

# Theory Of 3 Folds 5 Dimensional Universe

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**Abstract:** I explore the equivalence between “Mass” and “Imaginary Straight Line” by embedding Mass on One Dimensional Line. Based upon current experimental data, new empirical formula is derived which gives upper limit on energy scale up to TeV with minimum size equal to value of charge (Q). These both concepts with The Standard Model of Particle Physics are used to arrange particles (Fermions and Bosons) in 3 Folds way in 4th Imaginary Space. Quark Confinement due to Side Gluons, Mass of Fermions, % Distribution of Matter – Energy, Relation between Inertial/Gravitational Mass (Force) and Gluon is assured by self explanatory figures. Issue of Nature of Graviton (Quantum Gravity) and matter-Antimatter Asymmetry is also discussed.

**Keywords:** Particle Physics, Standard Model.

## 1. Introduction

In the 17th century, scientists came to the conclusion that chemical elements such as hydrogen, oxygen, and copper were composed of atoms. A chemical element, hydrogen say, was thought to consist of a single type of atom. And chemical methods made it possible to determine the approximate size of such an atom:  $10^{-8}$  cm that means, one billion hydrogen atoms stacked on top of one another would reach a height of around 10 cm [1].

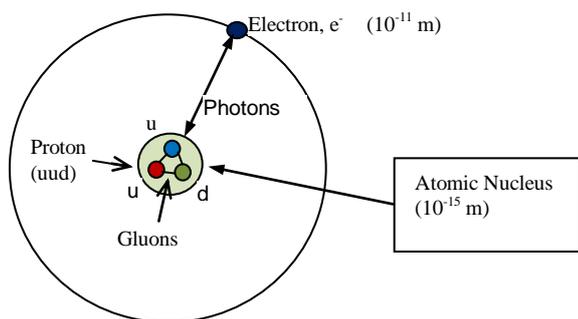


Figure 1: Hydrogen Atom

Today we know that, normal matter is made up of quarks (which are the building blocks of the atomic nucleus), and electrons. The Standard Model describes the fundamental interactions in a simple form. The interactions are the chromo dynamic force (QCD), which acts between quarks, and the electroweak force, which acts between quarks and leptons,

such as electrons. Today’s Standard Model of elementary particles, which consists of the theory of the electroweak interaction plus QCD, seems to describe the whole of physics. In the Standard Model, leptons and quarks are points, singularities in space. Can such infinitely small points even have a mass? In order to introduce leptons and quarks masses, physicists invented a hypothetical field which is able to give mass to these particles. The field is called the Higgs field (Spin=0) after the theoretician Peter Higgs, who introduced this field.

**(But in this model, no masses can be calculated. The unknown masses are replaced by unknown parameters describing the interaction of the Higgs field with fermions.)**

The Large Hadron Collider at CERN announced results consistent with the Massive Higgs particle (God Particle, Spin=0) on July 4, 2012. Could this theory prove to be a last and thereby final truth? There are a number of important questions not answered by this theory, like: Constant Mass of Particles (Fermions), Matter-Antimatter Asymmetry, Nature of Particles related to 24% Gravitating Dark Matter & around 72% Repulsive Dark Energy, Union of Einstein’s Gravity Force (manifestation of the curvature of space and time; Continuous Nature of Space-Time) with Physical Forces (Particle Concept; Quanta Nature) like EMF, SNF & WNF of Standard Model, origin of 3 generations or families of Fermions viz. Quarks & Leptons etc.

Table 1: The Standard Model of Particle Physics [2]

The Standard Model				
(Matter & Energy; $E = m \cdot c^2$ )				
Forces & Boson Particles		Fermion Particles (Spin = +/- 1/2)		
Strong Nuclear Force (SNF);	Gluon (Spin = 1); Charge = 0 Massless Particle;	3 Generations of Quarks (Always confined inside Hadrons)		
		U (Up Quark) Charge = + 2/3 Q Mass = 1-5 MeV	c (Charm Quark) Charge = + 2/3 Q Mass = 1-1.3 GeV	T (Top Quark) Charge = + 2/3 Q Mass = 174.3 GeV
Electro- magnetic Force (EMF)	Photon (Spin = 1); Charge = 0 Massless Particle	d (Down Quark) Charge = - 1/3 Q Mass = 3-9 MeV	s (Strange Quark) Charge = - 1/3 Q Mass = 70-170 MeV	b (Bottom Quark) Charge = - 1/3 Q Mass = 4-4.4 GeV
Weak Nuclear	$W^+, W^-, Z$	3 Generations of Leptons		

<b>Force (WNF)</b>	(3 Boson Particles) (Spin =1) $W^{+/-} = 80 \text{ GeV};$ $Z = 91 \text{ GeV}$	$e^-$ (Electron) Charge = - Q Mass = 0.51 MeV	$\mu^-$ (Muon) Charge = - Q Mass =105.6 MeV	$\tau^-$ (Tau) Charge = - Q Mass = 1.78 GeV
<b>Gravitational Force (GF)</b>	Graviton (Spin = 2); Charge = 0 Massless Particle?	$\nu_e$ (Electron Neutrino) Charge = 0 Massless Particle?	$\nu_\mu$ (Muon Neutrino) Charge = 0 Massless Particle?	$\nu_\tau$ (Tau Neutrino) Charge = 0 Massless Particle?

(For every Charged Fermion Particle; there exists its Anti-Particle with opposite charge.)

### 2. 3 Postulates and Equivalence of Mass with Imaginary Straight Line

In this theory, instead of considering Grand Unification of Forces at around  $10^{18}$  GeV; it is showed that the Universe itself came into existence by “One (Unified) Fundamental Particle” at TeV Range (Not in Big Bang Rapid Inflation Way but, definitely in systematic unfolded way; where all Unified particles always remain in connection with each other). The theory is based upon three postulates, viz.

- 1)Current Experiments limit on size of leptons and quarks (Fundamental particles) up to  $10^{-19}$  m. (Even at this distance, no inner structure was found for leptons and quarks).
- 2)“Empirical Formula” which is derived by me. It connects 4 main fundamental constants of nuclear physics as well as satisfies above first experimental aspect.

$$h = k \cdot c \cdot Q = [k / (2 \cdot \pi)] \cdot c \cdot (2 \cdot \pi \cdot Q) = m \cdot V \cdot \lambda = m \cdot V \cdot (2 \cdot \pi \cdot r)$$

Where;  $k / (2 \cdot \pi) \Leftrightarrow m$ ,  $c \Leftrightarrow V$  and  $Q \Leftrightarrow r$

$h =$  Planck’s constant =  $6.626 \cdot 10^{-34}$  J. Sec

$[k / (2 \cdot \pi)] =$  Boltzmann’s Constant = Maximum Mass of Particle =  $\{1.38 \cdot 10^{-23} / (2 \cdot \pi)\} \text{Kg} = 1.23 \text{ TeV}$

$c =$  Speed of Light =  $2.997 \cdot 10^8$  m/Sec.

$Q =$  Charge on Particle = Minimum Size of Boson Particles =  $1.602 \cdot 10^{-19}$  m.

The important thing about this formula is that for given experimental limit on minimum size of basic particles (which is equal to value of charge Q) and for limit on maximum speed of particle viz. speed of light, c; it gives limit on maximum mass of particle (k) in the range of TeV (What a Coincidence!). This coincidence tells us that the Universe must had started from the “One (Unified) Fundamental Particle” (Instead of one Unifying Force as in case of Grand Unification Theory) having above constants viz. h, k, c & Q in connected way. That means, if anyone wants to find the origin of each of these fundamental constants in separate way, then he/ she have to look into the past i.e. darkness (if possible) before the creation of the Universe. **(May be, God doesn’t want us to look into past beyond this Limit, Who knows?).** The formula also tells us about Unification of all particles at TeV instead of unification of Forces i.e. this one (Unified) Fundamental particle is source of all other Fermion particles viz. leptons and quarks (All Fermions have  $1/2$  spin). While unification of forces (Unified Field Theory) is not possible, because force carrying particles which are Bosons have different spins (spin = 0 for Higgs Boson  $\rightarrow$  Weak Nuclear Force, spin = 1 for photon  $\rightarrow$  EM Force & for Gluon  $\rightarrow$  Strong Nuclear Force, spin = 2 for Graviton  $\rightarrow$  Gravitational Force). In other words, we never get a Unified Force carrying particle (Boson) which unifies all above 4 Fundamental forces.

3)Equivalence of Mass and Imaginary Line: In String Theory, particles are defined in String Like manner

(small one dimensional object) in Real Space with size equal to Planck Length around  $10^{-33}$  cm in order to avoid singularity which happens in case of point like object. However, here we have to accept 10 dimensions instead of our 4 dimensional space-time concept. But, when I attempted to define, “One Dimensional Line”; I came to realize that, for existence of such line in Real Space, it must have thickness which adds at least one more dimension in Real Space. Then, this thickness, itself spoils the definition of “One Dimensional line” in Real Space. While Line with Zero Thickness is meaningless from point of view of Real Space (i.e. Line doesn’t exist in Real Space). In other words, “It is impossible to draw One Dimensional Line in Real Space”.

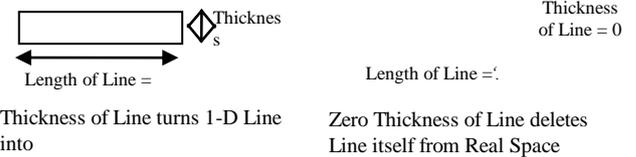


Figure 2: Nature of One Dimensional Line

While above thing doesn’t happen in case of “Imaginary Space”. Here, thickness of line (Imaginary Line) doesn’t spoil the definition of “One Dimensional line” in Imaginary Space. This is because; one can’t measure imaginary thickness in terms of fixed scale like cm or m. Now, from Physics point of view, to draw any Line, you will require some Entity i.e. Amount of Matter or Mass. Then, from above Math’s point of view, Mass should never exist in Real Space because of No Existence of One Dimensional Line in Real Space. While in Imaginary Space, Mass should embed on Imaginary Line itself.

**Mass is Equivalent to Length of Straight Imaginary Line**  
Thus, from Math’s and Physics, both points of view; it is easy to merge thickness of line into Imaginary Line itself. Here, zero Imaginary thickness ( $t=0$ ) will never delete the Imaginary Line {Length =  $iL =$  Amount of Matter to draw that Line;  $i = \sqrt{-1}$ } from Imaginary Space because of existence of Mass. Keeping in Mind of above 3 postulates and Tripartite nature of particles (3 Generations or families of Fermions), in this theory, the particles of Standard Model are arranged in 3 Folds way (Bottom Fold, Middle Folds & Top Fold) from TeV to approx. 0eV in 4<sup>th</sup> Imaginary Dimension (Imaginary Line  $\equiv$  Mass) i.e. instead of point like structure, **all Fermion particles act like One Dimensional Straight Imaginary Line.** These particles have no thickness, hence from our 3 Dimensional Real Space, we always look them as point like or structure less particles.

### 3. Description of 3 Folds Universe and Nature of Particles

Our Universe is called as 3 folds because during its expansion, it opens up in unfolded way like opening of layer of petals of flower (e.g. Lotus) from its bud.

#### 3.1 Bottom Fold

It includes particles made up of Quarks viz. Hadrons and masons; Gluons and Colorless Particle. This Bottom Fold is again divided into two sub-folds to distinguish between (+2/3 Q Quarks) viz. Up, Charm, Top Quarks and (-1/3 Q Quarks) viz. Down, Strange, Bottom Quarks. Same (+2/3 Q) sub-fold of bottom fold is shared by top, charm & up quarks while same (-1/3 Q) sub-fold of bottom fold is shared by bottom, strange & down quarks. Here, masses of quarks are like mass parameter type and decrease in mass of next generation quark is because of expansion of the Universe into other folds above this bottom fold. In this theory, **Quark Confinement is defined in terms of Side Gluon Fields** which forces Quarks to move inward and prevents their escape from Hadrons or Masons. **Mass of Hadron or Mason is because of "Colorless Vector Boson Particle" made up of 3 Imaginary Straight Lines {Spin= 0 + 1 + (-1) = 0} at Middle of Bottom Fold.**

#### Side Gluon Fields & Quark Confinement

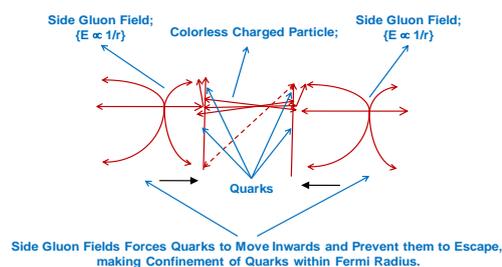


Figure 5: Quark Confinement and Side Gluons

This theory also shows that, Bottom of Bottom Fold carries "4<sup>th</sup> type of Anti-neutrino" ( $\nu'_y \cong 40 \text{ GeV}$ ) which yet to be discover. The Universe was started with "Bottom Fold" only, which doesn't hold Gravitons (Spin = 2) Particles (carrier of Gravity force). **It means at this first stage of the Universe, there was no Gravity force between Massive objects.** It comes into existence after creation of Graviton particles. Thus, idea of Unification of Forces, itself is wrong.

#### 3 Folds 5-D Universe

Mass of particle decreases from TeV to  $\cong 0\text{eV}$  in 4<sup>th</sup> Imaginary Dimension in Upward Direction and because of length of every fold of 3 Folds is Fixed, length of each Imaginary String Like Massive Particles defines Definite Value of that Particle Mass relative to it's Fold.

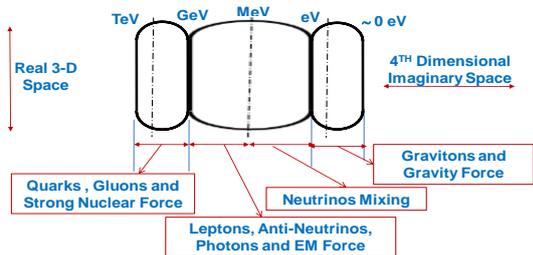


Figure 3: Particles (3 Folded Way) in 4-D Imaginary Space)

#### Creation of Universe in 3 Folds Way into 4<sup>th</sup> Dimension (Imaginary Space)

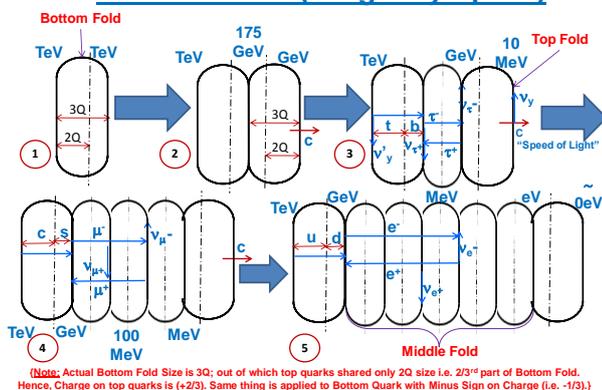


Figure 4: Creation of Universe (3 Folds Way)

#### 3.2 Middle Fold

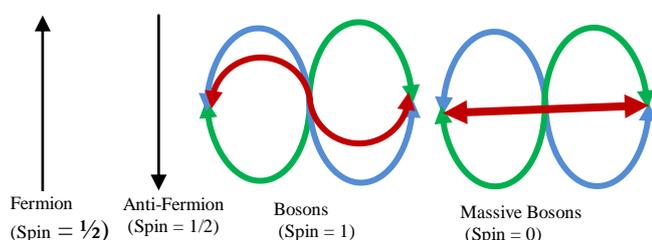
##### 3.2.1 Bottom parts of Middle Fold

There are 3 sub-folds of Middle Fold which are above Bottom Fold where each sub-fold includes one Type of Massive Leptons viz. Tau, Muon & Electron with their respective anti-neutrinos and force carrying particles i.e. Photon  $\rightarrow$  Electro- Magnetic force carrying particle. Related **Massive Anti-Neutrinos (Right Handed)** also come into these Folds. As Massive particles are defined by Straight Imaginary Dimension, it means wavy particles in 3-D real space are Massless particles or energy particles like, Gluons and Photons. **It also shows that, these leptons should carry only Rest Mass and they gain their kinetic energy because of photons.** Thus, every moving electron carries photon with it or electron does not have its own kinetic energy, but owns only Rest Energy. In atom, electron orbits around its nucleus. But, as electron is String like particle in 4<sup>th</sup> Imaginary dimension, hence instead of orbiting in circular manner around its nucleus, its orbital path should look like shape of saddle or potato chip in order to include all 3 dimensions of real space (Wave like Pattern). In general, **"Moving Electron (Massive Lepton) should follow Wave like pattern (path) even it is a particle; which is known as Wave-Particle Duality" in Quantum Mechanics.** {When any string rotates in N<sup>th</sup> Dimension, Every point on String should include all (N-1) Dimensions. For e.g. a pencil (String) attached to compass rotates in 3<sup>rd</sup> Dimension and draws a circle on paper (this circle includes all dimensions on paper i.e. two dimensions). Similarly, if same pencil rotates in 4<sup>th</sup> Dimension, it should draw saddle shape like closed wave line to include all 3 dimensions.} In this theory, Fermions are defined as one String like Particle with one directional arrow (Spin = 1/2) while Bosons are made up of 3 lines connected to each other at their middle point having direction at both ends of each line. In case of Spin = 1 type Boson particles (Gluon, Photon), out of these 3 lines; outer 2 wavy lines (4-D revolving Waves because of  $e^-$ ) are responsible for EM Field

and existence of 3-Dimensional Real Space while **Middle 3-D Wavy Imaginary Line gives Spin=1** to that Boson particle and also speed equal to constant speed of Light, “c”. Kinetic Energy (E) of Photons is directly proportional to Rotational Frequency ( $\nu$ ) of its inner 3-D Wave. Higher Frequency means more compression of this wave ( $E \propto \nu \propto 1/r$ ). Also, for photons, its Pressure is one third of its Energy Density ( $P=\rho/3$ ) because of equal distribution of its Pressure in 3 dimensions by its inner 3-D wave. While for Spin = 0 type **Massive Boson particles (Dark Energy)**, out of 3 lines; 2 outer wavy 4-D lines do not rotate in 4<sup>th</sup> Dimension and are like perfect spherical 4-D wave. While inner line is straight 1-D Massive line, Spin = 0 (Not 3-D Wavy line as in case of photons, hence  $P=-\rho$ ; -Ve Sign indicates repulsive pressure of D.E.). Thus, Bosons are like two Balloons connected to each other at their knot point and are pointing opposite to each other. **Mass of each Fermion particle is fixed here, by means of their existence in their respective fold only. i.e, in this theory, we can calculate Mass of particles.**

### 3.2.2 Top parts of Middle Fold

It includes 2 sub folds for 3 Weakly Interacting **Massive Neutrinos (Left Handed)** and 2 type of Constant Energy Density Massive particles viz. Dark Energy (Spin = 0; outer 2 wavy lines are like perfect spherical 4-D wave). In their respective sub-fold, the energy density of all dark energy particles remain same (Constant) and it is achieved by means of **“Division of Higher Constant Energy Density Dark Energy Particle, when it shifts from lower sub-fold of Middle Fold to upper sub-fold in such a way that every Less Constant Energy Density Dark Energy Particle looks similar to each other like Copy Cat.”** There are 3 Types of **“Dark Energy” particles** (2 from Top parts of Middle Fold and 1 from Top Fold) such that **“Constant Energy Density”** of these particles decreases as they shift from lower part of Middle Fold to Top Fold. Shift in their position occurs with step by step unfolding of expanding Universe. And because of random shift in their position (as per availability of vacuum at their upper or lower fold), neutrinos along with them also shifts (oscillates) from one fold to other fold i.e. change in type of neutrinos. **Dark Energy** particles have **“Constant Energy Density”** mainly because of their **“Perfect 4-D Spherical Non Rotating outer 2 wavy lines”** which makes direction of their wavy lines perpendicular to their motion and prevents direct face to face interaction (Negligible Interaction) between them.



**Figure 6: Nature of Fermions and Bosons Particles**

### 3.3 Top Fold

It includes **“4<sup>th</sup> type of Neutrino” ( $\nu_y \cong 0$  eV)** at Topmost part of this Top Fold, which yet to be discover. As said above, it also holds Very Less Constant Energy Density (Very Less Resistance) Soft Massive particles viz. Dark Energy (Spin = 0) as well as **Absolute Inner Light known as Graviton particle (Spin =2)**. It unites all four Fundamental Forces by passing through these 3 Main Folds vertically straight in 4<sup>th</sup> Dimension (**Space less**). This Graviton (Spin =2) is Union of Higgs Boson (Spin =0) particle & its field, Higgs Field (Dark Energy, Spin =0). Their Union takes place, when mass of Higgs Boson particle becomes approximately zero because of their multiplication (Decrease in their mass from approx. 114 GeV to approx. 0eV) as well as creation of middle folds so that Union of them gives Paired Graviton particles (Spin =2 & Spin = -2). Graviton particle is made of 2 particles where Higgs Boson particle is Massive particle while its field is Massless particle (**Graviton when detached from Normal Matter acts as Dark Matter**).

### 4 Percentage Distribution of Matter-Energy

Every graviton particle is connected with One Unified Fundamental Particle made up of 3 Imaginary Strings at Middle of Bottom Fold i.e. at Center of Nucleus known as **“Colorless Vector Boson Massive Particle (Spin=0)”** which we can call as **“Shiv Matter”**. This is the Main Particle behind Mass of hadrons. It expands **“Exponentially”** outside of Nucleus (in Left Direction only) and every **“Shiv Matter”** always remains in connection with other **“Shiv Matter”** which solves Flatness & Horizon problem in correct way instead of Rapid Inflation method. This particle is main source of Quarks, Leptons, Neutrinos, Anti-Neutrinos and Higgs Scalar Boson (Spin = 0) particles while Gluon (Spin =1) is Mother of Photons (Spin = 1), Dark Energy (Spin = 0) and Higgs Field (Spin = 0). At top fold, this Higg’s Boson (Approx. 0 eV) unites with its Higgs Field (K.E. approx. 0 eV) after completion of whole process of creation of Universe (i.e. creation of all folds) because of less resistance between them (Approx. 0 eV). After their Unification, Spin of both Higgs Boson and Higgs Field turns from 0 to 1 i.e. Middle line out of 3 wavy lines of Higgs Boson converts into straight imaginary line in 4<sup>th</sup> Imaginary dimension while Middle line out of 3 wavy lines of Higgs Field converts into straight imaginary line in 3-D space like photon. Union of them gives at least 2 or multiple of 2, paired Graviton particles (Spin =2 & Spin = -2). Thus, Graviton is a particle made up of 2 particles where Higgs Boson particle is Massive particle (Absolute Imaginary Inner Straight Light) while its field is Massless particle like photon. Therefore, gravitational waves in the form of Higgs Field should travel at speed equal to speed of light, c. Now, at the time of creation of Universe, Shiv Matter and His Field, both were made of equal energy (Total Energy of the Universe is always Zero; Total Energy of Universe = Rest Energy + Kinetic Energy = 0) i.e. approx. half TeV (500 GeV) for each of these particles. Now, in Universe, everywhere process of creation of particles remains same which says that, by analyzing % distribution of one quanta particle made of Union of this Shiv Matter and His Field, we can find out % Distribution of all Matters in the Universe as it is not possible to convert one particle into other particle (Because of Constraint on them

like, Spin, Charge, Fold, Energy, type of particle – Fermion or Boson etc.). From current experiments and observations, we know that total % contribution of photons, gluons and matter (quarks, leptons, Hadrons – proton, neutron, neutrinos, anti-neutrinos) is very less (approx. 0.2- 0.4 %). So, let us calculate % Distribution of all matters in the Universe:- “Negligible Qty [2 GeV (Proton + Neutron) out of 1 TeV  $\cong$  0.2%] of Ordinary Matter (Proton, Neutron & Electrons), 4% [Around 40 GeV out of 1 TeV] Bottom most Anti Neutrino, 22% [220 GeV out of 1 TeV] Dark Matter (11% Higgs Boson {110 GeV} converted into Graviton & 11% {110 GeV} Higgs Field connected with it), **39% Massive Dark Energy** {390 GeV out of 1 TeV} & **35% Shiv Matter** {350 GeV out of 1 TeV} in terms of “Continuous lines of Colorless Unified Massive Particle” which spreads already Homogeneously everywhere at the time of “Creation of Universe” through Left Direction only in Instantaneous way.

**Creation of “All Folds” and “Particles”**

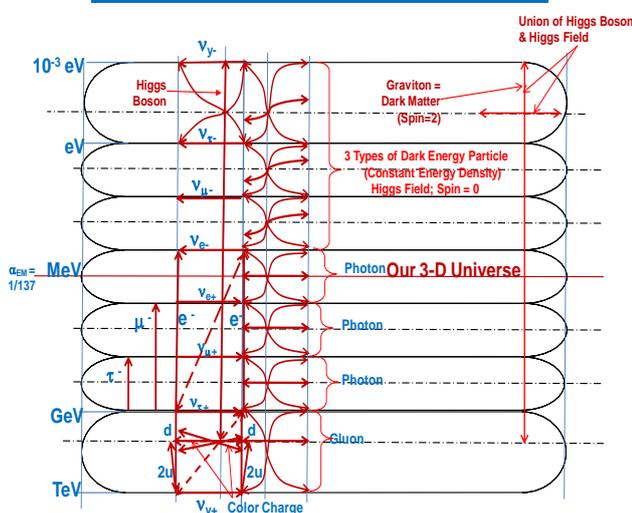


Figure 7: Graviton, DM and 3 Types of Dark Energy

**5 Electron in an Atom and EM Forces**

It is seen that “Electron (Middle Fold, Orbital Radius =  $10^{-10}$  m) and Proton (Bottom Fold, within Fermi Radius,  $10^{-15}$  m) are not connected to each other in an Atom by any means of Field Particle like Photon. Hence, there is no Attractive EM Forces between Electron and Proton in an Atom.” But, this Attractive Force is Between Electron (Charge = - Q) and 4-D Downward Line of Graviton (Charge = + Q).

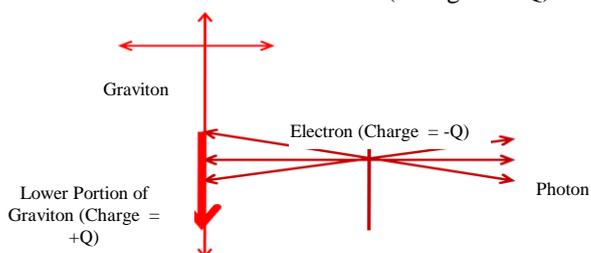


Figure 8: Relation between  $e^-$  and Graviton in an Atom

“Electron itself do not carry any Kinetic Energy. It only has Rest Energy.”

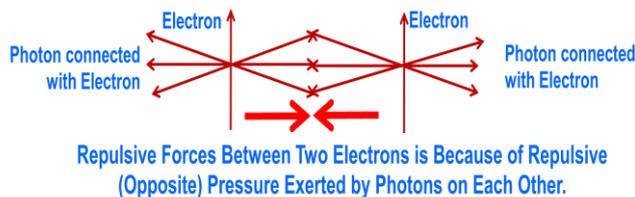


Figure 9: Electron and EM forces (Photons) Between Them

**6 Inertia of Mass (Inertial Force) and Gluon (Kinetic Energy of Massive Object)**

When we apply Force on any Massive object, the force is transferred to that object by means of “EM Field Particle” i.e. photons or Force Carrying Boson Particles. This force is transferred to Graviton (Inner Straight Imaginary Line) through EM Field particles (photons) which are connected to it. Because of this Force, Graviton tries to move in applied force direction. But, it is connected with Hadrons (Colorless Unified particle) at Bottom Fold and motion of these Hadrons due to motion of Graviton is resisted by Side (Surrounded) Gluons. Resistance (Inertial Force) given by Gluons is directly proportional to mass of Hadrons i.e. to Mass of that object. Thus,

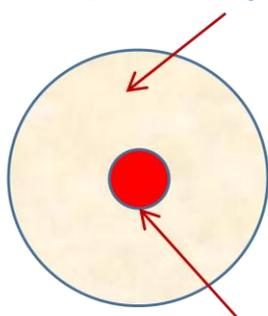
**Gluon gives “Inertial Force to Mass”.**

If applied force is more, Gluons get more compressed which in turn increases Kinetic Energy of Gluon ( $E \propto 1/r$ ). Therefore, Applied Force is directly proportional to “Inertia of Mass” and “Acceleration” (Gain in Kinetic Energy) of the object on which force is applied. Also when we apply force, force carrying particles (Viz. photons) never transfer from force applying object to force receiving object. Instead of this, the moment when force applying object contacts with other object, it’s gluons expand in direction opposite to object’s direction of motion, which in turn decreases gluon’s K.E. ( $E \propto 1/r$ ) and therefore motion of that object is stopped or reduced and at the same time, the reactive force is applied on the object’s Colorless Unified particle (Mass of that object) by gluons. Thus, **Newton’s third law of motion (Every Action has equal and opposite reaction) is due to force carrying resisting particle; Gluons.** If by any means, it becomes possible to remove Gluons from Hadrons or to reduce its percentage in nucleus, then, “Inertia (Resistance) of Mass” will reduce which in turn will increase “Acceleration of that Object for given applied Force. ( $F= m*a$ )”. With no presence of Gluons inside nucleus of atom, its Inertia to Mass i.e. inertial Force will become zero. **As per “Einstein’s Equivalence Principle (Inertial Mass = Gravitational Mass)”, same Gluons must be responsible for increase in kinetic energy of any object (Mass = m) in presence of Gravitational Field of other Massive Object like Earth (Mass = M) during Free Fall.** For Conservation of Energy, the Earth should release its Kinetic Energy (Slow down of Earth’s Kinetic Energy or rotation) in terms of decrease in kinetic energy of Gluons of its matter. This decrease in Kinetic Energy of the Earth must be exactly Equal to Gain in Kinetic Energy of that object (Mass = m).

### 7 Understanding Gravity Force Through Particle Physics

Gravitons with very less energy density (at Top Fold) are like “Soft Ball” while Hadrons (at Bottom Fold) which defines Mass of any atom are like “Hard Core”. When we will combine them, we can imagine a 4-Dimensional Perfect Spherical ball having soft outer surface while hard core at its center similar like “Seed in Fruit”. To define Gravity Effect, let us keep such plenty of Balls in a Huge Spherical Container. We will notice that, outer surface of balls which are near center of that container gets Compressed due to weight of balls (because of Hard Core inside every ball). This Compression of “Outer Surface of Ball” because of Total Weight of Balls is nothing but, “Curvature of Space-Time due to presence of Massive Object”.

**Graviton = Outer Soft (Perfect Spherical) Surface**



**Hadron = Inner Hard Massive Core**

Figure 10: Graviton as a 4 Dimensional Sphere (Soft Outer Surface with Hard Core Inside)

### 8 Matter - Anti Matter Asymmetry and Spin in 5-D Universe

Our 3 Folds 4-Dimensional Universe is made up of +Ve mass-energy (Heat) and it is connected with its reflection or mirror image i.e. 4-Dimensional -Ve mass-energy (Antimatter, Cold) Universe. Both Universes are tied with each other and as a whole; they make 5-D Universe+/- . Spin in 5-D Universe+/- converts Anti-Matter into Matter and vice a versa with no violation of Laws of Energy and Charge Conservation, at Hadron level (Neutron) itself. Thus, all Anti-Matter transferred into Matter; hence, no need of “Matter-Anti Matter Asymmetry”.

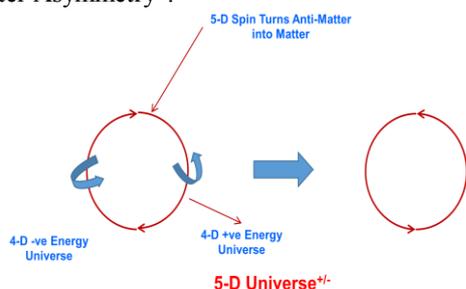


Figure 11: Conversion of Anti-Matter into Matter by means of Spin in 5-D Universe for Neutral Baryon (e.g. Neutron)

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### Author Profile



**Author** received degree in Mechanical Engineering from Rajarambapu Institute of Technology in 2002. From 2005, He is working in H.A.L. as an Officer and now, is looking after Production Activities related to SU-30 MKI Final Assembly.