

Origin of Universe-My views

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Abstract: “Origin of Universe-An Ever ending Debate”- A New View-Requisition for Discussion on any international platform

Before going to put forward my views, I would like to specify or clarify that :

[1] This is purely my **brain child** concept, yet, I did not have any idea whether such concept already proposed by someone else.

[2] I am **not** a physics related teacher/professor, but had physics background till my UG level.

[3] All calculations whatever made, were based on physical constants available or known to me (as per best of my knowledge)

[4] I divided total concept in to various capsules (such as 1, 2, 3, etc..) or units.

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I. Introduction

“Can nothing be able to produce something (or) Can something be able to become nothing”?

The above two questions are in fact, drilling many intellectual brains since, the origin of a true civilized human being, yet, NO significant answer had come so far.

What I strongly believe is that, whatever human brain achieved so far, was exploration rather than invention. If one sees the concave roof like sky at night, during NO Moon day, a good pair of eyes can visualize uncountable number of twinkling stars which are showing the way to the universe the direction in which it wants to expand and radiating unbelievable quantity of energy in all possible ways thereby illuminating the life on earth like planets.

The present nature shows both living and non-living things, of course, the difference is so thin because, the brain dead or a completely dead species behaves like a simple non-living thing such as a stone or a metal block, which would not respond even if beaten with a Iron stick. So, once electrical impulses are blocked, living system shows no contrast from non-living system, yet, microscopic level (say atoms, molecules, ions) objects still exist in both. Such a marvelous and extraordinary network existing in every living system cannot be viewed neglecting or isolating from nature (entire universe).

Part-1

As on today, scientists had not identified or noticed presence of human like living system on any surface of any planet except the beautiful “Our Mother Earth”. Right from single celled amoeba (still exists) to trillion celled human or some other mammal, each system shows its own characteristic traits (respiration, excretion, movement, growth, death, etc..). For any such characteristic property, if we go to basic level, the mechanism is again “nerve signals” only i.e electrical origin.

The Big bang theory tried to explain how did such a massive universe originate? But, it has a few/many serious drawbacks. The first thing one has to think about is “origin of the first particle in this universe”. But, here, too, we must assume something held responsible for its origination (say God! or God's particles or else). In this scenario, I too, started thinking about this great creation, but, in reverse manner or direction i.e from existing particles and photons. I am, herewith put forward the following postulates (assuming that mass of neutron, proton, etc., 100% accurate):

[1] The origin of universe is high energetic photons (dual nature where particle nature is high).

[2] These high energetic photons on interaction get slow down to such a level so as to generate neutrons.

[3] Interaction of neutrons with high energetic photons produce proton-electron pair, liberating huge amount of radiant energy.

[4] When energy is sufficiently low, proton-electron pair results in H-atom or if very high, protons continue to undergo fusion to yield high energy. This leads to formation of lighter to heavier nuclei.

[5] H-atoms combine to form either $H_{2(g)}$ or interact with more neutrons and p-e pair there by giving higher nuclei with liberation of energy.

[6] The above processes continue to form either Sun like stars or Neutron stars or in case, if temperature is sufficiently low, it leads to accumulation of mass over a period of time (million to billion years).

Calculation-1 : [$m_e = 0.00091 \times 10^{-27}$ kg, $m_p = 1.672 \times 10^{-27}$ kg, $m_n = 1.675 \times 10^{-27}$ kg, $C = 3.0 \times 10^8$ ms⁻¹)

Step-1 : Neutron \rightarrow Proton + Electron, $\Delta m = (m_p + m_e) - (m_n) = -0.00209 \times 10^{-27}$ kg

Step-2 : Step-1 associated with decrease in mass, so, applying $E = (\Delta m) \times C^2$,

Energy released in step-1 (per step) = $(0.00209 \times 10^{-27}) \times (3 \times 10^8)^2 = 1.881 \times 10^{-13}$ J ----(1)

Step-3 : If step-1 is to be facilitated by a photon, λ_{EMR} needed = $hC/E = (6.625 \times 10^{-34} \times 3 \times 10^8)/E$

$\lambda_{EMR} = 1.057$ pm or 0.01057 \AA (less than γ -rays too) ----(2)

Step-4 : Neutron + $\lambda_{EMR} \rightarrow$ H-atom (by combination of p-e pair) [postulate-4]

H-atom + H-atom \rightarrow H₂ molecule + Energy [nearly $(104/N_A)$ k cal/molecule] ----(3)

Step-5 : Proton + Proton + \rightarrow Lighter Nuclei + other particles + Energy [Fusion, postulate-4] ----(4)

Illustration of step-5 :

4 [protium] \rightarrow Helium-4 + 2 [positrons] + energy

Helium-4 + Protium \rightarrow Lithium nuclei [$A = 4$] + energy

(+2) (+1) (+3)

Lithium nuclei + 2 [neutrons] \rightarrow Lithium nuclei [$A = 7$] + energy

(+3) (+3)

Lithium nuclei ($A = 7, +3$) + 2 [electrons] \rightarrow Lithium ion [$A = 7, +1$] + energy

This process continues in different cycles and at different temperatures to yield higher nuclei than Lithium (such as Be, C, O,, so on). Many planets like earth were originated in due course due to extremely slow cooling of various nuclei. In fact, no planet maintains temperature like 298K or low.

This suggest that, planets are undergoing cooling process and it may take few more million years.

[ex: Earth's core still assumed to be at least at 1200°C or above]

- [7] For equation-1, I imagined a **hypothetical** experimental setup, whose motto is to produce H-atoms in laboratory by careful interaction between neutron beam and photons. But, $\lambda = 0.01057 \text{ \AA}$ is too low to be available, so, I would like to conduct this experiment as follows :

Calculation-2 : Energy needed = 1.881×10^{-13} J and if X-rays of $\lambda = 2 \text{ \AA}$ available, then,

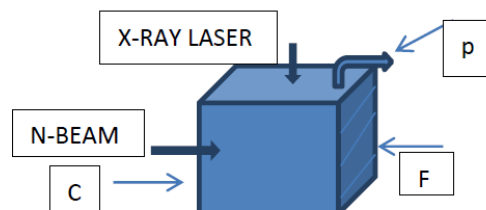
Number of X-ray photons needed to carry out neutron breaking = $1.881 \times 10^{-13} \text{ J} / (hC/\lambda_{X-ray})$

So, number of X-ray photons needed = $(1.881 \times 10^{-13} \times 2 \times 10^{-10}) / (19.875 \times 10^{-26}) \approx 200$

If X-ray Laser gun (if available) which is capable of producing 200 X-ray photons is ready, then, on converging these 200 photons on a neutron beam in isolated chamber may give H-atoms (step-4)

In order to identify H-atoms/molecules, a sensitive pressure gauge is to be fitted to chamber.

IMAGINARY SET-UP [DIAGRAM]



[p] = Pressure gauge, [F] = Fluorescent Coat, [C] = Chamber (evacuated)

- [8] If my thoughts are true, pressure gauge should show deflection indicating presence of H_{2(g)}.
 [9] I selected X-rays of $\lambda = 2 \text{ \AA}$ because, as per deBroglie's hypothesis, mass of photon $\approx 22.083 \times 10^{-31}$ kg [which is nearly 2.46 times rest mass of electron]. So, X-ray photon-Neutron interaction should result in splitting-up of neutron, as what I proposed above.

Part-2

Demerits :

- [1] Bombardment of X-ray photon on neutron beam may lead to spontaneous chain reaction as in Sun.
 [of course, if really happens]
- [2] Production of neutron beam may need powerful neutron source (or from Be⁴- α particle interaction).
- [3] Is X-ray Laser possible to create?
- [4] Even, if experiment is satisfactorily conducted, still, it will not give 100% answer to origin of universe. This is because, I imagined powerful EMR as origin, if so, what was its origin? [$E = mc^2$ represents energy-mass equivalence, where the two terms are inseparable]
- [5] If serious debate is held, many may oppose this concept and discard it without any further move. But, I, at this point, would like to emphasize that, expressions like $\lambda = h/mv$, $h\nu = h\nu_0 + KE$, $E = h\nu$, $E = mc^2$ etc., were proposals only until being proved experimentally. So, a hope always exists.
- [6] Calculation of energy in step-(1) has been made assuming speed of light = speed at which proton-electron pair generated from neutron (by X-ray interaction)

Part-3

Merits :

- [1] If my proposals are found to be reasonably good for further investigation/research, it will open new window in understanding universe, its expansion, its life-span etc.,
- [2] If my theory is correct, then, one may be able to detect neutrons even in Sun's aurora, atmosphere of all planets (including other galaxies) and also few/all natural satellites (Moon, Titan etc.,)
- [3] Interaction between two high energetic photons (say $\lambda = 1 \text{ A}^0$ & $\lambda = 0.1 \text{ A}^0$) should lead to creation of negligible quantity of mass (on atomic scale), which may lead to change in design of future power reactors.

Final Word

If you find enough time, kindly read total content and put it for debate among your colleagues or other eminent physicists/mathematical or statistical or quantum-physicists. I am sending this file to you, just because, I am not competent to handle any experiment here in India.

If you feel happy about this proposals/calculation, kindly give warm reply stating all demerits which you found and make necessary critics too.

I am extremely sorry, if this e-mail letter has wasted your most precious time

If your university permits, kindly send one **letter of appreciation** [preferably on letterhead**]