p}{\partial t}(t) = \frac{\Phi \omega_A}{m_p c}(Q_1, Q_2 \ldots\ldots Q_N, t)$$

$$\frac{\partial Q_p}{\partial t}(t) = \left(\frac{2\Phi}{m_p}(\omega_A - \omega_p)\right)^{\frac{1}{2}}(Q_1, Q_2 \ldots\ldots Q_N, t)$$

Where Φ is the reduced Anhadnaad constant ($\Phi/2\pi$) having same units as that of the Planck's constant. In fact Anhadnaad constant is not a constant in true sense because it is continuously reducing at constant rate over time as Anhadnaad moves away from the centre of its origin. m_p is the mass of a secondary particle, ω_A is the angular frequency of Anhadnaad, ω_p is the angular frequency of a secondary particle which is always less than the ω_A.

Mathematical Formulation

Every particle is receiving its energy from its guiding mother wave. All secondary particles use small part of this energy for their translational motion and the major part of this energy is used by the particles for its unique vibratory motion to produce their respective particle waves in NIRGUNA through which they interact with other secondary particles.

Deriving Guiding Wave Equation for free particle

Suppose there is a particle set into an induced motion by the guiding mother wave. The particle is exhibiting an oscillatory behavior in such a way that it is having net displacement in the direction of propagation of the guiding wave because the frequency of guiding wave is higher than the frequency of induced vibratory motion of the particle

$X = ct_i$ $v_o t_i$

$X = ct_i$ (the net forward displacement, a secondary particle have, after each cycle of vibratory motion)
t_o = time period of natural vibration of the particle
t_A = time period of Anhadnaad
t_P = modified time period of a particle vibrating under the influence of an external periodic force caused by the guiding wave
v_o = velocity of vibrating particle
v_p = Effective translational velocity of vibrating particle

$t_A < t_p < t_o$

$t_P = t_A + t_i$

$t_o = t_p + ct_i/v_o$ .... (1)

$t_o = t_A + t_i + ct_i/v_o$

$t_i = t_o - t_A - ct_i/v_o$

$t_i = t_o - t_A - x/v_o$

Multiplying both sides with c, we get

$ct_i = ct_o - ct_A - cx/v_o$

from (1)

$x = c(t_p + x/v_o) - ct_A - cx/v_o$

$x = ct_p + cx/v_o - ct_A - cx/v_o$

$x = ct_P - ct_A$

$x = c(t_P - t_A)$

$x = c(\frac{1}{\omega_P} - \frac{1}{\omega_A})$ .... (2)

The above equation (2) gives the net displacement in each cycle of vibratory motion of the particle in the direction of propagation of guiding waves. By multiplying the net displacement with frequency of vibratory motion of the particle, we get the velocity of particle as given below:

$V_P = c(1 - \frac{\omega_P}{\omega_A})$ ....(3)

Secondary particles move as vibrating bodies and as per de Broglie hypothesis, momentum P of a secondary particle is given by

$P = \frac{\Phi(\omega_A - \omega_P)}{V_P}$ ....(4)

Also momentum of a particle is given by

$P = m_P V_P$........................(5)

From (3) and (5)

$P = m_P c(1 - \frac{\omega_P}{\omega_A})$................(6)

From (4) and (6)

$\frac{\Phi(\omega_A - \omega_P)}{V_P} = m_P c(1 - \frac{\omega_P}{\omega_A})$

$V_p = \frac{\Phi(\omega_A - \omega_p)}{m_p c(1 - \frac{\omega_P}{\omega_A})}$

$V_p = \frac{\Phi(\omega_A - \omega_p)}{m_p c(\frac{\omega_A - \omega_P}{\omega_A})}$

$V_p = \frac{\Phi(\omega_A - \omega_p)\omega_A}{m_p c(\omega_A - \omega_p)}$

$V_p = \frac{\Phi\omega_A}{m_p c}$ ....(7)

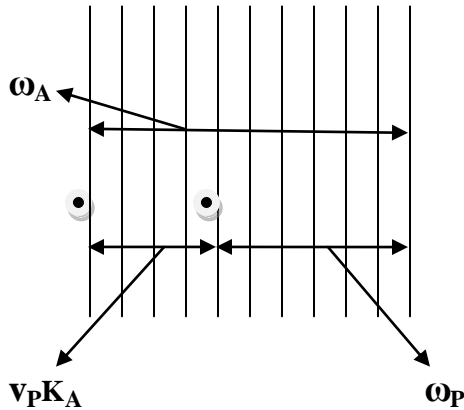$\frac{\partial Q_p}{\partial t}(t) = \frac{\Phi\omega_A}{m_p c} (Q_1, Q_2 ... ... Q_N, t)$

Also

$m_p = \frac{\Phi\omega_A}{V_p C}$..........(8)

17

The above equation gives the measure of a new property of a particle moving at speed smaller than the speed of light due to its unique vibratory motion. This newly acquired property is called mass.

Alternate way of deriving Guiding Wave Equation

When a secondary particle moves by the guiding Anhadnaad waves,

Its frequency and velocity is given by:

$$\omega_P = \omega_A - v_P K_A$$

$$v_P = \frac{\omega_A - \omega_P}{K_A}$$

$$V_P = \frac{c(\omega_A - \omega_P)}{\omega_A} \qquad (K_A = \frac{\omega_A}{c})$$

$$V_P = c(1 - \frac{\omega_P}{\omega_A})$$

$$\frac{\partial Q_p}{\partial t}(t) = c\left(1 - \frac{\omega_P}{\omega_A}\right)(Q_1, Q_2 \dots \dots Q_N, t)$$

Where ω_P is the angular frequency of the secondary particle, v_P is the velocity of the secondary particle and K_A is the angular wave number of Anhadnaad.

For primary particles $\omega_{P=0}$ because these particles do not vibrate at all and always move with 'c' the speed of light.

Deriving Guiding Wave Equation (2)

Out of the total energy a particle receives from Anhadnaad, a major portion of it is utilized by the particle for producing its particle waves and the remaining minor portion is utilized for its effective translational motion

Total energy received = Vibrational Energy + Effective Translational Energy

$$\Phi\omega_A = \Phi\omega_P + TE$$

Translational energy of a particle is given by:

$$TE = \Phi(\omega_A - \omega_P)$$

$$\frac{1}{2}m_p v^2 = \Phi(\omega_A - \omega_P)$$

$$v^2 = \frac{2\Phi}{m_p}\left(\omega_A - \omega_p\right)$$

$$\frac{\partial Q_p}{\partial t}(t) = \left(\frac{2\Phi}{m_p}\left(\omega_A - \omega_p\right)\right)^{\frac{1}{2}}(Q_1, Q_2 \dots \dots Q_N, t)\dots\dots\dots(2)$$

18

Also

$$\omega_A = \omega_p + v_p K_A$$

$$\omega_A - \omega_p = v_p K_A$$

Putting the value of ($\omega_A - \omega_p$) in the equation of induced motion we get Bohm like equation:

$$\frac{\partial Q_p}{\partial t}(t) = \left(\frac{2\Phi}{m_p}(V_p K_A)\right)^{\frac{1}{2}}(Q_1, Q_2 \dots\dots Q_N, t)$$

Squaring both sides, we get

$$V_p{}^2 = \frac{2\Phi}{m_p}(V_p K_A)$$

$$V_p = \frac{2\Phi}{m_p}(K_A)$$

$$\frac{\partial Q_p}{\partial t}(t) = \frac{2\Phi}{m_p}\, Im\left(\frac{\nabla\,\Psi}{\Psi}\right)(Q_1, Q_2 \dots\dots Q_N, t)$$

Particle waves of each and every secondary particle interact with its surrounding particles through the process mentioned above. Quality of interaction between any two or more secondary particles is always invariant or fixed, no matter whatever is the distance between them whether it is multiple of the wavelengths or not. The reason is the invariant velocity of particle wave.

However magnitude of interaction always proportional to the distance between the interacting particles and it always obey the inverse square law which is always applicable for the spherical waves.

Every secondary particle of this universe produce particle waves in physical vacuum which creates a field all around the particle called Secondary Anahadnaad Energy Field. From here on we will use term Primary Anahadnaad Energy Field (pANEF) for the energy field originating from the centre of origin of the universe and term Secondary Anahadnaad Energy Field (sANEF) for the energy field being produced by vibrating secondary particles. Just like pANEF, the sANEF of each and every particle is also infinite in range. pANEF and sANEF are analogous to each other but still there is a major difference between them. pANEF act only through Anhadnaad while sANEF act through particle waves. Also pANEF is being produced by the source which is having zero net displacement after each cycle while sANEF are being produced by the moving sources having non-zero net displacement. Due to this major difference, the frequency of vibration is invariant on both sides for pANEF while for sANEF the frequency of vibration is comparatively larger in the direction of motion of

the moving source (particle) due to *Doppler's Effect*. When two particles of same species come close to each other, they tend to totally repel each other (due to their invariant particle waves) from sideways but can partially attract each other from front and back sides due to varying phase difference between particle waves emerging from front and back sides of a particle by virtue of dissimilar frequencies. But this patchy attraction between them does not allow them to form a bounded state like an atom and they immediately repel each other from sides when they try to capture each other. Each and every secondary particle of this universe tends to create its own universe around itself in which its own time runs in both directions of its vibratory motion. The only difference is the magnitude of frequency as well as amount of energy available, for the creation of their respective universes, which has no comparison with the amount of energy available at the centre of origin of the universe. In fact the energy available to each and every particle of this universe is itself coming from the primordial vibrations of the centre of origin of the universe.

3. Entanglement and EPR paradox

All the particles of this universe are governed by their mother guiding waves. Particles of same species when interact with each other through particle waves they stay entangled with each other. Entanglement is the proof that the phase difference between two interacting particle remains invariant whatever the distance between them. Einstein considered the entanglement as 'the spooky action at a distance'. He was right because there is no communication required for entanglement to take place. It is just the outcome of the way our universe exists. Communication, faster than light, is not possible at all. Measuring entanglement between two photons, moving in opposite directions, originating from single common source is very easy because photons remain in same state all the time. There is no such phenomenon of quantum spin for photons. But on the other hand, all the secondary particles move forward and backward in time during their vibratory motion and tend to have two different states which rapidly follow each other in such a way that we are unable to observe them and this inability gives rise to the consideration that a

20

secondary particle is always in both states at any instance of time and only reduces to its single state when we measure the system. It measures either as spin up or as spin down depending upon the timing of their measurement. In fact the phenomenon of superposition is the result of our inability to measure and understand the hidden physics which governs the subatomic realm. This all depend upon the setup of our measuring equipments. For example if we setup our measuring equipment in such way that there is no time lag or a time lag equal to one complete cycle of guiding wave between two so called simultaneous events of measurements, then every time we tend to measure the state of two entangled electrons instantaneously, it will always be either spin up or spin down for both the electrons. But if there is a time lag of half the cycle of the guiding wave then if first electron will be measured as spin up and the other one will always be measured as spin down or vice versa. This co-relation of the outcomes of measurement of states of two interacting secondary particles is considered as quantum entanglement. In case of primary particles they must belong to common mother source to exhibit entanglement.

4. Wave Particle Interaction and Photoelectric Effect

Anhadnaad/ Particle waves move freely in NIRGUNA (Aether) at invariant speed. They consider secondary particles and flat NIRGUNA alike. When these waves move through NIRGUNA, the secondary particles vibrate along with NIRGUNA. The frequency of guiding Anhadnaad/ Particle waves is always higher than the frequency of vibratory motion of any of the secondary particle of the universe. The secondary particles can exhibit translational motion only if the frequency of guiding waves is higher than frequency of vibratory motion of the secondary particles which is clear from all the three equations of motion of the secondary particles given above. The same rule applies on photon electron interaction. A photon, which is a group of primary particles, can only increase the translational momentum of an electron if its frequency is higher than the frequency of vibratory motion of the electron. Electrons in

21

different metals are bounded with their respective nucleus with different strengths and that is why different metals have different threshold frequencies above which their electrons gains enough momentum from the incident photons to escape the nucleus to exhibit the photoelectric current.

5. So called Absorption and Emission of Photons

Photons are made of non-vibrating primary particles (extra amplitude wave fronts) which move as force carriers. When a photon imparts translational momentum to an electron, the speed of the electron increases around the nucleus. The electron, which is already emitting photons through the process of DAR, begins to dance more swiftly around the nucleus and emit at higher frequency which is directly proportional to the frequency of incident photon. This is how absorption and emission of photons occur.

6. Weak charge on neutron

As we know that the force between a proton and a neutron (P-N pair) separated by 10^{-15} meter is approximately 20 times stronger than the force between P-E pair separated by 10^{-10} meter. It means charge on proton and neutron with respect to each other is comparatively very less than P-E pair and can be calculated on the basis of above statement as given below:

Force between N-P pair in nucleus having diameter 10^{-15} meter is $(9 \times 10^9 \times ((z)^2) / (10^{-15})^2)$ where 'z' is the magnitude of charge on the proton and neutron with respect to each other on the basis of periodically varying phase difference between them.

Force between E-P pair in an atom having diameter 10^{-10} meter

$= 9 \times 10^9 \times (1.6 \times 10^{-19})^2 / (10^{-10})^2$

As we know that force between P-N pair in nucleus is approximately 20 times stronger than the force between E-P pair in an atom. Therefore

$9 \times 10^9 \times (z)^2 / (10^{-15})^2 = 9 \times 10^9 \times ((1.6 \times 10^{-19})^2 / (10^{-10})^2) \times 20$

$z = 7.155418 \times 10^{-24}$ coulomb

The calculation of magnitude of charge on neutron with respect to proton is based on rough assumption that force between proton and neutron (P-N pair) separated by 10^{-15} meter is approximately 20 times stronger than the force between P-E pair separated by 10^{-10} meter in an atom. The actual charge need to be verified experimentally. Due to very weak charge of neutron with respect to proton or electron, the force of attraction between them is very weak at least 10^9 times weaker which is negligible at macro distances. That is why it is the ignored force of nature. Also neutrons repel each other with same magnitude of force as the magnitude of repulsive force between two protons or two electrons.

7. Gravity

ਧੌਲੁ ਧਰਮੁ ਦਇਆ ਕਾ ਪੂਤੁ ॥

ਸੰਤੋਖੁ ਥਾਪਿ ਰਖਿਆ ਜਿਨਿ ਸੂਤਿ ॥

ਜੇ ਕੋ ਬੁਝੈ ਹੋਵੈ ਸਚਿਆਰੁ ॥ ਧਵਲੈ ਉਪਰਿ ਕੇਤਾ ਭਾਰੁ ॥

ਧਰਤੀ ਹੋਰੁ ਪਰੈ ਹੋਰੁ ਹੋਰੁ ॥ ਤਿਸ ਤੇ ਭਾਰੁ ਤਲੈ ਕਵਣੁ ਜੋਰੁ ॥

(SGGS p3)

Gravity is the weakest force of the universe which is only attractive in nature. According to ANEF theory, Gravity is the second order interaction between the bodies made of atoms and molecules. Particles of all the heavenly bodies are producing particle waves which interact with the particle waves of the other particles depending upon the relative phase difference between them. This is called first order interaction in which particles belonging to different species attract each other while particles belonging to same species repel each other. But the particle waves which are the cause of interaction between particles still alive even after the formation of bounded states of particles. These alive but mixed frequency particle waves originating from different bodies of matter made of particles further enable these matter bodies to interact with each other. This is called second order interaction which is well known as Gravity "a very weak interaction" which only attracts. This complex interaction is analogous to the interaction between the parallel conducting wires carrying direct current. Contemporary science considered this interaction as the magnetic pinch effect which is attractive if currents in

parallel conductors flow in same direction and repulsive if currents flow in opposite directions. Similar phenomenon is happening in our universe where everything is moving away from the centre of origin of the universe in same direction away from the centre of origin. Also everything is made of vibrating charged particles whose motion is analogous to the flow of current in parallel conducting wires. Gravity is just like the magnetic pinch effect between matter bodies in motion which are itself moving as current through the physical void. This analogy also explains why Gravity is only attractive in nature because repulsive force can only exist if the current in two wires will flow in opposite directions to each other. But this is not the case as everything is going away from centre of origin of the universe and nothing is coming back towards the centre of origin.

Approximation of magnitude of Gravity

We have already calculated the weak charge on neutron with respect to proton which is 7.155418 x 10^{-24} coulomb and is approximately 22388 times weaker than charge on Electron-Proton pair with respect to each other. If we consider that the magnitude of weak charge on so called neutral atoms and molecules made of secondary particles is approximately equal to the charge on neutrons (because atoms/ molecules are also considered as neutral just like neutrons). Then the motion of heavenly bodies made of weakly charged atoms and molecules through NIRGUNA constitute some sort of current flowing through the void. The magnitude of weak charge on them (which is 22388 times weaker than the charge on E-P pair) will produce attractive force approximately 10^9 times weaker than E-P pair. Also we know that magnetic pinch effect between any two current carrying conductors is 10^{27} times weaker than electromagnetic force. Therefore weak magnetic pinch effect due to weak current flowing through the void must be 10^9 x 10^{27} = 10^{36} times weaker than electromagnetic force between E-P pair. It is well known fact that the force of gravity is 10^{36} times weaker than electromagnetic force if we compare these two types of force acting between two protons.

Now we can conclude that the weak magnetic pinch effect is actually the force of gravity. This analogy also explains why Gravity is only

attractive in nature because repulsive force can only exist if the current in two wires will flow in opposite directions. But this is not the case as everything is going away from centre of origin of the universe and nothing is coming back towards the centre of origin. Also gravity being a mixed interaction in which attractive force component acts at double the speed of light while repulsive force component acts only at the speed of light. Gravity is directly proportional to the number of particles present in interacting bodies. That is why all the objects fall on earth with same acceleration because the force of gravity increases with increase in number of particles in a falling body.

8. Why Red Shift or False Accelerated Expansion of the Universe:

As we know that Anhadnaad and particle waves are spherical waves whose energy per unit area decreases with increasing distance from its origin by obeying inverse square law. As the Anhadnaad expands, the energy per unit area of the waves reduces gradually. Due this reduction, the force

with which particles are being pushed away is also reducing, resulting into comparatively gradual slowing down of cosmic dance of electrons around the nucleus causing reduction in frequency of emission of the photons through the process of DAR. This is actually the main reason of red shifting of all types of EM waves coming from atoms and molecules of all the heavenly bodies. Even the EM waves coming from Sun to Earth are being red shifted. Red shifting is not the measure of accelerated expansion of the universe. In fact universe is not expanding at all. Rather galaxies are moving away from each other at reducing rate. All the heavenly bodies made of matter are moving away radially from the centre of origin and gravity is binding them together to give them spiral motion around each other while moving away from the centre of origin of the universe at decelerating velocities. The force of gravitation is weakening rather quickly between vastly distant galaxies than the closer ones because closer galaxies move almost parallel to each other but more distant ones do not move parallel to each other. The closer galaxies are making clusters while the distant ones are moving away from each

other at comparatively higher speeds. Also the temperature of all the heavenly bodies is reducing continuously due to the continuous deceleration of cosmic dance of electrons around nucleus.

9. Fate of the Universe

ਆਪਿ ਸਤਿ ਕੀਆ ਸਭੁ ਸਤਿ ॥

ਤਿਸੁ ਪ੍ਰਭ ਤੇ ਸਗਲੀ ਉਤਪਤਿ ॥

ਤਿਸੁ ਭਾਵੈ ਤਾ ਕਰੇ ਬਿਸਥਾਰੁ ॥

ਤਿਸ ਭਾਵੇ ਤਾ ਏਕੰਕਾਰੁ ॥ (SGGS p294)

ਏਕ ਮੂਰਤਿ ਅਨੇਕ ਦਰਸਨ ਕੀਨ ਰੂਪ ਅਨੇਕ ॥

ਖੇਲ ਖੇਲ ਅਖੇਲ ਖੇਲਨ ਅੰਤ ਕੋ ਫਿਰਿ ਏਕ ॥81॥

(ਜਾਪ ਸਾਹਿਬ)

When Almighty Supreme Consciousness will decide to again go back to the NIRGUNA form (completely motionless void), Anahadnaad energy field will cease to exist and particles of whole universe will stop moving and vibrating thereby will lose all the properties like Motion, Charge, Mass and Gravity. In the absence of these properties, particles can't form systematic structures like atoms and molecules thereby the structures like stars, galaxies and planets etc. will disintegrate and will get absorbed into "The One"

infinite void from which all particles had emerged. As the speed of Anhadnaad waves is 2.99792458×10^8 ms^{-1}, the absorption and disappearance of the universe will also happen at the speed of light. Creation and existence of universe is tied with each other in such a way, if creation of universe will stop, it will immediately begin to disappear at the speed of light. Its disappearance will begin from the centre of its origin and will expand in spherical fashion away from the centre towards the peripheries. There may be multiple finite universes growing continuously inside the infinite void (NIRGUNA) which are extremely far away from each other like very small islands floating inside an infinitely vast ocean of void (NIRGUNA).

Conclusion and Discussion

1) Charge is a relative property of secondary particles. All secondary particles are charged with respect to each other including neutrons.

2) Particles are more fundamental than fields. We can create (not invent) even

bigger zoo of particles. There is no limit at all and it all depends upon the amount of energy available at the time of pair production.

3) Only secondary particles can produce primary as well as more secondary particles through the process of DAR.

4) The translational motion of massive heavenly bodies like stars is comparatively slower through the NIRGUNA than the lighter heavenly bodies like planets. Due to this the cosmic dance of the sub-atomic particles of stars is comparatively speedier than the sub-atomic particles of the planets which results into the production of radiations at comparatively higher frequencies in stars through the process of DAR than that of the planets. No nuclear fusion is going on in our sun. Only super massive stars having required temperature can undergo fusion. Mass

can't be converted into energy. Energy can only be harvested through the process of DAR.

5) Cold fusion is not possible at all.

6) Time travel is not possible.

7) Faster than light communication is not possible. Entanglement is mere the outcome of the way our universe works.

8) Secondary particles can move at the speed very close to the speed of light but not at the speed of light. When the speed of a secondary particle approaches more and more close to 'c' it's mass and charge approaches more and more close to zero due to the reduction in frequency of its vibratory motion.

9) When a secondary particle approaches very close to the speed of light its mass as well as charge approaches more and more close to zero. That is why energy required to further accelerates the

particle approaches to infinity. A nearly charge less secondary particle require nearly infinite energy to accelerate it further any more.

10) The reason of Red Shifting of spectrum coming from the receding galaxies is something else in this theory.

11) All forces are unified in this theory.

12) Universe is either continuously being created or continuously being destroyed by supreme cosmic consciousness.

Further research and experimentation is required to fully explore this hidden physics of the nature. A new kind of mathematics is required to find the correlation between periodically varying phase difference of two interacting secondary particles and the magnitude of the force acting between them. This theory also uncovers the free flowing energy flowing in the form of Anhadnaad in every bit of our universe. We have to find ways to utilize it to enter into the new era of existence.

SUMMARY

"Universe is a beautiful story written in the form of various particles and forces with the pen of energy on the sheet of NIRGUNA directed and executed by the Supreme Cosmic Consciousness of Eternal Existence where individual particles and forces combined to form atoms and molecules just like individual consonants and vowels combined to form words and sentences"

NIRGUNA (Physical void) is not an empty vacuum rather it is truly physical in nature and is the infinite ocean of energy of supreme consciousness. This supreme consciousness is the causality of everything which emerges from the physical void by virtue of its existence as 'The One' the whole i.e. not made of smaller constituents. HE, in HIS NIRGUNA FORM, exists as Infinite in all aspects. His expense is infinite having infinite energy of consciousness. Every infinite entity exists as "The One" which has no boundaries at all. Creation and Existence of His finite SARGUN Saroop (Universe/ Multiverse) from His infinite NIRGUN Saroop (physical void) also happens within His infinite

28

NIRGUN Saroop. When Supreme consciousness does something finite within the infinite 'The Creation' begins. This something finite is the onset of Anahadnaad (the Primordial Vibration having finite frequency) at some random location within HIS infinite NIRGUN Saroop. Creation is the continuous process, when it stops, destruction begins. Anahadnaad is the primordial vibration having finite upper limit of its frequency beyond which nothing can vibrate in this universe. This limit is called the cosmic frequency limit (CFL).The frequency of vibration at the centre of origin of the universe is always at its peak i.e. CFL, the further increase of frequency is not possible even with the availability of infinite energy. Instead of increasing the frequency beyond the CFL, the extra supply of continuous energy causes the increase in amplitude of displacement of the vibratory motion of the centre of origin of the universe and begins to particlize the primordial continuous energy into smaller discrete localized disturbances in NIRGUNA called particles through the process of Displacement Amplitude Resonance (DAR). Anahadnaad waves are spherical in nature whose energy per unit area keeps on decreasing as they expand away from the centre of origin of the universe. At some particular distance the pushing strength of Anhadnaad waves fall below the critical level and the primordial particles can't be carried away smoothly along with these waves. Therefore primordial particles can't move at the speed of light and begins to feel resistance through the void. This property of particles, by virtue of reduction in their speed below the speed of light due to resistance offered by the void, is called mass. For any particle to stay intact as separate individual entity in the void, it must move above the critical speed below which a particle decays into smaller ones. Due to this phenomenon, there are different zones around the centre of origin of the universe which have different sets of stable particles. In a particular zone, the particles which exhibit vibratory motion while moving away from the centre of origin of the universe are called secondary particles. These particles may exist in different sizes having different masses/ speeds and frequencies of their vibratory motion. In our zone stable secondary particles exist in different sizes having different masses/ speeds and frequencies.

These include electrons, protons, neutrons and many more massive particles. Forces of attraction and repulsion exist between these secondary particles by virtue of the phase difference between their vibratory motions induced by Anahadnaad waves. Dissimilar particles, having phase difference with each other, attract each other while similar particles, which are in phase with each other, repel each other. These particles together, along with the forces acting between them, form stable bounded states called atoms and molecules 'the building blocks' of everything. These bounded states disintegrate while going from one zone to the next successive zone where different set of particles produced from the decaying of stable particles of penultimate zone involves in the formation of new bounded structures (atoms and molecules). When Almighty Supreme Consciousness will stop the Anahadnaad at His will, the destruction of universe will begin from the centre of origin of the universe and will expand at the speed of light in all directions away from the centre of origin of the universe.