



Anatomy of the Atom and Particle Production Based on Hydrogen and Deuterium Production during Cosmology's "First Second"

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Abstract

Science is unable to directly observe the inner atomic structure or sub-atomic particle production. The aim of this research is to develop a model showing detailed anatomy of the Atom & particle production based on Hydrogen & Deuterium production during cosmology's "First Second". Showing how sub-atomic particles & forces developed as a result of cause and effect. Agreeing that the singularity particle was majorana with an anapole structure & field, which underwent a process of thermodynamics, jeopardizing its structure. Resulting in stretching & state change from Anapole Majorana into a dipole structure: wavelength 10-24 mm, typical Neutrino size, during Plank/GUT Epochs.

Postulating the existence of primordial Majorana Neutrinos, whose attributes can be substituted in equations for presently used Photons. (We know Photons didn't exist at this time).

Unlike an Electron, Muon or Tau Neutrino, it's a Majorana Neutrino, deriving from Majorana singularity 'decay' state change. Each Neutrino is mid-point entangled with its Anti-neutrino, behaving as its own Anti-particle.

Neutrino/Anti-Neutrino pairs cause: Gravitational force, Nuclear Weak force, Electro-Magnetic force, Inflation, W+ & W-Bosons, Z Bosons, Higgs field & Boson. It will help to reveal the structure of Space-Time and Dark Matter that shows how quantum laws progress to classical laws by bridging the gap.

Keywords: Dark matter; Atomic structure; Neutrinos; Force production; Higgs boson production

- Neutrinos, Bosons & Quarks work together as a simple, organized mechanism, how they create Neutrons & Protons.
- Majorana Neutrinos facilitate Beta minus and Beta plus decay.
- Dark Energy and Dark Matter are produced.
- Explains Symmetry violation & universe expansion.
- Majorana Neutrinos influence binding energy and mass defect during Nuclear Fusions.
- Evidence of sub-atomic particle Evolution & coding, how it led to DNA coding.

Detailing the inner mechanics of the atomic structure and how Neutrinos, Bosons & Quarks work together as a simple but highly organized mechanism [1]. This mechanism created the Neutron & Proton, as a result of cause and effect.

- Reveals how and why Dark Matter and dark energy is naturally produced, and why they have a gravitational effect on matter.
- Explains why the amount of Dark matter over threw the production of matter in the early universe, Symmetry violation.
- The model reveals why the universe is expanding & what is causing it.
- Shows the evidence of sub-atomic particle 'Evolution' replication & coding & how it eventually led to DNA coding then consciousness.

How the nucleon-deuteron model and atomic replication theory was developed?

The new Nucleon-Deuteron Model agrees with Ettore Majorana's theory that both Neutrino & Anti-Neutrino can have a small mass. As shown by experiments conducted in 1998. The "Superkamiokande & SNO experiments". The model finds that Neutrinos seem to change state or flavor as Ettore predicted.

An article entitled "Anapole Dark Matter" by Scherrer et al. [2], found that the Majorana particle had an Anapole, Electro-Magnetic type field, causing the particle to be 'Do-nut' shaped. They suggest that the anapole field was generated by a toroid electrical current and that the field itself was confined within the torus region. It was electrically neutral.

A paper by Leinwber [3] entitled visualizations of QCD, explained how the gluon structure which holds Quarks together is flux tubular, Showing that the flux tubes retain their diameter when they stretch with distance.

According to the Nucleon-Deuteron model, the gluon flux tubes which hold Quarks together should also be responsible for holding Majorana Neutrinos together on a smaller scale. The gluon flux tubes should have originated from the production of Majorana Neutrinos on a smaller subatomic level.

Introduction

The Nucleon-Deuteron Model is based on Hydrogen & Deuterium formation during cosmology's first second. Replication Theory is a result of the data derived from the model.

The Model shows:

- Majorana Neutrinos flip and interact causing Quark formation.
- Majorana Neutrinos are directly responsible for Quark flavors, colors

Methods

How the nucleon-deuteron model works

Two Gluons form a Quark. Three Quarks usually form Neutrons and Protons [2]. Neutrinos seem to form as a product of decay. The formation of the atomic structure co-insides with Cosmology's first second & are set within its framework. The model makes adjustments to the standard cosmological model.

Plank epoch and the majorana singularity

Temperature: 1.8125×10^{32} degrees Kelvin.

The Majorana singularity particle experienced a change of temperature at a point of its "body". This temperature difference between the effected part and the unaffected part (heat sink process of Thermodynamics) caused a stretching of the particle. The temperature change was due to a vibration of the particle. Temperature difference caused the Majorana point to expand at Plank time: $<10^{-43}$ s.

As Plank Epoch phased into GUT Epoch the temperature cooled from 1.8125×10^{32} °K to 1.8125×10^{27} °K by the end of the epoch.

MSS=Majorana singularity speed/velocity 2.9979×10^8 m/s frequency at Plank epoch using light speed:

$$F = \frac{C}{\lambda 1.6000 \times 10^{-35} \text{ mm}}$$

Frequency = 1.8737×10^{43} HZ

Velocity = 2.9979×10^8 m/s

The velocity/speed of the Majorana singularity particle is similar to the speed of a Photon. We know the Photon did not yet exist at this early stage.

Therefore to find the frequency of Plank Era & majorana singularity, we can use majorana's own velocity/speed

$$F = \frac{MSS 2.9979 \times 10^8 \text{ m/s}}{\lambda / p 1.6000 \times 10^{-35} \text{ m/s}}$$

Frequency = 1.8737×10^{43} HZ

Energy = 1.2415×10^{10} J

To find the mass of the Majorana we should use its own speed.

$$\text{Majorana Mass} = \frac{\text{Majorana Energy } 1.2415 \times 10^J}{MSS 2.9979 \times 10^8 \text{ m/s}} = 1.3814 \times 10^{-7} \text{ kg}$$

Gut era: gravitational force created

Temperature 10^{32} k rapidly cooled to 10^{27} k. The spinning Majorana singularity particle created its own unique anapole energy. Speed: 2.9979×10^8 m/s.

New forces were created when the Majorana singularity point experienced its heat sink process and stretched out into anapole then Dipole structures. The centermost point became elongated, staying neutral, with properties similar to the Z Boson. The Majorana singularity particle's wavelength of 1.6000×10^{-35} mm, stretched to 1.6000×10^{-30} mm by the end of the epoch.

The particle formed a protective membrane around itself keeping the structure together. Over stretching caused the vacuum to create poles that should attract to each other as a way to keep the structure together as the structure became dipole. During expansion, the partial

should experience a gravitational pull within its own structure. Gravitational force was created. The area of the gluon type flux tube near to the Anti-Neutrino tail end should have a (-) polarity. This should become a Gluon. The area of the gluon flux tube near the Neutrino head end should have (+) polarity. This should become a W+ Boson.

Energy flows along the Gluon/Boson flux tubes [3]. The center most point always remains as a vacuum area with 0 properties and should become a Z Boson. The size of the Majorana singularity particle at its 'do-nut' stage. 1.6000×10^{30} mm Gut epoch began at 1.8125×10^{32} k and ended at 1.8125×10^{27} k, Frequency = 1.8737×10^{38} HZ where the wavelength was 1.6000×10^{-30} mm. As the wavelength changed so the structure of the particle should be Velocity = 2.9979×10^8 m/per/s and Energy = 1.2415×10^5 J.

To find the mass of the Majorana we should use its own speed. Majorana Mass = 1.3814×10^{-12} kg, E = 1.3814×10^{-12} kg \times 2.9979×10^8 m/s = 1.2415×10^5 J.

How the majorana anapole 'Do-nut' caused an initial inflammatory period

The Nucleon-Deuteron model shows that Inflation must have taken place, in two stages. Stage one the Initial Inflammatory period. The model finds at this point where Majorana particles became dipole, some energy should have been emitted in the form of more Majorana particles. The particles should have been emitted in all directions. Beginning at 10^{-35} s and lasting until 10^{-32} s. This period happened simultaneously with the Electro-Weak epoch but was shorter lived.

When the Majorana singularity stretched to a wavelength of 1.6000×10^{-29} m. At this late 'do-nut' stage, it was an almost fully formed dipole Majorana Neutrino particle. This process is happening with the particle emission numbering approx. 10,000 particles. If the Majorana particle displays similar characteristics to the Photon, it must contain enough energy to produce at least 10,000 particles.

The original Primordial Father/Primordial Mother Majorana in its late 'do-nut' state "emitted" another particle generation which should grow to become more Neutrino/Anti-Neutrino pairs. The new pairs might have been emitted from the Z Boson 0 vacuum point. Because stretching inside the Neutrino body caused some energy from head (+) 1 & tail (-) 1 to be forced into the mid-section creating a leak or burst. The process continues.

This emitted energy would be smaller than the Majorana particles present late do-nut shape. It should be as small as the Majorana singularity particle. This emitted particle should have then experienced the same change of state as its parent Majorana particle did. This process should take 1.0000×10^{-8} s.

The late do-nut stage rapidly 'evolves' due to the change of wavelength to become 10^{-24} mm a Neutrino.

By the end of the Initial Inflationary period the universe had thousands of new particles. Velocity 2.9979×10^8 m/s \times Time 1.0000×10^{-3} s = a distance of 2.9979×10^5 meters equal to 10,000 meters. The first Inflationary period began at 10^{-35} s and lasted until 10^{-32} s.

Continuing until the rate of replication over took the particles escape velocity. New particles being replicated could no longer escape each other's grip. Densely packed, the Neutrinos were forced to flip in flight, causing the pairs to attract, Creating Electro-Magnetism. At 1.8125×10^{22} k the wavelength was 1.6000×10^{-25} mm.

Fully dipole majorana neutrino/anti-neutrino pair

At 1.8125×10^{21} k the wavelength was 1.6000×10^{-24} mm (yoctometre) the size of a Neutrino. This is a Majorana Neutrino because it formed as a result of Majorana singularity 'decay' change of state.

$$\text{Wavelength} = \frac{0.0029}{T1.8125 \times 10^{21} k}$$

= 1.6000×10^{-24} m = yoctometre = the size of a Neutrino.

The frequency at the beginning of this period would have been 1.8737×10^{37} HZ.

The frequency at the end of the Initial Inflationary period was 1.8737×10^{32} HZ.

Velocity = 2.9979×10^8 m/s.

Energy = 1.2415×10^{-1} J

To find the mass of the Majorana Neutrino pair we should use their own speed.

$$\text{Majorana Mass} = \frac{\text{Majorana Energy } 1.2415 \times 10^{-1} \text{ J}}{MSS 2.997 \times 10^8 \text{ m/sec}} = 1.3814 \times 10^{-16} \text{ kg}$$

To find the Distance covered & size of the universe at the end of the period: velocity of 2.9979×10^8 m/s \times Time 1.0000×10^{-3} s = Distance of 2.9979×10^5 meters which is equal to 10,000 km.

The end of this period should have taken 10^{-3} s for Initial Inflation to slow back down.

At the end of the period the velocity was 2.9979×10^8 m/s. The speed of Majorana Neutrino pairs.

Neutrino Flip and Baryogenesis during Electro-Weak Epoch

The Majorana Neutrinos would 'flip in flight' so that the positive of one set would be in contact with the negative of another set which results in Electro-Magnetic force [4]. Electro-Weak epoch continued, ending at 10^{-12} S. Temperature 10^{15} k. The Temperature drops because the rate of inflation was slowing down. Creating a chain/string like effect, resulting in Quark formation. The force created which bound the Neutrinos and held the Quarks together is Nuclear Weak Force (Figure 1).

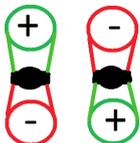


Figure 1: Neutrino flip.

Neutrino generations

To differentiate between evolving primordial Neutrino generations, each positive Neutrino head & negative tail have been given nicknames. The first generation have been given the names (-1) Primordial Father & (+1) Primordial Mother Neutrino pair as they were the first particles to form after the vacuum state of the early universe with the ability to replicate. Their coding seems to have

influenced and permeated every atom in the universe. Although these names might not be to everyone's taste, they are easily memorable (Figure 2).

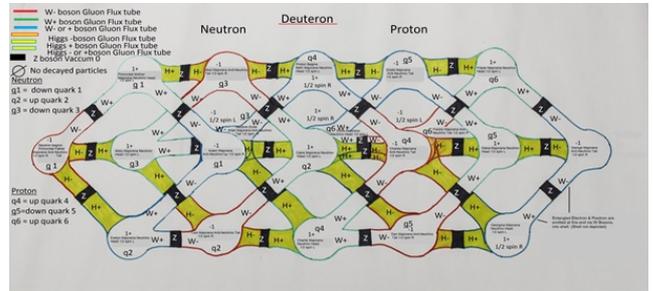


Figure 2: How Electro-Weak epoch caused quark formation.

Belonging to the neutron

Generation 1: Quark family 1 = Primordial Father & Primordial Mother

Generation 2: Quark family 1-2 = Adam & Evelyn

Generation 3: Quark family 2 = Cain Claire

Generation 4: Quark family 3 = Able & Abby

Generation 5: Quark family 3-4 = Brian & (Beth)

Belonging to the proton: (inc beth)

Generation 6: Quark family 4 = Charles & Charlie

Generation 7: Quark family 5 = Dan & Diana

Generation 8: Quark family 5-6 = Eddie & Edna

Generation 9: Quark family 6 = Freddie & Frayer

Generation 10: Quark meson family 7 = George & Georgina

Electro-Weak epoch happened simultaneously with the Initial Inflationary period. Inflationary period ended at 10^{32} s while Electro-Weak epoch continued until 10^{-12} s. Electro-Weak epoch began at a temperature of 10^{27} k and ended at a temperature of 15 k. Majorana particle from the end of initial inflammatory period until the end of the Electro Weak Epoch: At 1.8125×10^{21} k the wavelength was 1.6000×10^{-24} mm (yoctometre) size of a Neutrino.

At 1.8125×10^{15} k the wavelength was 1.6000×10^{-18} mm. The frequency at the end of Electro Weak Epoch = 1.8737×10^{26} HZ, velocity = 2.9979×10^8 m/s and Energy = 1.2415×10^{-7} J.

Z Boson and beta minus decay

The mixing angle where spontaneous symmetry should rotate produces the Z Boson. This mixing angle is the change of state that occurs in the gluon flux tube which turns a W+ Boson over to become a W-Boson though the vacuum region, Z Boson. Giving rise to flavors of both Neutrinos and Quarks and causing the first oscillations in the early universe. Z bosons represent a neutral vacuum zone comparable to a micro black hole having 0 value and 0 spin properties. Both positive neutrino head & negative Tail ends, border the Z Boson midpoint, their gluons should spin as should energy entering the Z boson Zone, creating a micro event horizon. The gluon flux tubes/W-

& W+ Bosons are the bodies of the Neutrino pairs while the Neutrino heads and Anti-Neutrino tails become the Quark points or flavors.

Once (+1) energy passes through this zone the energy should decay to become negative (-1) energy. This (0) zone/ Z Boson seems to be the cause of Beta minus decay in atoms.

How Electro-Weak Epoch Caused Quark Formation

Electro-Weak epoch began at 10^{-36} s and lasted until 10^{-12} s. The Temperature at the beginning of this epoch was 10^{27} k. This cooled to 10^{15} k by the end of the Epoch.

The length/wavelength of a Majorana singularity particle must be 2.0000×10^{-35} mm.

Quark epoch is said to be the point of Symmetry breaking, where particles are no longer their own Anti- particles.

Up Quark formed first:

(+) Neutrino followed by a down (-) anti- Neutrino followed by an up (+) Neutrino. So (+) & (-) & (+) = (+) because (+) & (-) cancel each other out, (+) is left over. The first Quark is an up Quark and positively charged (+).

The up Neutrino head is linked to the first anti-neutrino tail of the Down Quark which is created next the sequence continues throughout the Nucleon/Deuteron

Down Quark formed next:

(-) Anti Neutrino followed by an up (+) Neutrino followed by a down (-) Anti Neutrino.

So (-) & (+) & (-) = (-) because (-) & (+) cancel each other out (-) is left over. Therefore the Quark is a down Quark and negatively charged (-). The Down tails hold the potential for Dark Matter.

When this first Quark family is formed consisting of Primordial Father (-1) Anti-Neutrino Tail & Primordial Mother (+1) Neutrino head. It also contains Adam's Anti-Neutrino Tail (-1). This is the first Down Quark. However Evelyn's (+1) Neutrino head who does not fit inside the newly formed Quark family was left out and became the "lonely" (+1) Head. Evelyn's head was free from the Quark family so tries to pull away in hope of being adopted by another Quark family which has yet to form. Evelyn's head remains bound to her partner Adam through their shared Boson structure. The tail (-1) end should have slightly more mass because it exists on the negative side. Wavelength through-out the Quark era: At 1.8125×10^{15} k the wavelength was 1.6000×10^{-18} mm. At 1.8125×10^{14} k the wavelength was 1.6000×10^{-17} mm. At 1.8125×10^{13} k the wavelength was 1.6000×10^{-16} mm, frequency= 1.8737×10^{24} HZ, Velocity= 2.9979×10^8 m/s, Energy= 1.2415×10^{-9} J.

Hadron era

10^{-6} s to 1 s. Temperature 10^{13} k at the start of the Era and cooled to 10^{10} k by the end. The Nucleon-Deuteron model finds four processes for this this Epoch, therefore it should be split up into sub-eras. Each process might have caused each sub-era to last approx. 1.000×10^2 s. These Sub-eras are as follows: Neutron Production, Neutron/Beta minus Decay, Proton Production and Higgs Field production.

Neutron production

Wavelength through-out the Hadron/ Neutron production sub-era: At 1.8125×10^{13} k, the wavelength was 1.6000×10^{-16} mm. At 1.8125×10^{12} k, the wavelength was 1.6000×10^{-15} mm, Frequency= 1.8737×10^{23} HZ, Velocity= 2.9979×10^8 m/s and Energy= 1.2415×10^{-10} J.

Neutron decay: beta minus decay

This sub-era seems to have happened simultaneously with the Proton Production process. At approx. 10^{-4} s, temperature 10^{12} k. This Sub-era seems responsible for the first symmetry violation in the universe. Generation Brian the last Anti- Neutrino of the Neutron is linked via flux tube W- Boson, Z Boson & W+ Boson to generation Beth Neutrino which will begin the Proton. The reason for the Proton production is that the Neutron Hadron was now closed off to Beth because it is full. Beth was now "lonely" and needed to connect to other similar particles to survive because Majorana Neutrinos cannot exist outside of a Nucleon for very long before they decay. Beth & Brian upon being formed should almost immediately emit another like pair (Charlie + & Charles -). Beth's head does not fit into the Neutron she belongs in a new Hadron family which consists of Beth who is a positive Neutrino, Charles a negative Anti-Neutrino and Charlie a positive Neutrino. This New family begins the Proton. Obviously in the early universe it was likely that Neutrinos paired with the nearest pair, which might not have necessarily been its own off spring. When Beth found 'herself' outside of a closed Neutron a force might be felt between her & Brian, acting to separate them. This force would cause them to stretch out away from each other slightly. This stretching might have created a temper strange Quark. However this strange Quark state would rapidly turn into a new state where Beth finds herself combining with Charles - & Charlie + forming the first up Quark of the Proton. This primitive version of the Neutron was without stability. It did not seem to have a Higgs field and so decayed when under the pressure of stretching out caused by Brian & Beths separation, which was due to the neutron being full. Therefore the Neutron began to decay simultaneously with the production of the Proton.

To conserve energy, the energy of the Neutron was conserved through generation Brian & Beth via the W- & w+ Bosons. This energy of the Neutron should be utilized to become the Higgs field in the Proton. Now Beth & Brian were still linked via W-, W+ and Z Bosons. Brian appears to have decayed but because Beth has not his energy still exists, only in Anti or Dark energy form. His survival in this state was only possible because Brian was an Anti-particle to begin with and so would be unaffected by the decay. All the Anti-Neutrinos of the neutron would decay the same way. However the Neutrino heads of the neutron would have had their energy travel through and become conserved in the Higgs field of the Proton. This Higgs field closes the gaps that would otherwise exist in the Proton structure. The same gaps existed in the primitive Neutron which was the cause of its instability. The gaps appear during formation because when a Hadron forms its energy follows a certain path determined by its replication. The part of the structure where energy does not travel is left unoccupied causing gaps which lead to instability. The Proton has no such problem because it now has extra energy which was conserved from the decayed Neutron. This conserved energy is sent to occupy these spaces and the structure becomes incredibly stable. This extra energy of the Higgs field adds a lot of Mass to the Proton because it holds conserved within it the mass/energy of the original primitive primordial Neutron. All other Neutrons after this point have a Higgs field because they are formed Via Beta plus decay, which is the decay of a Proton with Higgs field into a Neutron. The Higgs field

is conserved as a Higgs field when the decay happens this way around. Traditional Beta minus decay which involves the primitive Neutron decaying into a Proton says that the down Quark in a Neutron emits an Electron and an Electron Neutrino via a virtual W- Boson. The Nucleon-Deuteron model shows that when a Proton has been produced by replication and by using the conserved energy of the Neutron to form a Higgs field, it should emit an Electron and the Electrons Neutrino, via a W- Boson. Wavelength through-out the Hadron/Neutron decay/beta minus decay sub era: At 1.8125×10^{12} k, the wavelength was 1.6000×10^{-15} mm. At 1.8125×10^{11} k, the wavelength was 1.6000×10^{-14} mm, Frequency= 1.8737×10^{22} HZ, Velocity= 2.9979×10^8 m/s and Energy= 1.2415×10^{-11} J.

Proton production sub-era

As the Neutron Decayed during Beta minus decay its energy was conserved in the production of the Proton. The Sub-era should have begun at 10^{-3} s and lasted until 1 s. The Proton obtained its energy from the Beta Decay of the Neutron. The process continued until the proton was complete. The last Quark is an up Quark= u .

Wavelength throughout the Hadron/Proton production sub-era. At 1.8125×10^{11} k the wavelength was 1.6000×10^{-14} mm. At 1.8125×10^{10} k, the wavelength was 1.6000×10^{-13} mm, frequency= 1.8737×10^{21} HZ, $V=\lambda 1.6000 \times 10^{-13}$ mm \times 1.8737×10^{21} HZ and Energy= 1.2415×10^{-12} J.

George and Georgina the final Neutrino pair of the last Quark emitted the Electron & Positron. The energy travels from Georgina and released as the Electron/Positron pair through generation Georges W-Boson.

Higgs field production sub-era

This process also seems to have happened simultaneously with the Proton production sub-era. The Higgs Field/mechanism formed as part of the Proton in the form of Bosons. It should have finished forming at the end of the Proton era at 1 s. At approx. 10^{11} k to 10^{10} k. The Nucleon structure should have formed a boson flux tube system as a stability measure, from binding energy. These extra flux tubes should also create a force which exists to keep the structure together. It may be responsible for strong force and also provides mass to the Nucleon. These extra flux tubes should be the Higgs field, thought to produce the Higgs Boson due to field excitement. Parity, 0 color charge, it could be directly involved with Quark oscillations or color change. It has 0 electric charges. There should be two types. The Higgs field on the (+) side would have to be a + Higgs field while the other would be a - Higgs field. Experiments by ATLAS & CMS report the Higgs as having a mass of approx. 125GEV/c² which is 133 times the mass of a Proton. The Higgs is in the order of 10^{-25} kg.

The Nucleon-Deuteron model finds that the Higgs Boson exists at a mass of 10^{-25} kg which is 125 GEV. It finds that the Higgs field which facilitates the Higgs Boson must be slightly smaller in the order of 10^{-30} kg. The Higgs fields' energy can be seen in the binding energy of Deuterium. When the Higgs Boson appears in the Higgs field the energy rises due to excitation. The energy should rise to 10^{-25} kg to produce the Higgs Boson.

To explain how the Higgs field might have a mass in the order of 10^{-30} kg we must look at the equation for the binding energy of Hydrogen.

$$H=1.00794 \text{ u}$$

$$\text{Proton}=1.007276 \text{ u}$$

Subtract the Proton mass from the total mass of the Hydrogen atom:

$$(H)1.00794 - (P)1.007276 \text{ u}=0.000664 \text{ u}$$

This means that Hydrogen's mass equals more than the mass of the sum of its parts by 0.000664 u which is equal to $1.1025986928 \times 10^{-30}$ kg. This extra nuclear binding energy is used to form the Higgs field. The Higgs field must have both - & + qualities. We might only think to measure its + quality which shows up in the binding energy. Both are important because they both interact with each other via a Z Boson which separates the two states. To measure both + & - we must times the binding energy by 2.

The equation should be: $2 \times 1.1025986928 \times 10^{-30} \text{ kg}=2.2052 \times 10^{-30} \text{ kg}$

The mass of the Plus & Negative Higgs field should be $2.2052 \times 10^{-30} \text{ kg}$.

The value of the Higgs field is close to the value of the Higgs Boson itself at $2.240163951 \times 10^{-25} \text{ kg}$.

The reason that only half the Higgs field value of $1.1025986928 \times 10^{-30} \text{ kg}$ is seen in the Hydrogen atom might be that the primitive Hydrogen atom does not need a full Higgs field because it only has a Proton. Therefore it appears that the Hydrogen atom has more binding energy left over than larger atoms. When calculating the parts of a Hydrogen atom we should take into account the energy that has been conserved within the Proton from the Neutron decay. The Neutrons energy should be present in the Proton in the form of the Higgs field which the Proton uses for stability. Adding mass to the Proton. This should be why the Hydrogen atom containing only one Proton seems heavier than the sum of its parts. It is the only atom with this unique feature due to its primitive nature.

We know that Deuterium with both Neutron & Proton is formed from two Protons combining. Here Beta plus decay takes place. Where two Protons cannot exist adjoined in this manner because Protons have plus charge and would naturally repel each other. So, one Proton changes or decays back into a Neutron by flipping its Neutrino/Anti-Neutrino entangled pairs due to repulsion. However these Protons have a Higgs field attached to them which they inherited from the left over binding energy of the earlier beta minus decay which helped to form them. Energy is always conserved so the Proton must take its energy with it when it decays. The result is that it decays into a 2nd generation Neutron which should use the mass defect energy to form its own Higgs field. This Higgs field gives it stability and keeps it from decaying back into a Proton. The Neutron and Proton now both have the stability they need to survive and strength to be built upon.

Therefore in the Hydrogen atom only half the Higgs field can be seen because a full Higgs field with both positive & negative aspects should be $2.2052 \times 10^{-30} \text{ kg}$. This is divided between the Neutron and Proton of the Deuterium atom. Both Neutron and Proton contain positive & negative aspects of this field.

In larger atoms the full Higgs field should be larger because they contain more Neutrons and Protons. The binding energies for different atoms will be different, directly affecting the Higgs field. The Higgs does not seem to form part of the path that energy flows along, it is for stability. Looking similar to w- & w+ Bosons and connected to their network. Energy travels along w- & w+ Bosons which join the Higgs field, the energy excites the Higgs field this is when a Higgs Boson is likely to be produced. The field energy is raised from (Higgs field + &

-) 2.2052×10^{-30} kg to $2.240163951 \times 10^{-25}$ kg. Although it is worth remembering that when we look for the Higgs Boson, we seem to be detecting its positive form and its negative aspect is not calculated. If we were only to look at the positive aspect of the Higgs field that we can see being excited, it would be $1.1025986928 \times 10^{-30}$ kg. The Higgs Boson rapidly decays. The Higgs goes back to resembling a Higgs field which looks remarkably like W and Z Bosons. This might be why experiments find that the Higgs Boson seems to decay into w & z Bosons.

Beta plus decay & the Higgs in deuterium formation

As Protons become close they feel repulsion. Strong force, mediated by W+ & W- Bosons and the Higgs field, keeps them together. This repulsion causes the Quarks to react to each other. : Protons=2 up & 1 down Quark.

The two up Quarks at the ends are in contact with 2 up Majorana Neutrons. They cannot exist in this state of 1/2 spin next to 1/2 spin. So one Neutrino is forced to change its direction/state and becomes -1/2 spin, in the opposite direction. This makes it a Neutrino/ this causes neighboring down -1/2 Anti-Neutrino to change to up 1/2 Neutrino. The next Majorana Neutrino detects this as it is being repelled. It changes to a down -1/2 Anti Neutrino and so on until all of the Proton's Neutrinos have changed state/direction of spin. The Neutrinos direction of spin of state affects Quark flavors. So an up Quark will become a down Quark & a down Quark will become an up Quark. Therefore the Proton becomes a Neutron via Beta plus decay.

When the two Protons combine they find they no longer need all the outer connections of the Higgs field for stability this excess field is discharged as mass defect energy, casing the atom to become lighter than the sum of its Hadrons. The energy connections of the Higgs are used as binding energy, 002388u which is approx. $3.9653699976 \times 10^{-30}$. This energy is the Higgs field.

The Higgs in deuterium

There is .002388 u of binding energy lost in Deuterium formation. Therefore Deuterium appears to have 002388 u less mass than the sum of its parts. The reason for this might be that much of the Higgs field has decayed from its Proton form into the Neutron form. The Higgs positive & negative field mechanism should = 2.2052×10^{-30} kg, when it is 'excited' by passing energy it should form a Higgs Boson of $2.240163951 \times 10^{-30}$ kg. Neutrinos are said to have 3 states. The Minerva Neutrino experiment at Rochester University published an article entitled "Traveling Neutrinos are in several states at once". Meaning that at any one time the "Neutrino is some fraction of all 3 flavors". They can be in their Eigen states of definite mass or in overlap states which have a "mixing" angle. According to the Nucleon-Deuteron model, when this happens to the Majorana Neutrinos inside of Quarks the effect seems to be caused by the energy of the forming Nucleon. The Oscillating energy travels through the (+) Neutrino heads & (-) Anti-Neutrino tails in an alternating pattern. At any one time there are 3 Neutrino heads & Anti- Neutrino tails in the Quark, displaying flavors/states. The end result is the release of the last flavor or state of Neutrino to be released from the Proton. This Majorana Neutrino is outside of the Proton but is still entangled with it. To survive it must change state to orbit the nucleus in a shell as an Electron & Positron.

Lepton epoch and electron/positron formation

Took place at 1 s after the expansion of the singularity & lasted until approx. 3 min after the singularity expansion. Temperature 10^{10} K cooled to 10^9 k by the end of the Epoch. Deuterium should have formed at around 10 s. At 1.8125×10^{10} k, the wavelength was 1.6000×10^{-11} mm. At 1.8125×10^9 k, wavelength was 1.6000×10^{-12} mm, frequency= 1.8737×10^{20} HZ, velocity= 2.9979×10^8 m/s and Energy= 1.2415×10^{-13} J.

Matter Epoch and Secondary Inflammatory Era

This Era began at 17 min after the expansion of the singularity and lasted until 380,000 years. The temperature at the beginning of this Era was 107 k and cooled to 3000 k by the end of the era. Cosmology says that by this time the universe was like a giant star. After Nucleosynthesis where the star-like universe had been burning Hydrogen into Helium, the star might have burnt its fuel which could have caused it to expand into a Red Giant. This should have happened between Nucleosynthesis & Matter era. This expansion into a Red Giant should have caused a secondary inflationary period. During the Matter era more elements should begin to form at the core of the universe although surface temperatures should have been much cooler.

At 1.8125×10^7 k, the wavelength was 1.6000×10^{-10} mm, frequency= 1.8737×10^{18} HZ, velocity= 2.9979×10^8 m/s, and Energy= 1.2415×10^{-15} J.

Result and Conclusion

If light is the fastest thing in the universe, how did the dark get there first?

The Electron/Positron entangled pair are now orbiting the nucleus and try to break free. However they are still caught up via entanglement between their own W Boson gluon flux tube body and the Z Boson. The Electron carries a (-) charge that is opposite to the (+) charge of the Proton. The Electron and Positron are also attracted to the Z Bosons inside the Proton structure. Like celestial black holes, the Z Bosons should cause a Gravitational pull together they are strong enough to keep the Electron & Positron in orbit as long as they remain close enough. Micro Gravity working in its tiniest form. The Positron would now carry the information and therefore most of the mass. It exists below (0) state and is considered Anti or "Dark" as (-1). This Dark energy of the Positron might be travelling faster than its Electron counterpart because it is located in the below (-1) state which should, according to the laws of relativity be an environment where particles can move faster than light speed. Therefore it is possible that the Electron is dragging the Positron around with it. As they become faster and move up into the outer orbit of the atom the Positron drags the Electron closer to light speed. This is because of the nature of their entangled flux tube/W-& W- Boson body that holds them together. After the Electron and Positron emit the Photon and Anti-Photon. Photons have an extremely long life. They seem to hover on the Event horizon of the Z Boson structure of its own entangled body. It stays dangerously close to its own tail end which might carry its information and mass. Hypothetically, if the Photon were ever to decay through the (0) point it would become an Anti- particle. It would be united with its tail end to become an Anti-Photon/Anti-light pair. Scientists have suggested that Photons might have a very small mass. If this is true then the laws of physics would allow the Photon to eventually decay. Some suggest that the Photon might decay back into Neutrinos.

However the model suggests that it would decay straight into the (-) dimension. The light that was emitted at the beginning of the universe can still be detected; this means that Photon's minimum life span is at least 1 billion, billion years.

The Anti-Photon should have the ability to travel faster than light or Photon speed, because it exists in the below (0) state. Therefore the Photon must be led around by its Anti-Photon tail end which carries the information and mass.

Neutrinos don't break the speed limit, but anti-particles might; time travelling neutrinos explained

Scientists at Opra, Italy announced the results of an experiment, which found Neutrinos travelling 60 ns faster than the speed of light. It is possible that Anti-particles might travel faster than light speed due to their state. If this were the case then a Neutrino being sent to a receiver might appear to be received before the Neutrino was sent. This is because the Anti-Neutrino tail end carries most of the

information. If it were to travel slightly faster than its Neutrino head entangled end, it would reach the receiver, carrying the information before its head end that we can detect. The tail would also have left the sender before the head was detected to have left.

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