DYNAMIC MODEL OF ATOM/2017

DATE: (20.10.2017-10.12.2017)

TITLE: Dynamic Model of Atom

TECHNICAL FIELD: Physics

BACKGROUND SCIENCE:

1. *A brief Literature*

   Evolution of the subject field of 'Atomic Structure' had only a philosophic origin up to the **18th century** till **John Dalton** paid much emphasis to figure out atomic composition in molecular units of elements.

   Thomson's atomic model of positively charged inner space with scattered negatively charged electrons, was displaced by the **Rutherford's** model (**1911**) in which the electrons orbit round the positively charged nucleus.

   Various models of the atomic structure have been developed ever since until a more realistic energy responded model is introduced by **Niles Bohr** (**1913**). In his model, electrons are orbiting the nucleus at different potential energy levels and an electron could leap the orbit by exchanging of a **certain quantity** of energy (packet or quantum of energy) through energy radiations.

   Scale (size) of the **nucleus** of hard state is so infinitesimally tiny that, it is 10^{15} (ten to the power fifteen) times smaller than the atom and the modern day knowledge base is thorough enough to figure out **size**, **charge** and **mass** of the inner atomic particles mainly such as **Electrons, Protons** and **Neutrons.**
   (Please refer to the Wikipedia for a complete literature).

2. *What is not explained in the conventional model of the background art?*
   i.   **Skin boundary** of the atomic body has not been addressed
   ii. Continuous **consumption of energy** by atoms to maintain the interior rotary dynamics has not been addressed
   iii. Dynamic **orbital stability** of electrons in the atomic body has not been addressed
   iv. **Bond** between the **nuclear particles** has not been explained
   v.   **Bond** between **atoms** in elements has not been explained
   vi. Phase transformation of atoms at the **speed of light** has not been addressed
   vii. **Origin** of atoms has not been addressed
3. *What is the reformation suggested by this technical paper?*

So far unexplained is explained upon new angles of **alternative knowledge** to be tested for reformation towards essential **advancement** of the subject.

DESCRIPTION:

1. **THE DYNAMIC MODEL OF ATOM**:-

Interior Rotary Dynamics of Atom is addressed by the new model of reformation over the old model in Atomic Chemistry.

It is a known fact that Electrons are orbiting about the nucleus. But there is no indication of dynamics of the nucleus- the central organization-in the so far developed atomic structure. With regard to any rotary dynamic systems in the Universe, angular momentum must be balanced with the dynamics of the nucleus.
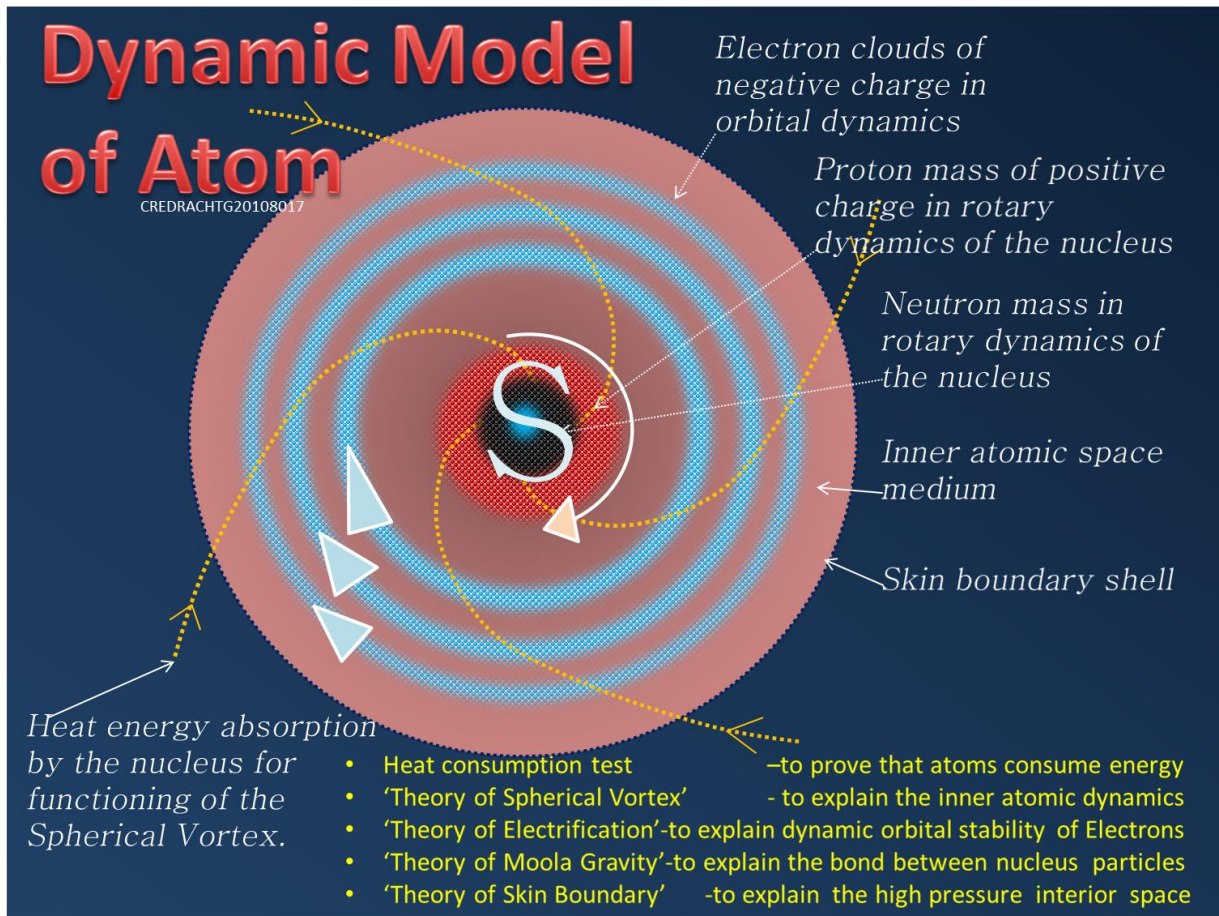

FIGURE-01 (The Dynamic Model of Atom)

2. **HEAT CONSUMPTION BY ATOMS -(a test to prove that, atoms consume energy)**

I can suggest several thought experiments of big level to measure quantitative 'Energy Consumption by Atoms' against Time, but what is the use if the **Objective** could be achieved simply by a test of school laboratory level of more reduced scope?

Cool Room Test for Atomic Heat Consumption:-

1. Procedure:

Let's get same weights of some different materials as furnished bellow and keep them in a cool room for a certain time period.

1) Gold (Au)
2) Iron (Fe)
3) Magnesium (Mg)
4) Carbon
5) Water
6) Dried Wood

2. Observations:

Take them out and touch one by one, by use of the back side skin of your palm to feel what material is cooler.

3. Recording of results:

List out them in addendum of their Density and the felt level of Coolness

4. Discussion:

Denser materials are Cooler under same environmental conditions.

5. Deduction:

1) Materials of **heavier** Atoms absorb **heat energy** (from your hand) more quickly.
2) **Heavier** atoms are **richer** of possessing of a heavy stock of **nuclear particles**.
3) **Atoms** absorb **Energy** to consume for some **unknown function** going on at the central organization called **Nucleus**.

6. Conclusion:

 Atoms absorb Energy.

3. **'THEORY OF SPHERICAL VORTEX'**-(to explain the inner atomic rotary dynamics)
   Introduction:-

   'Vortexes' in any fluidic or atmospheric medium are familiar to us and known as Eddies, Tornados and Cyclones etc. **Bernoulli**'s principle explains the causation behind of how a medium behaves dropping **pressure** against gaining of **speed**.

   But most important 'Nature Realities' have been overlooked by the so far developed background Science, by neglecting of **existence** and dynamics of the '**Free Space Medium**'. Space dynamics are almost entirely governed by the '**Pressure-Speed Interaction**' in the free space medium called **vacuum**.

   '**Spherical Vortex**' is the common phenomenon behind every **rotary dynamics** to be observed in the space.

Also we have to understand that **direction** of motion of a 'Spherical Vortex'. It is either **Expanding** from 'the absolute zero (void) to the infinity' or **Contracting** from infinity to the void. [Scientists of the 21st century shall have to recognize the aforesaid **Distance** as the Axis of the **4th Dimension**.]
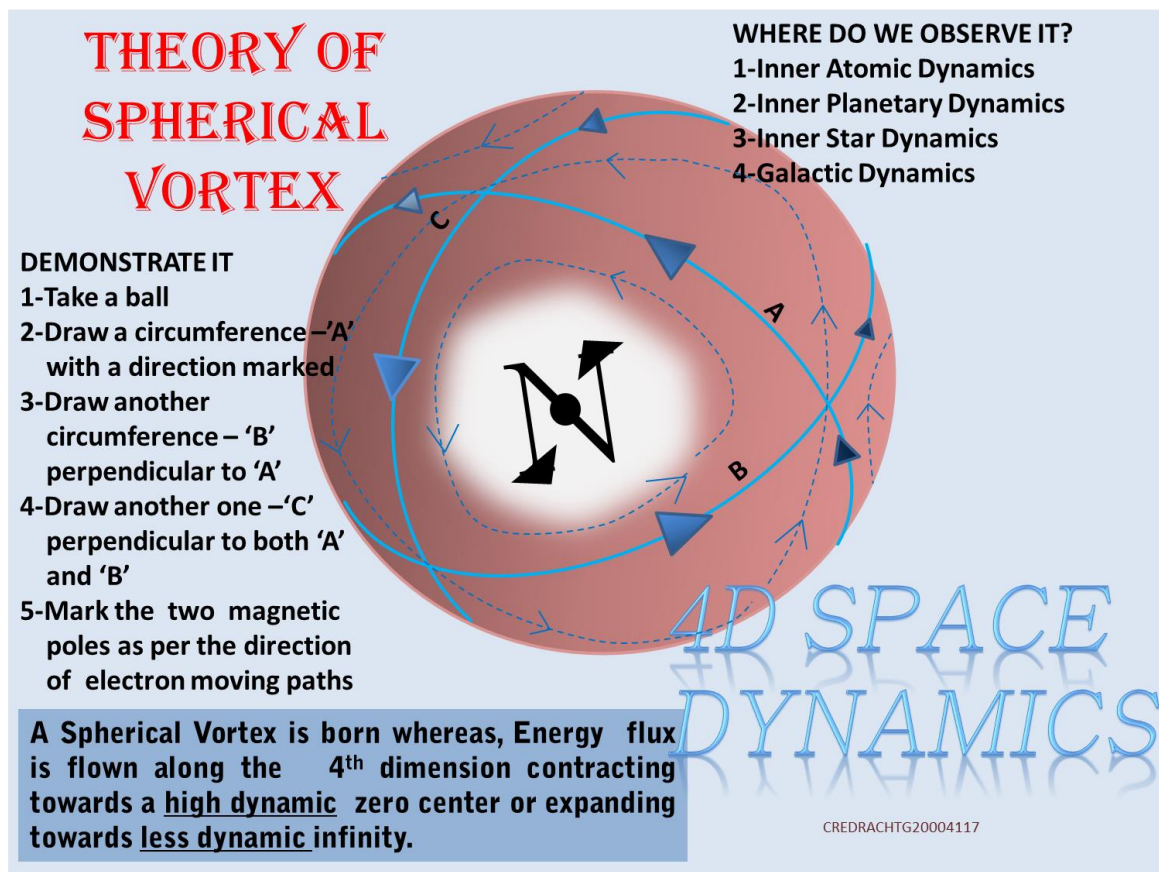
Description:-

FIGURE-02 (descriptive diagram to demonstrate a 'spherical vortex')

In the demonstration, the energy particles are moving along the resultant paths (as shown in dotted lines) so that no collisions are there between rotating particles. Relative to the polar axis, all the particles are moving almost in the same direction of the vortex. Some particles are orbiting about the axis in a more **zigzag** way of rotation. But in the vortex, the particles are not repeating the same track twice but instead sinking gradually in to the globe in **Contraction**. In contrary, medium particles are emerging out gradually from the globe in case of an **Expansion**.

Case studies:-

3.1Galactic Vortex:

    I.   *Expanding Galaxies*

Dark Matter is expanding to produce Hydrogen, Electrons and the Galactic Medium through a **Centrifugal Spherical Vortex**. **Gravity** is also born with **Atomic Matter** (Hydrogen) and the cloud of gas is decentralized in to **Gravity Clusters** as the beginning of Solar Systems.
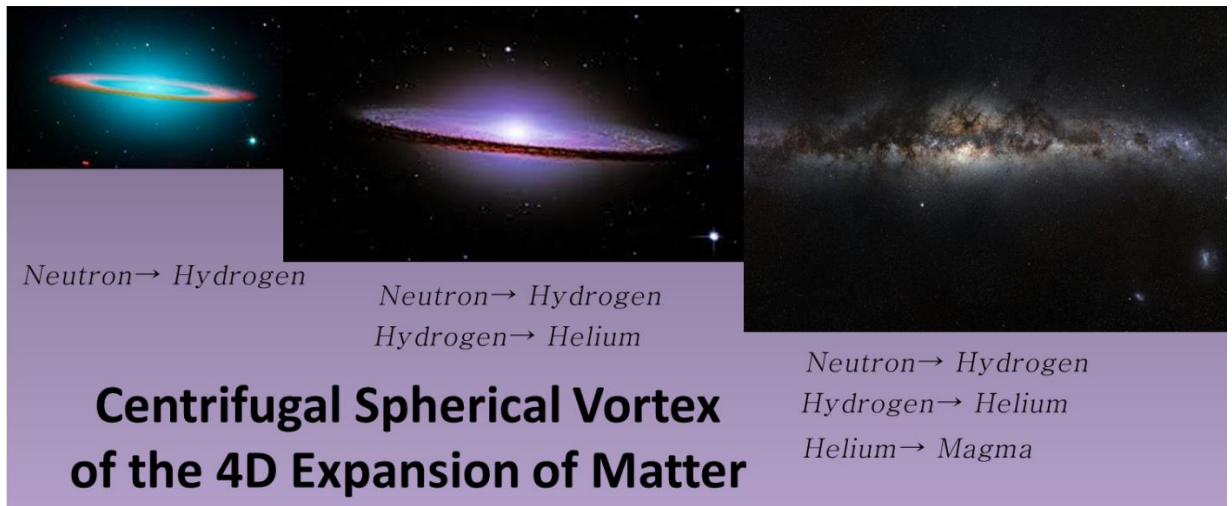

Neutron→ Hydrogen

Neutron→ Hydrogen
Hydrogen→ Helium

Neutron→ Hydrogen
Hydrogen→ Helium
Helium→ Magma

Centrifugal Spherical Vortex of the 4D Expansion of Matter

FIGURE-03 (Dark Matter expands in to a Galaxy)

    II.   *Contracting Galaxies*

Spherical Vortex exhibits **Reversible Dynamics** and the old galaxies start contracting in to dark matter back. It is not Gravity but the fluid dynamics of the Medium Vortex which accounts for the massive phase transformation of convergence.

3.2 Solar Vortex:

    i.   *Growing Solar Systems by depleting Hydrogen stock in Sun*

A star (Sun) is a **Spherical Vortex** of energy flux energized by **Hydrogen Fusion** at the core.

Origin of a **Solar System** takes place by **Gravity** based **Centralization** of the **Hydrogen Cloud** in to **Clusters** in parallel with the **Decentralization Function** of **Matter** at the formation of a **Galaxy**.

    ii.   *Dying Solar Systems in to Dark Matter by convergence*

With depleted **Hydrogen** stock at the core, both the nuclear fusion and due spherical vortex too are weakened. At this phase of '**Solar Evolution**', rotation of Sun is

gradually slowed down. By then the orbital and spinning dynamics too of the **Planetary System** are gradually slowed down.

Once the **spherical vortex** in Sun is held up, then the crustal body of **Magma** starts expanding. The star is swelled at this phase perhaps to swallow the planets which are driven closer to Sun, due to lack of centrifugal force caused by the weakened orbital dynamics.

At this stage the **reverse rotary dynamics** starts at the core of Sun by creating a **Centripetal Spherical Vortex** which tends to contract the entire solar system in to a **supernova** as the first step and secondly in to a globe of **Dark Matter**.

3.3 Planetary Vortex:

a) *Centripetal spherical core vortex*

Productive Planets (Electromagnetically spinning planets) are gradually grown in **Mass** by absorption of **Solar Wind** (Energy flux emitted by Sun) by the centripetal spherical vortex in function at the core. Humid atmosphere transfers electrons, absorbed from solar wind at the ionosphere, to the ground through **lightning** strokes. **Aurora** is the other exhibition of gradual transferring of energy particles in to Earth at the North pole (magnetic South pole).

Productive planets are **Hollow Globes** and **Gravity** is **inverted** at the depth beyond the hard crust so that both Gravity and **Pressure** are dropped to be zero towards the center. A centripetal spherical vortex is functioning at the core of Earth and a small **Dark Matter** globe is being grown at the very center of the core.

b) Centrifugal spherical core vortex

In case of any cut off or considerable **Reduction** of receiving of **Energy flux** from Solar Wind, the geo spherical vortex is held up. Then the dark matter globe tends to **expand** in to **Hydrogen** by reversing the spherical vortex and **nuclear fusion** starts to take places upon the hard crust at which both pressure and gravity are of the highest degree.

Magma shell beyond the hard crust becomes highly activated at this event of a '**Geo Magnetic Reversal**' and both volcano and earthquakes could be highly activated.

This period should end up ultimately when the dark matter globe is entirely depleted by expansion. At then a big vacuum is created at the center and medium matter with energy flux is flown towards the center starting of a **centrifugal spherical vortex** again and the favorable environment for life is gradually established upon the globe again.

3.4 The Atomic Vortex:

Atomic structure in the background science has come to a stagnant point and no scope to be seen for any further development due to below furnished reasoning.

1) Magnifying capacity of tools of science at microscopic extreme level has almost come to its limit.
2) Deduction through radiation of Particle Physics too has come to an end because there are no more new particles in the nucleus to be discovered.

Thence only the study of inner atomic dynamics remains there for any further development of the subject field.
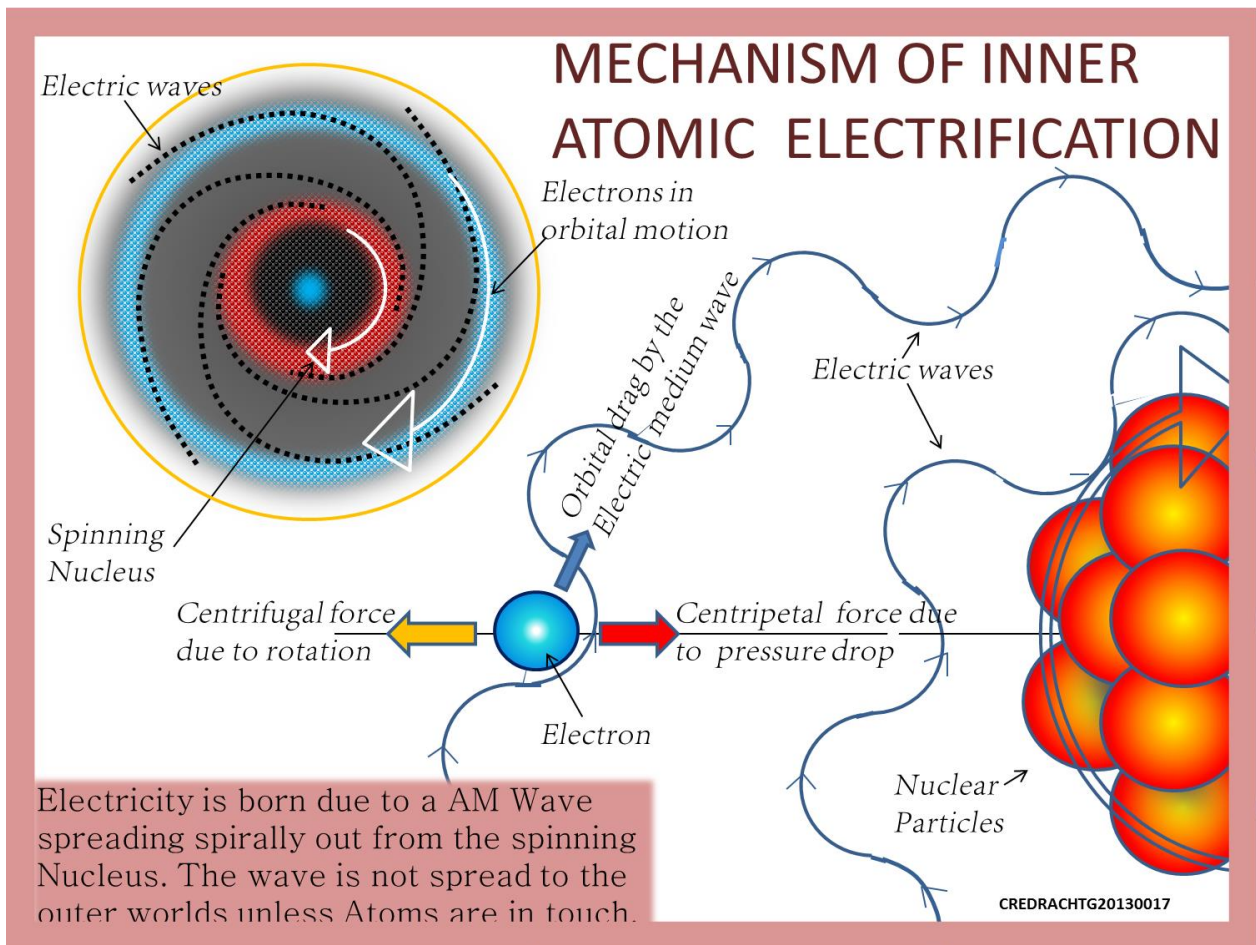
4. HOW ELECTRICITY IS BORN?:-

FIGURE-04 (How Electricity is born in the inner atomic space)

Even though we use Electricity in our day today experience, the causation is originated in the inner atomic space. Also no magic could be there but Electricity must be born due to a AM medium wave. A medium wave could not be born unless through a vibration.

Therefore it ought to be an AM wave spherically spread out created due to rotation of the Nucleus.

4.1- Theory of Electrification:

A medium wave of **Amplitude Modulation** is produced by **rotation** of the **Nucleus**, which is covered on the surface by Protons. The wave is spread spiral way out from the Nucleus and it creates **Bernoulli's** low pressure at the wiped side of an Electron to drag it towards the Nucleus. A lateral force component too, which makes the Electron orbit, is applied upon the Electron by the **motion of medium mass** with the Electric Wave.

***[Special Note:-** world has not yet recognized the deviation effect of waves when the source is rotating. Gravitational FM wave is deviated when the gravity source is spinning and hence a lateral force component is applied upon any secondary object to make it orbit around the Gravity Source in the same spinning direction. (*Pl refer 'Theory of Gravity Deviation'- the link furnished under the references)*. Similarly AM waves too could be moved if the source is moving and that is the root cause behind the Electrification]

4.2- Behavior of the Wave of Electrification:-

4.21-The electric wave has special characters such as;
- It is transmitted with an amplitude modulation as same as how Radio AM waves behave in the vacuum medium.
- At the same time the medium mass too is moving with the wave spirally spreading out, in the same direction of the rotation of the nucleus.
- Therefore it applies a lateral dragging force upon the electron which makes it orbit.

4.22-**Pressure** and **Elasticity** being the main parameters of a medium for wave transmission, the Electric wave cannot spread out from the inner atomic space. But it can transmit the vibration of the AM wave in to another atom if they are **closely touched**.

 [**Special Note:-Electric Conductors** are moreover metals and atoms in metallic elements are very closely touched by one another. It is the essential quality for the high conducting ability because the **Electrification Wave** is transmitted far through the line connection of touched atoms.]

4.23-Wave of Electrification is not transmitted through the vacuum medium because **pressure** in the vacuum is not adequate for maintaining of the required vibration of the wave.

4.3- Why energy is absorbed by the nucleus?

4.31- Productivity of Atoms:

Nobody would believe it by now but Scientists would certainly prove it through laboratory experiments someday that, Atom as a whole, is a **factory** of producing **Electrons** to issue periodically by absorption of **energy** from the environment.

5. THEORY OF MOOLA GRAVITY (the strongest bond in the Universe)

5.1-The Strongest Bond:

The bond between nuclear particles is the strongest bond to be observed in worlds and it is Gravitation in the dropped scale of the world or in other words Gravity in the inner atomic space (Moola Space).
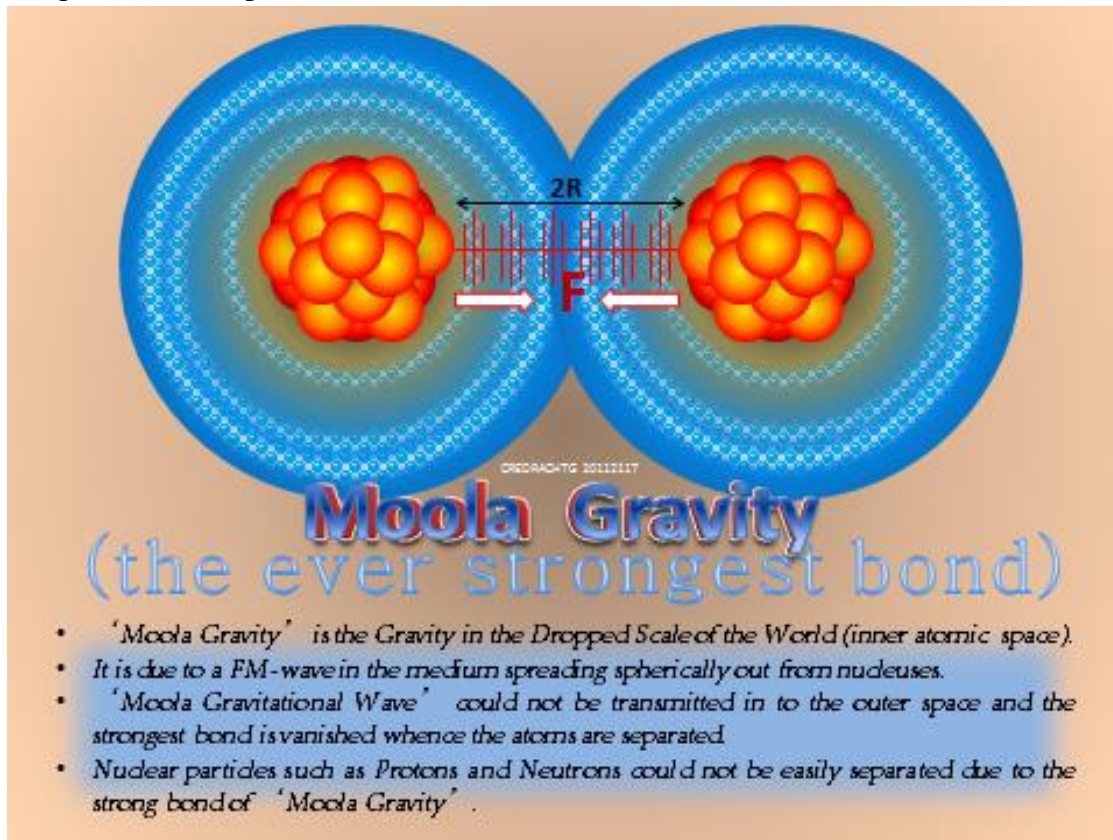

FIGURE-05 (Exhibition of the bond between atoms by 'Moola Gravity')

5.2- Typical calculation for the Moola Gravity in mild steel:

Practical:

A plate hung by a mild steel string is gradually loaded by weights till the string breaks by yielding as shown by the figure-06.

Aim:

It is aimed to observe how much load is carried by a single atom of the string and hence to analyze the bond between two atoms.

Data:

Tensile stress of mild steel $= 400N/mm2 = 40000N/cm^2$

Cross sectional area of a single atom $= \pi \, (10^{-8})^2 \; cm^2$

Mass of a mild steel atom $= 55.84g/6.023 \times 10^{23} = 9.271 \times 10^{-23}g$

THEORY OF MOOLA GRAVITY

Steel string

Data:
- T=Tensile force in the string = Hanging load = M x g (where 'M' is mass & 'g' is the acceleration of Newtonian Gravity).
- A-cross sectional area of the steel string.
- a-cross sectional are of an atom= $\pi(10^{-8})^2$ cm²

Experiment:
Load is gradually increased to find ultimate tension 'T' just before failing of the string.

Analysis:
Number of atoms occupy in the string section = A/a
Load held by a single atom = (M x g)/ (A/a)................ Dynes

Logical Philosophy:
Who is there in the string to carry such a big force (Mg) which is well quantified externally by **Newtonian Gravity**?

It cannot be **Coulombs Electricity** because the atoms are not charged. Also it cannot be **Magnetism** because the string is not magnetized.

W=Mg

Conclusion:
It is the gravity inside of the atomic space named as 'Moola Gravity'. As same as Newtonian gravity, it is born due to a FM wave through the medium but it doesn't go beyond the atomic boundary unless the atoms are closely touched. Once the touch between two atoms is gone, the tensile force too is vanished at the same instant. 'Moola Gravitational Constant' can be deduced by this simplest demonstration.

FIGURE-06(Laboratory test to evaluate Moola Gravity)

Calculations:

Force carried by a single atom $= 40000$ dyne/cm² x $\pi \, (10^{-8})^2 \; cm^2$
$= 1.25 \times 10^{-11}$ dyne

Distance between the nucleuses of two atoms $= 2 \times 10^{-8}$ cm

Mass of a mild steel atom $= 55.84g/6.023 \times 10^{23} = 9.271 \times 10^{-23}g$

Force between two atoms $= k(m_1) \times (m_2)/R^2$ $\quad = k(9.271 \times 10^{-23}g)^2/(2 \times 10^{-8}cm)^2$

1.25×10^{-11} gcms^{-2} $\quad = k(2.148 \times 10^{-29} \; g^2cm^{-2}$

Constant of the Strong Force (*Moola Gravitational Constant*) = 5.81 x 10^{17} cm^3 g^{-1}s^{-2}

Newtonian Gravitational Constant in the outer world = 6.668×10^{-8} cm^3 g^{-1}s^{-2}

5.3-Behavior of Moola Gravity:

Bond between Atoms:

Let's consider how iron atoms are bonded together for an instant? That is not **electricity**, or **magnetism** between atoms. Then we have to accept the fact that the bond has not yet been explained by the so far developed background science. The theory of 'Moola Gravity' only can explain the bond between atoms of elements.

The wave of Moola Gravity could not be transmitted in to the outer space but the vibration can be spread out only when the atoms are touched. No bond of the sort is active when atoms are separated. At the state of red heated liquid phase, atoms get closer again and the bond of 'Moola Gravity' is activated. That is the phenomenon what we utilize in **welding** of metals.

*Special note:[*It proves that 'Moola Gravity' is the strongest bond ever known in the Universe. But the problem is not solved yet and what is the bond between nuclear particles? It should be much stronger than Moola Gravity as a bond. That ought to be the reason behind the big energy requirement need for nuclear fiction. I should like to limit the scope of this technical paper to within the domain of '**Atom to Universe'** and therefore the bond between neutrons is not attempted to analyze herein. But I am so confident to express that it is also Gravity of the dropped scale of the World and that is the bonding agent in Dark Matter.]

6. SKIN BOUNDARY OF MATTER:

Modern World is progressing far with **Particle Physics** but without any concern of the particle **boundaries**. How on Earth, a new particle could be declared as a finding, without having even a least idea of its boundary?

On the other hand, we observe objects (things) but what is the theory behind? Unless the reflected rays of light from the bodies reach to our eyes, nothing could be observed. Then the '**Skin Boundary**' of atom has to be accepted or unless what is there to reflect light rays back from bodies? It cannot be the Nucleus because it is 10^{15} times smaller than the size of an Atom. Also it cannot be the electron cloud because it is rotating vigorously.

6.1-'Theory of Skin Boundary of Atom'/2009-(to explain the high pressure medium in the atomic interior space- *pl see references*)
There are adequate facts to support the new concept that, atomic space is highly pressurized and covered by a tensioned **skin membrane** like a balloon.

6.11-Reflection of light particles
Objects are observed to us whence light particles are reflected back from the objects. Objects are but made up of atoms and ultimately light rays should be reflected by atoms.

In comparison with the size of an atom the nucleus is so tiny that, it is funny to say light rays are reflected by the nucleus. Therefore the deduction says that there should be a **skin boundary** for atoms to **reflect** a major percentage of light particles.

6.12-High bearing capacity of atoms
Atomic elements can bear very high pressure and it indicates that the inner atomic rotary system is well protected by a balloon like strong skin in which the atomic space is confined under a very high pressure.

6.2- A daring Assumption for Advancement:

At a situation of stagnancy whence 'World Sciences' find limits in experimentation at extreme end level of **Nature Realities**, somebody has to jump forward like a mad without any fear, with some hand full of new theories (right or wrong) for arguments sake. It is the **way forward** and specialists of the subject fields are kindly requested hereby to challenge this new theory of '**Skin boundary of Atomic Space'** on behalf of frontal development of the subject field.

6.21- Mathematical Deduction for Properties of the Dynamic Atomic Model:
"A **Neutron** is expanded to make a **Hydrogen** atom which is comprised with some **Medium** mass confined in a highly tensioned **Skin Membrane** and also with an **Electron** orbiting a **Proton** in the nucleus".

The daring assumption also makes a great opportunity to deduce '**Pressure in Vacuum** (P)' in consideration of '**Volumetric Energy**' gain by the phase transformation. It is very important to analyze at first what is '**Volumetric Energy**'.
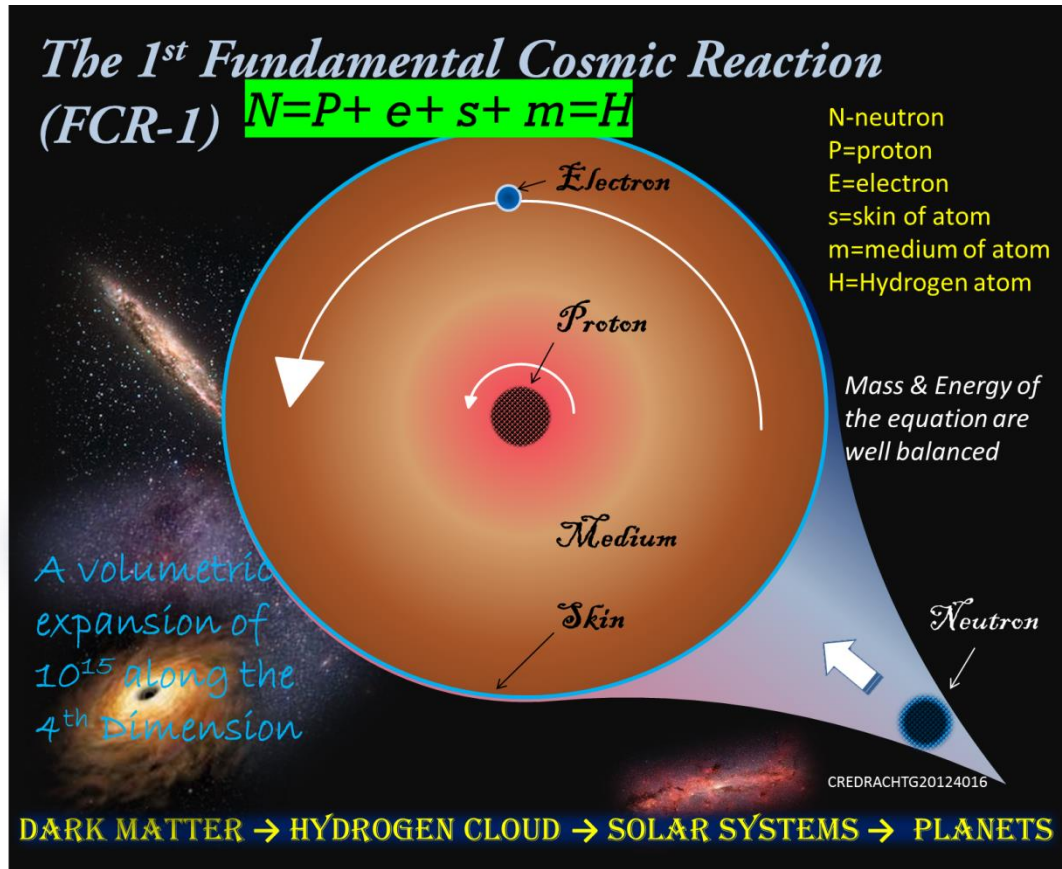
FIGURE-07(skin boundary of an atom)

6.22-Volumetric Energy:

It is the potential energy that any object gains by owing a volume in a pressure medium as defined in the technical paper '*Space Dynamics-V1*' published in 2009 such as;

2.3 VOLUMATRIC ENERGY

Volumetric Energy of matter is defined hereby as the work done by the matter in its expansion from the zero volume in to the present volume, against the external pressure..
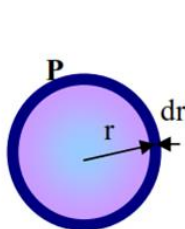
$$E_v = P\int_0^R 4\pi r^2 dr = P\frac{4\pi r^3}{3}$$

$$E_V = PV \quad \ldots\ldots\ldots\ldots\ldots(3)$$

Where. P-external pressure & V-volume

FIGURE-01

Therefore any matter in the space, which holds a volume against the medium pressure, possesses a volumetric energy.

Abstract-01(from 'Space Dynamics-V1'/2009)

6.23- Evaluating Pressure of the Vacuum by balancing Energy in the FCR-1 equation:

Known data:
Mass of a Neutron:- $M_N = 1.675 \times 10^{-24}$g
Mass of a Hydrogen atom:- $M_H = 1.673 \times 10^{-24}$ g
Radius of an atom $= 0.78 \times 10^{-8}$ cm ....Volume of Hydrogen atom $V_H = \frac{4}{3} \pi (0.78 \times 10^{-8})^3 cm^3$
Speed of light:- $c = 2.998 \times 10^{10}$ cm/s
Theory behind the deduction:
Conservation of Energy/Albert Einstein

Neutron is expanded in to **Hydrogen** in the phase transformation and the ultimate energy stock in both phases must be the same.

$$E_N = E_H$$

Ultimate energy stock in a   Neutron   = ultimate energy stock in Hydrogen atom

$$(M_N)c^2 = (M_H)c^2 \ y + \text{Potential Energy}$$
$$= (M_H)c^2 + \textbf{\textit{Volumetric Energy}}$$
$$= (M_H)c^2 + PV_H$$

(let us substitute known values in the equation. P is the external medium pressure)
$(1.675 - 1.673) \times 10^{-24} \times (2.998 \times 10^{10} \text{ cm/s})^2 = P[\frac{4}{3} \pi (0.78 \times 10^{-8})^3 cm^3]$
$P = 1.79 \times 10^{-6} / (1.987 \times 10^{-24})$
$= 9.008 \times 10^{17}$ dynes/cm^2

> *Pressure at the Origin of Hydrogen from Neutron P =* **9.008 x 10^{17} dynes cm^{-2}**

But pressure inside of Atom must be a bit higher than outer because of the tension of the skin.

6.24- Evaluating Density of the Free Space medium called Vacuum:
Free space medium exhibits special properties such as;
  - ➢ Space medium doesn't respond to *Gravity*
  - ➢ Space medium is *Transparent*
  - ➢ Space medium is *Compressible*
  - ➢ Space medium is *Contracted* just like a gas at increasing of Speed
  - ➢ Space medium possesses a high *Elastic Modulus* to transmit waves far
  - ➢ Space medium possesses a *Critical Speed* for wave transmission ($c = 2.998 \times 10^{10}$ cm/s)

❖ *Critical Speed of the free space medium:*
  - • *Critical speed of a medium is the maximum movable speed of a medium mass through the same medium.*

- *Any FM or AM wave too could not exceed the critical speed of the medium because a wave is only a dynamic moving vibration of the same medium mass.*
- *Light Photons or Heat Photons could not exceed the critical speed limit of the vacuum medium because a moving particle is always dragging a certain mass of the medium matter too due to surface friction. Critical speed of vacuum medium is therefore known as the speed of Light.*
- *Neutrons as Gamma rays or Dark matter only can exceed the critical speed of the vacuum medium because they face almost no frictional resistance due to high density. (A blow of air, wind or a cloud could never exceed the speed of sound because it is the critical speed of the atmospheric medium. But a gun bullet or a supersonic jet can exceed the speed of sound due to high density compared to that of the medium)*
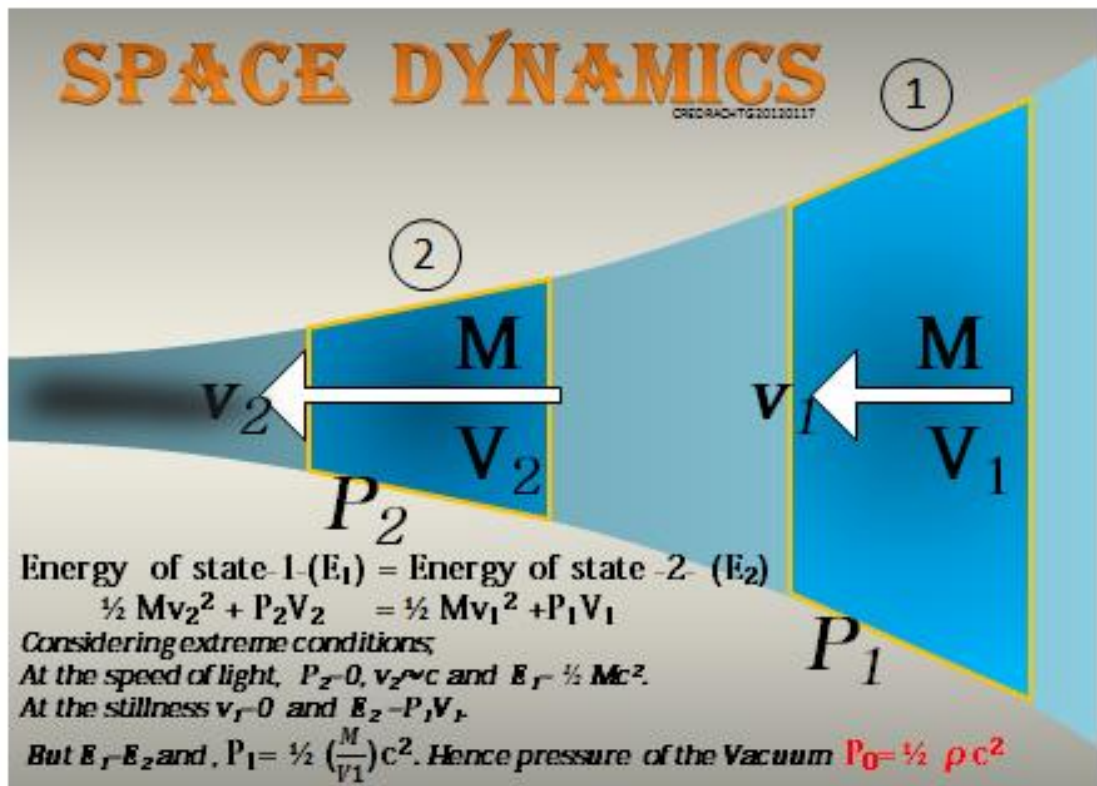

FIGURE-08(Pressure of the free space medium)

Medium Relation:-

$P = \frac{1}{2} \rho c^2$ where ρ is density of the medium, **P** is the pressure at stillness and **c** is the critical velocity of the medium. *[This relation is common for all the mediums including,*

*air, water, solids etc. and **critical velocity** in any medium can be calculated if pressure and density is known.]*

A thought practical to do in the free space:

Let us consider a medium mass '**M**' that is moving in the same medium as shown in the figure-08. Energy of both sides of the equation must be the same according to the principle of '**Conservation of Energy**'.

Energy of state-1 = Energy of state -2

Kinetic Energy + Volumetric Energy = Kinetic Energy + Volumetric Energy

$$\frac{1}{2} Mv_2^2 + P_2V_2 = \frac{1}{2} Mv_1^2 + P_1V_1$$

Let us consider the extreme conditions;
Suppose the state -1 as the situation where the medium mass is at the stillness and state -2 as the state when the medium mass is moving at the critical speed (speed of light).

At the speed of light, $P_2 = 0$ and $v_2 = c$
At stillness $v_1 = 0$

$$\frac{1}{2} Mc^2 + 0 = 0 + P_1V_1$$

$$P_1 = \frac{1}{2} \left(\frac{M}{V1}\right)c^2$$

Therefore generally medium at stillness is given by

the medium equation $\boxed{P = \frac{1}{2} \rho c^2}$

Therefore density of the outer vacuum medium at the Origin of Hydrogen 'ρ' = 2(9.008 x 10^{17} dynes cm^{-2}) / (2.998 x 10^{10} cm/s)^2 = 0.002g/cm3

$\rho = 0.002$ g/cm^3

Comparison of the Result:

Vacuum Density at the outer space at Earth has been deduced to be **1.4 x10^{-4} g/cm3**

through a different physical approach by '**planetary orbital dynamic approach**' published in the monograph 'Dynamic Stability in Orbital Motion of Planets' Ref: http://www.cyrilhtgamage.com/index.php/publication-space-dynamic/87-space-dynamic/152-dynamic-stability-in-orbital-motion-of-planets

a) When the speed 'v' is increased, pressure '**P**' of the moving mass of the fluidic medium is dropped just as it is explained by the **Bernoulli'**s principle.

b) Whence the pressure is dropped, volume '**V**' too is decreased due to **contraction** of the soap bubbles like medium particles. (*the phenomenon is explained under 6.3*)

c) Hence the Density ($\frac{M}{V2}$) of the moving mass is increased due to the **contraction** of the medium particles

Pressure of the Free Space at Earth:

We have deduced the Pressure of the Vacuum at an Expanding Black Hole, where Hydrogen is born as $P = 9.008 \times 10^{17}$ **dynes/cm2.**

When medium density at Earth is found by the physical analysis of planetary motion as; $\rho = 1.4 \times 10^{-4}$ **g/cm3** we can deduce Pressure of Vacuum at Earth by the Medium Relation

$P = \frac{1}{2} \rho c^2$

$P = 6.29 \times 10^{16}$ dynes/cm2

(Therefore Vacuum Pressure at the galactic black hole must be nearly 10 times bigger than that at Earth.)

6.3 World of Particles:

The Universe is filled entirely with soap bubble like particles which are covered by tightly tensioned balloon like skins;

➢ **Atomic Matter:**

Atomic particles possess internal **Rotary Dynamics** within the skin. There are three types of Atomic Matter to be recognized by the Scientists of the 21st century or unless majority of the Universe shall remain unexplained forever. What are the three types of atoms?

- Atoms of radial size 10^{-8}**cm** (generally as explained in the periodic table)
- Atoms of radial size 10^{-13}**cm** (generally the nuclear particles such as Protons and Neutrons)
- Atoms of radial size 10^{-18}**cm** (Dark Matter, available inside of nuclear particles and in black holes as well.)

(Particles exhibit a contracted form along the **4th dimension** with a consequent **Scale Drop** of 10^{15} in volume)

➢ **Energy Matter:**

Particles are recognized as Energy by their **Linear Dynamics**. Electron is the biggest size of an energy particle and the second largest are known as Heat & Photon. There must be another smaller size of an energy particle (of light) even though not yet been recognized.

The **Scale Drop** between sizes should be as same as above.

➢ **Medium Matter:**

The free space of a Galaxy is filled with the expanded sizes of the above explained all Energy Particles. They are expanded in volume when speed is lost towards the stillness. Mainly there must be three sizes of medium particles and there is nothing in the particles other than the balloon like skin which is also made up of similar particles of the dropped scale.

6.4 Theory of Skin Tensioning:

The skin is generally made up of finer medium particles fitted tightly together as a highly tensioned membrane. The skin particles don't possess any inner rotary dynamics and then how could they are so tightly tensioned?

The pressure gap between inside and outside bears the secret of tensioning of the skin as explained in the figure-09, abstracted from the experimental monograph 'Space Dynamics-V1' published in 2009.

SPACE DYNAMICS

Inter Atomic Space (S')

Particles of Skin Boundary

Outer Space (S)

$P'' > P' > P_0$

$T = [P'' - P_0]\, 2\pi R''(R''\theta)\sin\theta/2$

$F = [P' - P_0]\, \pi R''^2$

CREDRACHTG20012I09

For stability of a skin particle, F=T, i,e, $[P'-P0]\,\pi R''^2 = [P''-P0]\, 2\pi R''(R''\theta)\sin\theta/2$

Suppose, $P_0 \approx 0$ for simplicity, $\sin\theta/2 \approx \theta/2$ for $\theta <<$ and $\theta \approx R''/R'$

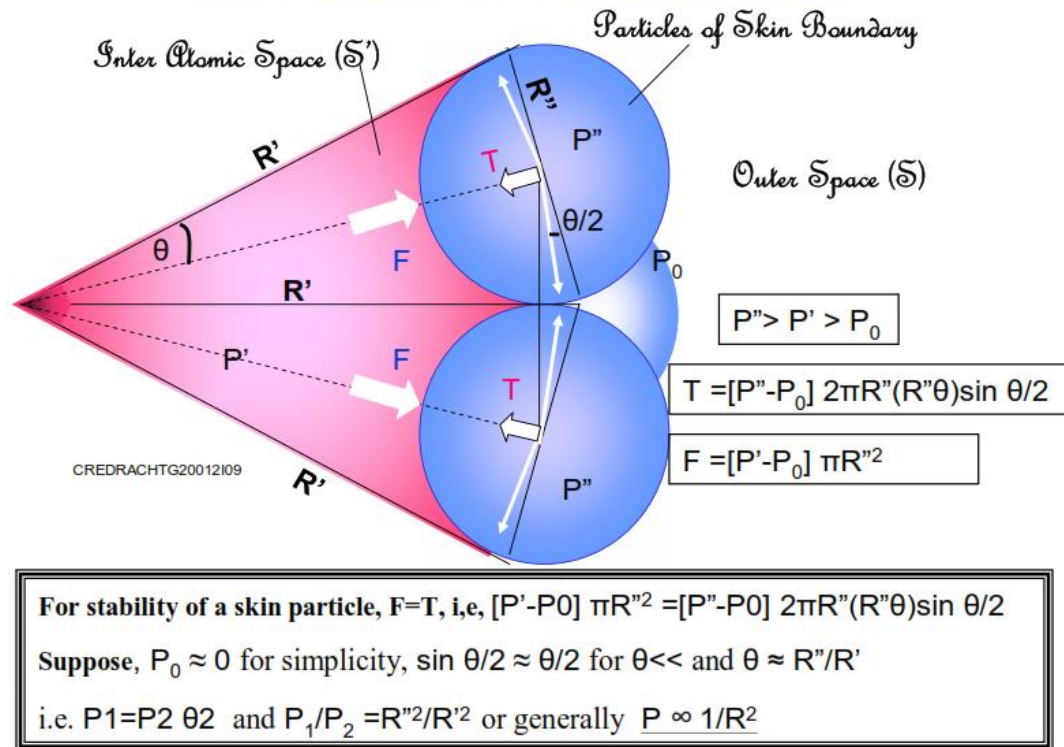**i.e. $P1 = P2\ \theta 2$ and $P_1/P_2 = R''^2/R'^2$ or generally $\underline{P \propto 1/R^2}$**

FIGURE-09 (the theory of skin tensioning)

Not only atoms but electrons and photons too are skin tensioned in the same manner. There are three medium pressure gaps to be considered in this analysis. The outer pressure P_0 is dropped whence the parent particle is moving. (That is similar to the experience how your papers are blown out when the shutter of the train is suddenly opened). When external pressure drops, the skin particles are more tightly compressed towards each other as described by forces in the figure.

6.5 Shooting of Energy particles:

Let us consider now the extreme end conditions of above explained 'Theory of Skin Tensioning'.

6.51-Nuclear Reaction:-

Whence the outer pressure is increased towards the size of the inner atomic pressure, then the atomic boundary is failed by loosing of the skin tensioning mechanism and that is the exact pressure requirement for a **nuclear reaction**. Inner atomic **rotary dynamics** is totally failed at such a situation and the huge stock of **kinetic energy** in the nucleus is released by scattered projection of nuclear particles off, making a disastrous damage to the environment.

*[Special note:- 'It is not necessary to be radioactive elements, isotopes or deuterium but every atomic matter is subjected to a **nuclear reaction** if the correct **pressure** is applied upon the atomic structure.]*

6.52-Who is shooting Photons?:-
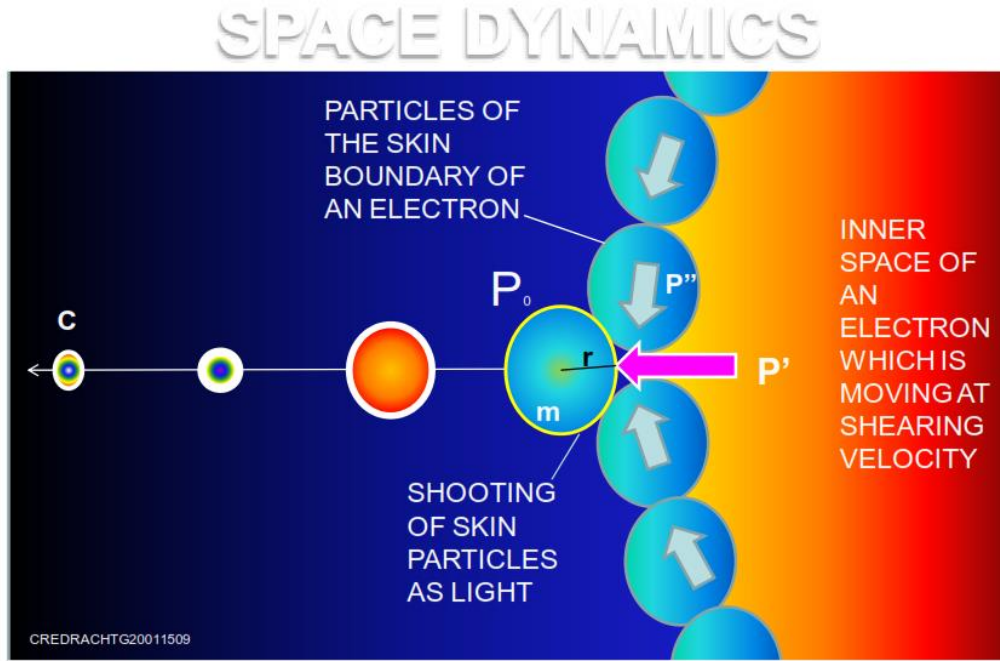
$$mc^2/2 = (P''-P_0)(\pi r^2) \times r$$
At shearing velocity, outer pressure 'P$_0$' becomes zero

FIGURE-10 (shooting out light particles from a shearing skin of an Electron)

Figure-10 is as abstracted directly from the experimental monograph published in 2009 to explain how light and heat particles are projected out from the skin of an electron. When it is travelling through a resistive medium, skin particles are highly tensioned due to the pressure gap. Outer pressure of the skin drops proportionate to the speed and ultimately the Electron start contracting by shooting the skin particles at a high frequency. This phenomenon is recognized by us as radiation. The best supporting evidences are electric welding and lightning in the sky. When a flow of electrons move against the air resistance, the outer skin pressure of electrons is dropped down to zero due to surface friction and then skin particles are issued as rays of Light and Heat.

7. THE WORLD FROM ATOM TO THE UNIVERSE?

7.1- The '**Dynamic Model of Atom'** addressed in this technical monograph, is so infinitesimal microscopic level of the Matter that, nobody could imagine how the subject matter is expanded ultimately up to the macroscopic level of **Universes.**

7.2- But that is the **Reality** and everything in **Nature** is so tightly interconnected that any **Natural Phenomena** in the world could never be isolated. Therefore world knowledge departments have to pay their attention upon the important message that experimentation should not be limited in to narrow boundaries of '**Field Specialization**' but to be addressed by aspect of a '**Combined Science**' as a whole.

7.3- Once the **Atomic Boundary** is defined, the theory could have been failed unless the **Galactic Boundary** too is defined at the same time by the same theory of '**Skin Tensioning**' of Matter. When the same theory is extended to define the boundary of a **Universe**, the outer pressure ought to be the **absolute zero** and the interior pressure becomes the pressure of the **Vacuum Medium** (as we have derived, $P = 6.29 \times 10^{16}$ **dynes cm^{-2}**).

7.4- Any **Dynamics** in the world could never be addressed without **Balancing Energy** of the systems. Therein the **Einstein's** theory of **Conservation of Energy** plays the greatest role and no body shall ever challenge the **Reality** exists behind the equation **E=Mc^2**.

7.5- Sir Isaac Newton has defined that **Kinetic Energy** of any linear motion as *½ Mv^2* where '*M*' is the mass and '*v*' is the gained velocity.

<div style="border:1px solid; background:#f8d0b0; padding:8px;">

KINETIC ENRGY :
A force is required to move a mass '*M*', from the stillness to speed '*v*' and the impulsive force 'F_i' is defined as the change of *Momentum* per time '*t*'.
$\qquad F_i$ =[(Final Momentum)- (Initial Momentum)]/ time
$\qquad F_i$ = [(Mv) – (0)]/t = Mv/t
If the distance traveled by the mass to get that velocity is d, then *d=v x t*.
Work done $\quad$ = applied mean force $\;$ x $\;$ distance
$\qquad\qquad$ = (F$_i$/2) x d = ½ M v^2 $\qquad$ =kinetic energy gained by the mass
Kinetic Energy = $\;$ ½ M v^2

</div>

Therefore the ultimate stock of kinetic energy that an atom could achieve must be '*½ Mc^2*' where '*c*' is the **Critical Speed** of the vacuum medium (=speed of light). It indicates that the total energy of an atom is not entirely because of its **dynamics.** Just a half of the total energy is due to dynamics and the other half is because of its **Volume** difficultly held against the pressure medium and that is named as '**Volumetric Energy**' as derived as Pressure x Volume (*P* x *V*) under the clause 6.22.

Volumetric Energy $= PxV$ ….....(where $\boxed{P= ½ \,\rho c^2}$ as derived under clause 6.24)
$\qquad\qquad\qquad =[½\ \rho c^2]$x $V =$**½ Mc^2**

<div style="background:#d7e4bc; padding:6px;">

Therefore ultimate energy stock of an Atom is comprised with both Kinetic Energy and Volumetric Energy.

</div>

8.0 – THE WORLD FROM UNIVERSE TO MULTIVERSE

If a Galaxy could be considered as a Universe, then the space, which possesses lots of galaxies, in the phase of expanding & contracting of dynamics, can be considered as the Multiverse.

8.1-Mass-Energy balance in the Universe:

The atomic structure possesses a skin boundary and the interior pressure must be much higher than that of the exterior medium (vacuum). Therefore a **potential energy** is held always by the external medium, against the balloon like acquisition of a space by the atom. That much of potential energy is held there as **Volumetric Energy** and it belongs to the atom itself. In other words, the energy expended by the atom in pushing the medium in **Expansion,** is paid back to the atom in return by the medium in **Contracting**.

$$E = \text{Kinetic Energy} + \text{Volumetric Energy}$$
$$= \tfrac{1}{2}(M)c^2 + PV$$
$$= \tfrac{1}{2}(M)c^2 + \tfrac{1}{2}(M)c^2$$
$$\underline{E = Mc^2}$$

8.2- Mass Energy balance in the Multiverse:

A Galaxy (a Universe in other words) too is just like an Atom in consideration of the volumetric expansion and due balloon like shape. But the **Galactic Balloon** is not necessarily to be sharp spherical because the skin membrane is weakly tensioned. It is the extreme end boundary between the '**Thing**' and '**Nothing**'.
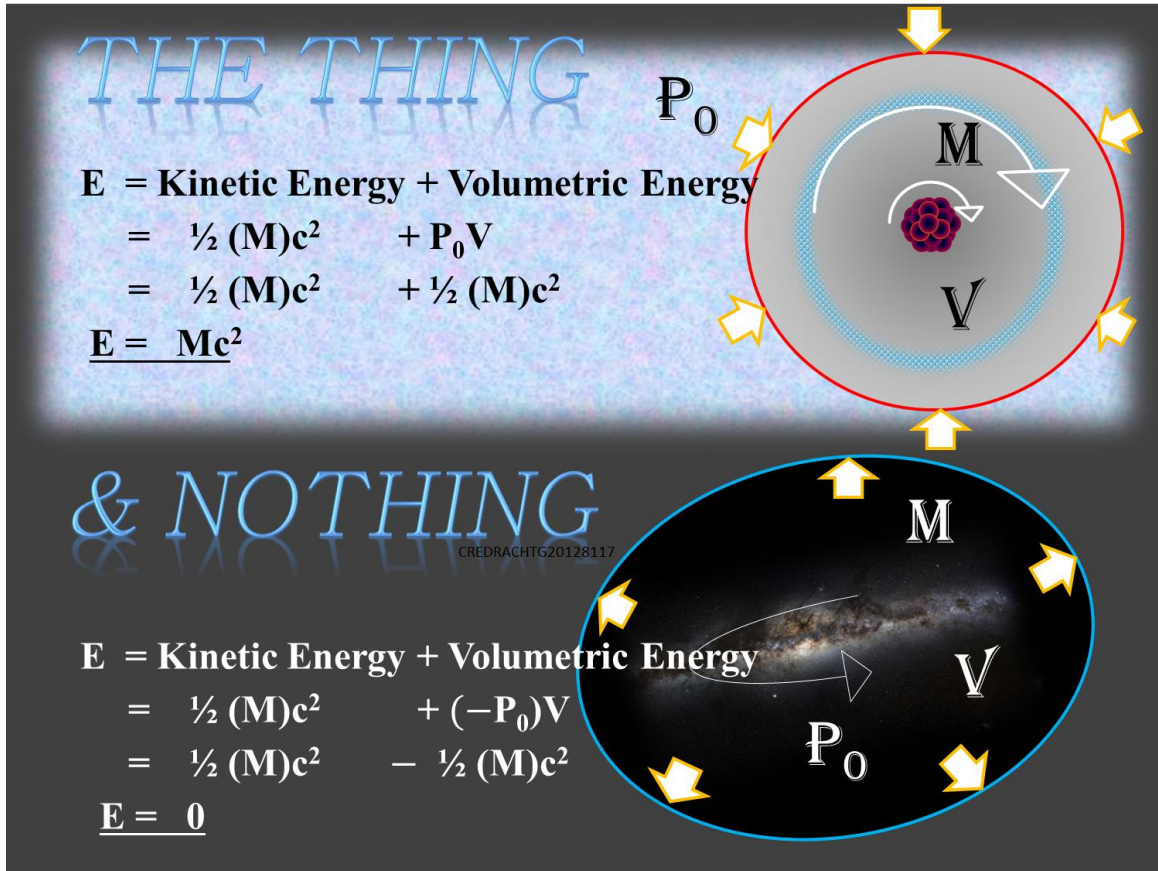
FIGURE-12(Exhibition of the 'Thing' born out of nothing)

$$E = \text{Kinetic Energy} + \text{Volumetric Energy}$$

$$= \tfrac{1}{2}(M)c^2 \qquad +(-P_0)V$$

$$= \tfrac{1}{2}(M)c^2 \qquad -\tfrac{1}{2}(M)c^2$$

$$\underline{E = 0}$$

8.3-Difference between the 'Thing' and 'Nothing':

There is no need to be worried about boundaries of the **Multiverse** because all the **Galactic Dynamics** within it are cropped up to end up balancing all the energies to **zero** ultimately to remain nothing.

Medium of the Multiverse is the **Absolute Vacuum** and there are no boundaries for '**Nothing**'. Hence it is nicely fitting with Mathematics and Logics as well. '**Time'** is not elapsed in the **Absolute Vacuum** and **Distance** is not defined there.

As per Sir **Isaac Newton**'s definition of the World, the Things must exist in either state of '**Uniform Motion'** or '**Absolute Rest'** unless an **External Force** could change the situation.

He must be honored as the first **Physicist** in the history who struck upon the **Absolute Rest** by means of his mind explorations.

The principle of 'Conservation of Energy' -$E=Mc^2$- *of* **Albert Einstein** defines that Energy of the Universe cannot be destroyed or created. Further to that, his far extended mind exploration had struck upon the deep Nature Reality –**Relativity-** which describes the '**World**', as a pendulum type **Dynamic Package** being a 'Presentation of the Present', **Relative** to the **Observer**.

9.0 – FOR REFORMATIONS TOWORDS ADVANCEMENT

World Knowledge Departments for Science of the 21st Century are sought to pay attention upon bellow furnished **Alternative New Angles** of knowledge to test behalf of Advancement.

9.1- **Dark Matter** is nothing else but **Neutron** mass, the ultimate **Contracted** form of Matter of the highest **Kinetic Energy**, stored as interior **Rotary Dynamics**.

9.2- **Fist Element** in the World is **Hydrogen**, and an **Atom** is born by **Expansion** of a **Neutron** releasing its kinetic energy stock of the interior rotary dynamics.

9.3- **Vacuum** is a Medium with a **Density** and a **Pressure** and the both parameters can either be derived mathematically or practically in laboratories.

9.4- **Gravity** is born due to a **FM wave** transmitted through the **Vacuum** medium born by the continuous **vibration** of **Atomic Matter**. Only the atomic matter itself is succumbed to the effect of the **Gravitational Wave**, due to eccentricity occurred at the nucleus by continuous strike of the wave strokes. Due unbalance of the **Columbic Electric** force at the nucleus, an **Attraction** is induced upon any atomic bodies towards the direction where the wave strikes from.

Once the **Mechanism of Gravity** is proven by a laboratory test, The Scientists of the century shall win gravity certainly, by production of **Gravity Shields** and **Artificial Gravity** which could immensely change the visionary aspects of Human Dimension in the **Galactic Space**.

9.5- **Newtonian Gravity** is born therefore at the same time with the birth of **Hydrogen** to the world and decentralization of Matter takes place with gathering of Hydrogen clouds in to clusters by the direct contribution of Gravity. **Helium** has to be accepted as the precious second birth to the world by **Nuclear Fusion** of Hydrogen. While the Star formation takes place, masses of Helium irons are accumulated at the star centers. Under low pressure

conditions created by '**Inverted Gravity**'(*pl see the references*) in the core of Stars, Helium ions are gradually converted in to '**Magma**' receiving electrons from the nuclear fusion itself. Whence the dynamic rotary organization of the '**Spherical Vortex'** in Sun is reversed, Magma is projected out by the 'Star Bang' to create an orbiting planetary system.

9.6- '**Theory of Spherical Vortex'** has to be tested to accept because the **Space Dynamics** in 'Formation of Worlds', could never be grasped without understanding of the **4-D Rotary Dynamics** in it. It is the basis behind the 'Reversible pendulum type of dynamics' in the Universe.

9.7- '**Theory of Gravity Deviation**'(*pl see the references*) has to be tested by the world or unless orbital dynamic stability of planets could never be explained. Sir Isaac Newton has well explained the center to center stability but the lateral stability remained so far unexplained. Planets essentially need an '**Orbital Motive Force**'(*pl see the references*) to travel around Sun dragging all the Moons and atmospheres etc. against the big **Resistance** from the Vacuum medium.

9.8- Skin Boundary of **Particles** has to be accepted or unless no further progression of Physics could be expected. Theory of **Skin Tensioning** and **Shooting** of **Energy Particles** such as Light, Heat etc. have to be tested in laboratories.

The free space medium called **Vacuum** is made up of speed lost energy particles such as electrons, photons, heat etc. which are expanded at stillness. **Speed of light** has essentially to be accepted as a property of the **vacuum medium**, as the <u>critical speed</u> that any particle (excluding **neutrons**) could achieve without undergone to a phase transformation by **Contraction**.

9.9-'**Multiverse**' of no boundaries with lots of **Universes** (Galaxies of either expanding or contracting phase) in it, has to be accepted at least for arguments sake. At the same time the medium of the Multiverse has to be recognized as the **Absolute Vacuum** or in other words **'Nothing'**.

10 – THE END REMARK FOR THINKING

- *The 'Thing' has been cropped up out of 'Nothing' to be observed as 'Worlds' as far as the 'Dynamics' is conserved.*
- *The ultimate dynamic state of 'Matter' reflects the total Energy stock of the 'Package' E=Mc² as defined by Albert Einstein.*
- *The 'Package of World' loses its 'Volume' nearly towards zero by Contracting in to Dark Matter (neutron mass) at the Ultimate Dynamic State. It is not linear dynamics but 'Matter' develops 'Interior Rotary Dynamics' in Contracting. Therefore the*

'Rigidity Sense' of our feeling has to be comprehended as concentrated 'interior rotary dynamics' of 'Matter'.

- *'Existence' of Matter must be lost in to 'Nothing' both logically and mathematically, if 'Contraction' is continued furthermore towards the 'Absolute Zero'. But 'Nature' holds itself from moving towards 'Nothing' by reversing the dynamics to Expand back rebuilding of the Worlds.*
- *'Matter' decreases its dynamics in Expansion towards 'Rest' and the resting state of Matter is recognized by us as the 'Vacuum'. But it has a Density and a Pressure too.*
- *There is 'Nothing' in the space beyond the periphery of Galaxies and that is the place for an Absolute Rest.*
- *Further expansion of 'Worlds' towards the Absolute Rest (of Sir Isaac Newton), is held up by Nature itself starting contracting back in to dark matter again.*
- *'Time' is not elapsed in the 'Absolute Vacuum' and the 'Distance' is not defined.*
- *It has to be reconsidered by Astrophysicists and Cosmologists for accuracy of the concept of 'Expanding Universe' because;*
  a) *Redshift of light rays could have been taken place, probably after entering in to our Galaxy, which is in a phase of expanding as yet.*
  b) *Multiverse could not be either contracted or expanded for it has no boundaries.*
  c) *Expansion indicates Dynamics but all the dynamics in the Multiverse can ultimately be balanced to Zero Energy mathematically and logically as well.*
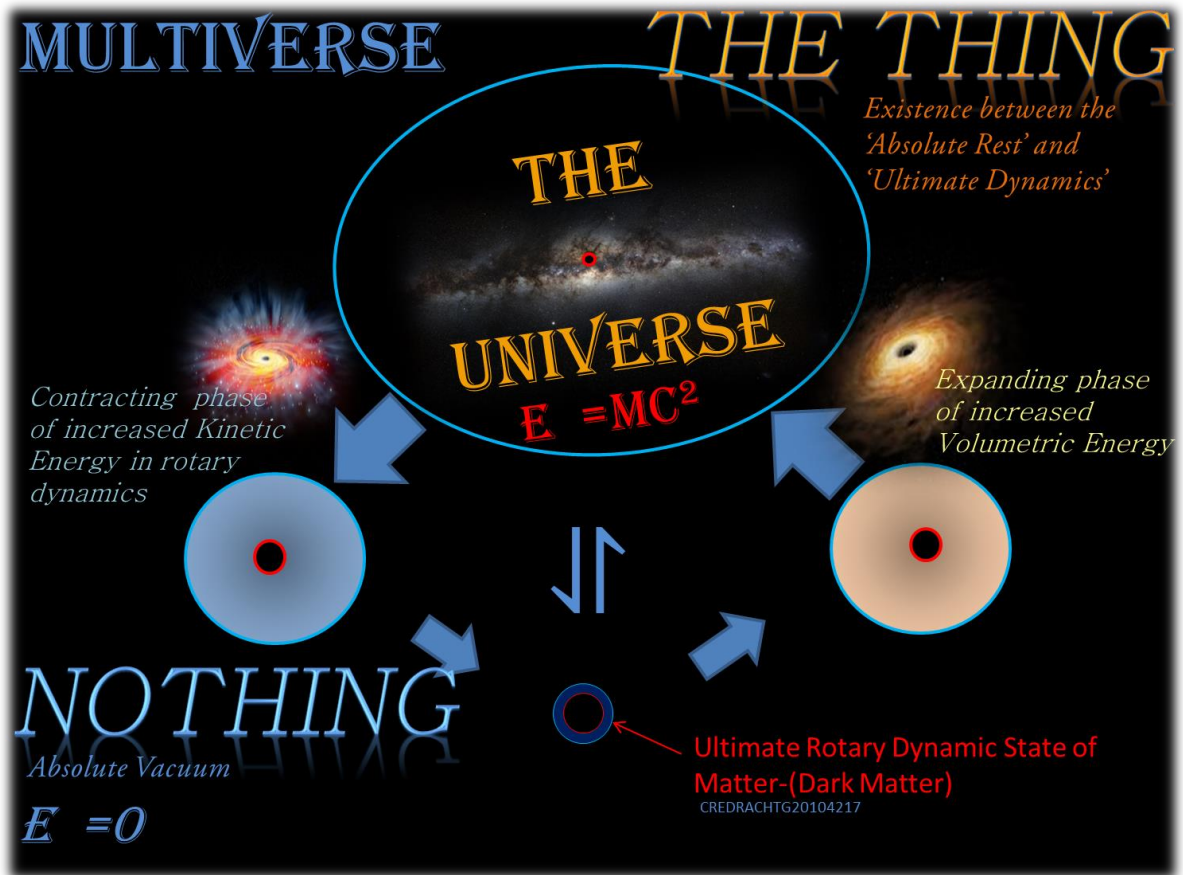
FIGURE-13(something for thinking)

- *STRUCTURES, as we observe are born by DYNAMICS.*
- *However the question, "How <u>Dynamics</u> Originated out of <u>Nothing</u>?" remains unsolved as a secret of <u>Nature</u> forever.*

<u>END</u>

By, Cyril H Thalpe Gamage.

(1st Edition -28-09-2019)

REFERENCES:

- 'Theory of Gravity Deviation'/Space Dynamics-V2/2009
  http://www.cyrilhtgamage.com/index.php/publication-space-dynamic/87-space-dynamic/134-publication-2
- 'Productive Planets'/Origin of Moon by Earth Bang /Space Dynamics-V3 /2010
  http://www.cyrilhtgamage.com/index.php/publication-space-dynamic/87-space-dynamic/135-publication-3
- 'Theory of Spherical Vortex'/Star Mechanism/Space Dynamics-V3 2010
  http://www.cyrilhtgamage.com/index.php/publication-space-dynamic/87-space-dynamic/138-publication-6
- 'Inverted Gravity'/Hollow Globe/Earth Mechanism/Space Dynamics V3'-2010
  http://www.cyrilhtgamage.com/index.php/publication-space-dynamic
- 'Theory of Skin Boundary of Atom'/Space Dynamics-V1/2009
  http://www.cyrilhtgamage.com/index.php/publication-space-dynamic/87-space-dynamic/133-publication-1
- 'Theory of Skin Tensioning'/Space Dynamics-V1/2009
  http://www.cyrilhtgamage.com/index.php/publication-space-dynamic/87-space-dynamic/133-publication-1
- 'Dynamic Stability in Orbital Motion of Planets'/Space Dynamics-V6/2013
  http://www.cyrilhtgamage.com/index.php/publication-space-dynamic/87-space-dynamic/152-dynamic-stability-in-orbital-motion-of-planets
- 'Time and the 4D Universe'/Space Dynamics-V8/2015
  http://www.cyrilhtgamage.com/index.php/publication-space-dynamic/87-space-dynamic/163-time-a-the-4d-universe